



**NUST**  
SCHOOL OF ELECTRICAL  
ENGINEERING & COMPUTER  
SCIENCE (SEECs)

NUST SEECs - School of Electrical Engineering & Computer Science

# SEECs

## GRADUATE BOOKLET

BEE - Bachelor of Electrical Engineering

CLASS OF  
**2025**

Department of  
Electrical and Computer Engineering



# Contents

<b>01.</b>	<b>NUST SEECS .....</b>	<b>3</b>
<b>02.</b>	<b>Department of Electrical &amp; Computer Engineering (ECE).....</b>	<b>4</b>
<b>03.</b>	<b>Message from Head of the Department.....</b>	<b>4</b>
	• Introduction to ECE.....	5
	• ECE Faculty.....	7
<b>04.</b>	<b>Bachelor of Electrical Engineering.....</b>	<b>9</b>
	• BEE Overview.....	9
	• BEE Course Outline .....	10
	• BEE Student Resume.....	12

## NUST - SEECS

School of Electrical Engineering and Computer Science (SEECS) symbolizes a paradigm shift in the culture of higher education in Pakistan. It stands tall as an institute with a progressive vision and dynamic focus on the key imperatives of sound engineering education marked by quality of instruction and research on its newly built campus in the idyllic setting of federal metropolis.

Today it is one of the enviable seats of higher engineering education in Pakistan with an ambition to have a prestigious global stature of its own. It already enjoys international recognition as a centre of excellence. The school is fully committed to the promotion of IT and engineering education, marked by creativity, innovation and life-long learning.



Message from Associate Dean -  
Department of Electrical and Computer Engineering

## **Dr. Salman Abdul Ghafoor**

### **Dear Graduating Students,**

Congratulations on reaching this significant milestone in your academic journey. Your years of dedication, hard work, and perseverance have brought you here, and we are immensely proud of your achievements.

As you step into the professional world, remember that learning does not end with graduation. The field of electrical engineering is constantly evolving, and staying updated with new technologies and developments is essential. Let your curiosity drive you to explore, innovate, and grow throughout your career. I urge you to use the knowledge and skills you have acquired here, not just for personal success, but for the betterment of society and the progress of our country. Strive to be responsible engineers who make a positive impact through ethical and meaningful contributions. Above all, work hard and remain sincere in all that you do—these qualities will serve you well in every endeavour.

We wish you success, fulfilment, and excellence in your future pursuits.

## **Department of Electrical and Computer Engineering**

The Electrical and Computer Engineering (ECE) department at NUST SEecs currently offers an undergraduate degree in Electrical Engineering with various specializations and strong post-graduate program leading to PhD in Electrical Engineering. The ECE department offers a broad range of ECE courses, both elementary and advanced, spanning the whole gamut of EE disciplines including areas such as electronics, electrical machines, power engineering, control systems, communication systems and networks.

### **Academics**

The ECE department aims to achieve academic and research leadership in its subject area through its well-designed curriculum (that emphasizes conceptual understanding and fosters creativity) coupled with its strong focus on research, innovation, and industry-liaison. NUST SEecs also strongly emphasizes on imbuing the graduates with sound professional ethics.

### **Vision**

To acquire prominence at national and international level as a unique source of quality education and distinguished research through its qualified faculty, state-of-the-art facilities and enabling environment, which stimulate all to excel in their respective endeavors to emerge as winners.

### **Mission**

To develop EE graduates having a concrete knowledge base of EE discipline through a strong focus on teaching excellence and develop their analytical and problem solving skills through a strong focus on fostering research and innovation.

### **Program Educational Objectives (PEOs)**

The EE program at SEecs is based on four Program Education Objectives (PEOs) that are elaborated below and published in the program catalogue website and

student's handbook. The PEOs are listed below:

**PEO-1:** To produce employable graduates with core mathematical, scientific and engineering concepts in the domain of electrical Engineering

**PEO-2:** To produce creative engineers equipped with sound analytical and problem solving skills to undertake real world challenges.

**PEO-3:** To produce responsible and ethical professionals with leadership qualities and effective soft skills.

**PEO-4:** To produce enterprising professionals with a motivation for innovation and life-long learning.

## Research Aims/Objectives

The Department of Electrical and Computer Engineering at SEecs is committed to carry out cutting edge and productive research in the vast domain of electrical engineering. The research aims at:

- Utilizing the latest technological advancements for the betterment and advancement of Society.
- Catering to the demands and needs of local industry and strategic R&D organizations of the country.
- Contributing to cutting edge research in diversified specialties such as advanced digital and analogue electronics, microwaves, communication, computer networking, signal processing and multimedia, computer vision and advanced controls for robotics.
- Development of high quality and well-groomed research professionals.

## Labs Facilities

ECE department is facilitating students with well equipped teaching and research labs. Detail f labs is as following:

Teaching labs

1. Basic Electronics Lab (PG Block)
2. Digital & Embedded Systems Lab (UG Block)
3. Advance Electronics Lab
4. DSP & Comm Sys Lab
5. Control Sys Lab
6. Electro-Mech & Power Sys Lab
7. Microwave Devices and Antenna

Research Labs

1. WISNET Lab (PG Block)
2. CEFAR Lab (PG Block)
3. CONNEKT Lab (GRC)
4. AMMSG Lab (GRC)
5. Vispro lab (GRC)
6. System Analysis and Verification (SAVE) (GRC)
7. GSM Lab (PG Block)
8. ESDA center (SMRIMS)
9. IP Tech Lab (Cognet) (PG Block)
10. Smart lab(GRC)
11. SEIFLAR Lab (UG Block)
12. Anechoic Chamber
13. EMC/EMI Lab
14. Microwave research lab (MRL)
15. Microwave Devices & Integrated Circuit lab (MDIC)
16. PCB Lab

## Faculty

At the Department of Electrical and Computer Engineering, we presently have a total of 48 faculty members. Of these 41 are PhDs qualified from leading universities of the world like GeorgiaTech, Michigan State university(USA), UNSW (Australia), Manchester & Southampton Universities (UK), to name a few. Together this mic of highly proficient professionals provides a balanced team covering most of the areas of specialization in the discipline of electrical engineering.

<b>Associate Dean</b> <b>Dr. Salman Abdul Ghafoor</b> <b>Phd - University of Southampton, UK</b>		
Engr. Dr. Shahzad Younis PhD- University Technology Petronas, Malaysia	Dr Usman Zabit PhD- University of Toulouse, France	Dr. Wasif Tanveer PhD- Georgia Institute of Technology, Atlanta
Engr. Dr. Usman Khan PhD- University of Rome, Tor Vergata, Italy	Dr. Noshewan Shoaib PhD- Politecnico Di Torino Italy	Engr. Habeel Ahmed MS- Michigan State University, USA
Engr. Dr. Mohsin Kamal PhD-NUCES-FAST, Pakistan	Engr. Dr. Abid Rafique PhD- Imperial College, London, UK	Dr. Rizwan Ahmad PhD- Victoria University, Australia
Engr. Dr. Muhammad Sadiq Amin PhD- Tongmyong University, South Korea	Dr. Muhammad Latif Anjum PhD- Politecnico Di Torino, Italy	Dr. Hassaan Khaliq PhD- City University London
Engr. Dr. Khurram Javed PhD- Hanyang University, South Korea	Dr. Sajjad Hussain PhD- Dublin City, University, Ireland	Dr. Rana Iftikhar PhD- University of Versailles, France
Engr. Dr. Qurat Ul Ain PhD- Sungkyunkwan University, Suwon, South Korea	Dr. Syed Ali Hassan PhD- Georgia Institute of Technology, United States	Dr. Syed Taha Ali PhD- University of New South Wales, Australia (UNSW)
Engr. Dr. Muhammad Imran PhD- Sungkyunkwan University, Suwon, South Korea	Dr. Wajahat Hussain PhD- University of Zaragoza, Spain	Dr. Wajid Mumtaz PhD- University Teknologi PETRONAS Malaysia
Dr. Nauman Anwar Baig PhD- NUST Pakistan	Dr. Tauseef Ur Rehman PhD- Georgia Institute of Technology, USA	Engr. Arshad Nazir MS Elec (Telecomm) MCS, NUST, Pak
Engr. Ahsan Azhar MS (Electronics and Telecomm Engg), University of GAVLE, Sweden	Dr. Jameel Nawaz Malik PhD- TU Kaiserslautern	Dr. Neelma Naz PhD- NUST Pakistan
Dr. Syed Tassawar Hussain Kazmi PhD- North China Electric Power University	Dr. Farid Gul PhD- Beihang University China BUAA Electrical Engineering	Dr. Huma Ghafoor PhD- School of Electrical Engineering, Ulsan, (UOU) South Korea
Dr. Mustafa Tahseen PhD- Concordia University Canada	Dr. Arbab Latif PhD- King Fahd University of Petroleum and Minerals, Dahran, KSA	Dr. Mohaira Ahmed PhD- NUST, Pakistan
Dr. Abdullah Mughees PhD- NUST, Pakistan	Dr. Attique Dawood PhD- Imperial College London	Dr. Muhammad Moazzam Ali PhD- Universiti Putra Malaysia

## Bachelor of

# Electrical Engineering (BEE)

## Program Description

The Bachelors degree program in Electrical Engineering is spread over four years of study/ the program follows Outcome based Education System of Washington Accord. In essence, the first three semesters of the undergraduate curriculum focus primarily on strengthening the foundations which are essential for engineering major. These include mathematics, basic sciences, computers, fundamental concepts in analog and digital electronics and their practical skills. The curriculum aims at developing a high degree of proficiency in solving mathematical, scientific and engineering problems. Practical skills such as analysis and design are a vital component of engineering education and are needed to translate ideas into physical reality.

## Program Details

The Bachelor of Electrical Engineering program at NUST\_SEECS encompasses a broad spectrum of knowledge areas including Electronics (Digital and Analog), Signal Processing and Communication Systems, Controls Systems and Robotics, Electromagnetic & Electro optics, Electrical Energy Generation and Distribution.

## Important Courses

Formal course work in the remaining semesters include in-depth study of the various sub -fields of the respective engineering curricula. Wherever required, design has been supplemented with practical work. The undergraduate program has a strong component of design. The curriculum also includes some product development courses that enable the students to estimate and manage resources for the implementation of a product. The seventh and eight semesters consists of professional advance level courses focusing on various focus areas of EE. The final year design project is also included in the degree plan that may be the collaboration of industry to prepare the students to start their career as a professional engineer and give them confidence to apply their knowledge according to the needs of the industry.

## Career Outcomes

Students are provided an opportunity to undergo Internship with reputed public and private sector enterprises during the summer holidays. This exercise exposes them to the production and management policies being implemented in those organizations. It also allows the students to gain practical experience in the own field of engineering discipline and also provides avenues for employment to students in the organizations where they carry out this training.

BEE-Curriculum					
S. No.	Course Code	Subjects	CHs		Semester
1	HU-100	English	2	0	1st
2	CS-114	Fundamentals of Programming	2	1	
3	HU-107	Pakistan Studies	2	0	
4	MATH-101	Calculus and Analytical Geometry	3	0	
5	ME-105	Workshop Practice	0	1	
6	PHY-102	Applied Physics	2	1	
7	*EE-111	Linear Circuit Analysis	3	1	
<b>Total CHs</b>			<b>14</b>	<b>4</b>	<b>18</b>
1.	*CS- 212	Object Oriented Programming (OOP)	3	1	2nd
2.	HU-101	Islamic Studies	2	0	
3.	MATH-121	Linear Algebra and ODEs	3	0	
4.	ME -109	Engineering Drawing	0	2	
5.	HU-109	Communication Skills	2	0	
6.	*EE-211	Electrical Network Analysis	3	1	
<b>Total CHs</b>			<b>13</b>	<b>4</b>	<b>17</b>
1	MATH-232	Complex Variables and Transforms	3	0	3rd
2	ME-102	Thermodynamics	2	0	
3	EE-221	Digital Logic Design	3	1	
4	EE-215	Electronic Devices and Circuits	3	1	
5	ME-100	Engineering Mechanics	3	0	
<b>Total CHs</b>			<b>14</b>	<b>2</b>	<b>16</b>
1.	EE-232	Signals and Systems	3	1	4th
2.	MATH-243	Vector Calculus	3	0	
3.	EE-241	Electromagnetic Field Theory	3	0	
4.	EE-222	Microprocessor Systems	3	1	
5.	EE-313	Electronic Circuit Design	3	1	
<b>Total CHs</b>			<b>15</b>	<b>3</b>	<b>18</b>
1	EE-330	Digital Signal Processing	3	1	5th
2	EE-260	Electrical Machines	3	1	
3	MATH-361	Probability & Statistics	3	0	
4	HU-212	Technical & Business Writing	2	0	
5	EE-351	Communication Systems	3	1	
<b>Total CHs</b>			<b>14</b>	<b>3</b>	<b>17</b>
1.	MATH-351	Numerical Methods	3	0	6th
2.	EE-371	Linear Control Systems	3	1	
3.	EE - 383	Instrumentation and Measurements	3	1	
4.	EC/EE - XXX	Elective-I	3	X	
5.	EC/EE - XXX	Elective-II	3	X	

			Total CHs	15	2+X	17+X
1.	OTM-455	Engineering Project Management	2	0	7th	
2.	ECO-130	Engineering Economics	2	0		
3.	EE-498	Senior Design Project-I	0	2		
4.	EC/EE - XXX	Elective - III	3	X		
5.	EC/EE - XXX	Elective-IV	3	X		
<b>Total CHs</b>			<b>10</b>	<b>2+X</b>	<b>12+X</b>	
1.	HU-222	Professional Ethics	2	0	8th	
2.	EE-499	Senior Design Project-II	0	4		
3.	XX-XXX	University Elective	3	X		
4.	EC/EE - XXX	Elective-V	3	X		
5.	MGT-271	Entrepreneurship	2	0		
<b>Total CHs</b>			<b>10</b>	<b>4+X</b>	<b>14+X</b>	
<b>Overall CHs</b>			<b>105</b>	<b>24+X</b>		
<b>Grand Total (Credit Hours)</b>			<b>(129+X)**</b>			



# Muhammad Zohaib Irfan



# Hafiza Zainab Touheed

## Details

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 USMAN BLOCK ABBASIA TOWN  
 Rahim-yar-khan , Pakistan

## Professional Profile

A highly motivated and results-driven electrical engineering student, seeking opportunities to leverage my technical skills and passion for problem-solving to make an impact in the industry. With a strong background in electrical engineering principles. Seeking to apply my skills and passion to a challenging role where I can make a meaningful contribution."

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.97  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)  
**MATRICULATION**  
 BAHRIA FOUNDATION SCHOOL , 1034/1100 (2019)  
**FSC PRE ENGINEERING**  
 PUNJAB GROUP OF COLLEGES , 1081/1100 (2021)

## Internship Experience

**Avionics Production Factory (APF), Pakistan Aeronautical Complex (PAC) ( 15-Aug-2022 - 02-Sep-2022 )**  
 Designing and making of ultra stable and heat resistant PCB's for installation in JF-17 aircraft. Modification and Troubleshooting of Indra's high efficiency, multi user, Virtual Reality simulator for JF-17 and F-16 aircrafts. Working with AESA and GRIFO Radars for long and short range communication with

## Projects

**Metal detector**  
 Developed an efficient metal detector, using the principle of electromagnetic induction. The goal of the project was to create a detector that could accurately detect all types of metals. I designed and built the circuit using various electronic components such as coils, capacitors, and op-amps.

**Highway Speed Monitoring**  
 Developed an efficient "Highway speed monitoring system" that detects the vehicle speed and generate challans accordingly.

**Smart Room**  
 Developed a "Smart Room" project that integrated various technologies to create an automated and energy-efficient living space. The temperature sensor sent the data to the microcontroller, which in turn controlled the room's heating and cooling systems. The automatic lighting switching system was designed to

## Technical Skills

- Html, css, javascript
- Hdl/vhdl
- C, c++, mysql & python
- Proteus
- Matlab
- Verilog programming
- Multisim

## Soft Skills

- Communication skills
- Group work
- Logic building
- Project and team management

## Reference

To be furnished upon request.

## Details

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## Technical Skills

- Atmel studio
- Modelsim pe
- Stm32/arm
- C++,python, linux(basic)
- Proteus
- Matlab
- Simulink
- Multisim

## Soft Skills

- Communication skills
- Problem solving skills
- Time management
- Creativity
- Teamwork & collaboration

## Reference

To be furnished upon request.

## Professional Profile

Motivated engineering student with a strong foundation in power systems, electronics, and industrial automation. Eager to apply simulation and control expertise to develop innovative energy and automation solutions while expanding technical skills.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.21  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)  
**Matric**  
 Govt. Girls Higher Secondary School, Khurrianwala , 93.1% (2019)  
**Fsc**  
 Punjab College for Women , 95.8% (2021)  
**BEE**  
 NUST H-12 , 3.2 (2025)

## Internship Experience

**Interloop Limited, Faisalabad ( 26-Aug-2024 - 08-Sep-2024 )**  
 1. Observed PLCs, SCADA, and DCS systems in industrial automation. 2. Assisted in monitoring electrical parameters using advanced instruments.

**Ibrahim Fibers Limited ( 08-Jul-2024 - 11-Aug-2024 )**  
 1. Gained knowledge of motor systems (DOL, VFDs, soft starters, star-delta). 2. Analyzed industrial engine operations for power generation integration.

## EV Academy ( 10-Jun-2024 - 21-Jul-2024 )

1. Developed and debugged an EV simulation model in MATLAB/Simulink. 2. Designed a baseline model for future iterations and data export. 3. Simulated vehicle dynamics, powertrain efficiency, and energy management.

## Projects

**Design and Implementation of PID-Controlled Boost Converter for Stable High-Voltage Output**  
 Designed a PID-controlled boost converter to achieve stable 500-600V output with optimized performance.

**Design and Implementation of Regenerative Braking System Using Brushless DC Motors in Electric Vehicles**  
 Designed a regenerative braking system using brushless DC motors to enhance energy recovery and efficiency.

**Design and Implementation of a Dual Axis Solar Tracking System with Efficient Energy Conversion**  
 Developed a dual-axis solar tracker using servo motors and LDRs to maximize solar energy capture.



# Salman Ali



# Muzammil Ahmad

## Details

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## Professional Profile

Aspiring electrical engineer specializing in embedded systems and chip design, focused on developing innovative hardware solutions. Proficient in designing efficient microarchitectures, optimizing embedded systems, and integrating hardware-software co-design for high-performance applications. Dedicated to advancing the field through precision engineering and innovative problem-solving.

## Technical Skills

- Supply chain management
- Stm32/arm
- Altium circuit designing
- C/c++, python, assembly
- Freertos
- Pcb designing
- Verilog programming
- Machine learning

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 2.69  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)

## Internship Experience

**MINE Lab RIMMS ( 01-Jun-2024 - 30-Aug-2024 )**  
 During my internship in the MINE Lab at RIMMS, NUST, under the supervision of Dr. Usman Khan, I worked on the project "Development of a Power Transducer to Measure High-Voltage Parameters Using STM32." The project involved designing and printing PCBs, where I gained hands-on experience with Altium Designer an

## Soft Skills

- Technical drawing,3d modelling
- Leadership and communication
- Ms office, ms project, powerbi
- Matlab, c++, latex, python
- Project and team management
- Problem solving and innovation

## Projects

**Capacitor-Based-Automatic-Power-Factor-Correction-Circuit**  
 This project is capable of automatically measuring the Power factor of the load and then apply capacitive or inductive loads to make the Power factor nearly equal to unity.

**IMPLEMENTATION OF 5-STAGE PIPELINED RISC-V CORE WITH L1 CACHE**  
 This project demonstrates the design and implementation of a 5-stage pipelined processor based on the RV32I instruction set architecture, integrated with L1 cache. The processor supports hazard detection, forwarding, and static branch prediction. Additionally, a set associative L1 cache employing a tree-b

**Design of a multi-cycle 4-bit microprocessor**  
 Developed a multi-cycle 4-bit microprocessor capable of executing basic arithmetic operations and jump instruction. Simulated and verified functionality using Digital Logic Sim, showcasing effective instruction sequencing and control logic.

**Design of an STM32-based Power Transducer with IoT Capabilities for High Transmission Voltage Lines**  
 I developed a power transducer using the STM32 microcontroller to monitor high-voltage transmission lines with IoT-enabled real-time data acquisition and remote monitoring. The project encompassed electronic circuit design, microcontroller programming, circuit simulation, and PCB development. By integrating I

## Reference

To be furnished upon request.

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 Dera ismail khan , Pakistan

## Technical Skills

- Network penetration testing
- Cisco packet tracer
- Raspberry pi, tinker board
- Kali linux
- Wireless hacking
- Network programming
- C++, python, assembly
- Network troubleshooting

## Soft Skills

- Interest in computer security
- Motivational speaking
- Matlab, c++, python
- Cisco packet tracer, wireshark
- Problem solving and innovation
- Empathy
- Teamwork & collaboration
- Leadership qualities

## Reference

To be furnished upon request.

## Professional Profile

My goal is to learn about computer networks not only theoretically but by hands on learning. Communication is the major part of our lives today. Hacking these channels will become a big problem in the future. Not only securing it but also designing such architectures that are hack proof will be the need of the world. I believe AI has much to offer in the networking world that has yet to be explored and can be done in hard working and talented teams. I want to learn about how we design efficient and secure networks to improve communication and keep people safe.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 2.16  
**Matric / O levels**  
 , (2018)  
**Intermediate / A levels**  
 , (2020)  
**Pre-Engineering**  
 Karnal Sher Khan Cadet College Swabi , 92.4% (2020)  
**Bachelor of Electrical Engineering**  
 SEECS , 2.16 (2025)

## Internship Experience

## Projects

**First-Responder Lockout Circuit for Quiz Competitions**  
 First-Press Lockout: The system locks out all other participants after the first button press, preventing anyone else from buzzing in until the system is reset. Button and LED Indicator: Each contestant typically has a button, and when it's pressed, an indicator (like an LED) lights up to show that con

**Piezo-Electric Tiles for energy generation through footsteps**  
 Piezo-Electric Tiles for Energy Generation Through Footsteps are a type of energy harvesting technology that converts the mechanical energy from footsteps into electrical energy using the piezoelectric effect. When pressure is applied to the tiles (such as from people walking), the piezoelectric material insi

**Kubernetes Cluster Monitoring and Visualization with Grafana and Prometheus**  
 This project involves using Prometheus to collect metrics from a Kubernetes cluster and Grafana to visualize those metrics in real-time. The system monitors resources like CPU, memory, and pod status, providing customizable dashboards for easy tracking. Alerts can be set up to notify users of any performance

**Pac Man game development using C language**  
 This project involves developing the classic Pac-Man game using the C programming language. The game features Pac-Man navigating a maze, eating pellets, avoiding ghosts, and earning points. The development focuses on creating the game logic, handling user input and collision detection.



# Muhammad Abu Bakar Dodhy



# Muhammad Majid Ferozi

## Details

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Islamabad , Pakistan

## Professional Profile

Creative and detail-oriented UI/UX designer with a Google UX Design Professional Certificate and hands-on experience in user research, wireframing, prototyping, and usability testing. Skilled in Figma, Adobe Illustrator, and cross-functional collaboration, I aim to design intuitive and user-centric digital experiences. Passionate about solving user problems and delivering impactful design solutions, I seek to contribute to innovative projects that enhance user engagement and satisfaction.

## Technical Skills

- Photoshop cc
- Adobe creative cloud
- Prototyping
- Product design
- Figma
- Wireframing

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.16  
**Matric / O levels**  
, (2019)  
**Intermediate / A levels**  
, (2021)

## Soft Skills

- Teamwork, flexibility
- Teamwork & collaboration

## Internship Experience

**GrayHat ( 08-Jul-2024 - 06-Sep-2024 )**  
**Ministry of Federal Education and Professional Training ( 03-Jun-2024 - 22-Jun-2024 )**  
**Takhleeq ( 11-Sep-2023 - 05-Jan-2024 )**  
**SkyLift Marketing ( 13-Mar-2023 - 28-Jul-2023 )**  
**Reboost ( 16-Jan-2023 - 28-Apr-2023 )**  
**Murabbi ( 08-May-2023 - 29-Dec-2023 )**

## Reference

To be furnished upon request.

## Projects

### SpeedyBites

Played a versatile role as a design generalist, taking ownership of the entire design process from initial concept to final execution. Conducted comprehensive user research to identify pain points and user needs, created detailed wireframes to outline the app's structure, and developed interactive prototypes

### AstroHabits

Conducted in-depth research to explore strategies for making habit-tracking apps more engaging and user-friendly. Performed competitive analysis to identify industry trends, strengths, and weaknesses of existing solutions. Applied insights to design intuitive UI/UX, focusing on user psychology and behavioral

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Burewala , Pakistan

## Technical Skills

- Microcontrollers avr, pic, stm
- Arm, avr, arduino, atmel
- C/c++, python, assembly
- Google sheets
- Proteus
- Matlab
- Verilog programming

## Soft Skills

- Modelsim altera
- Stm32cubemx
- Orcad lite
- Teamwork, flexibility
- Lab view
- Team management skills
- Matlab, c++, latex, python
- Teamwork & collaboration

## Reference

To be furnished upon request.

## Professional Profile

Undergraduate in Electrical Engineering with a professional aptitude, specializing in embedded systems. I have participated in various projects, workshops, and competitions, showcasing my knowledge in technical software, programming, and robotics. Seeking opportunities to leverage my technical skills and problem-solving abilities in dynamic environments, contributing to impactful projects and continuous personal growth.

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.64  
**Matric / O levels**  
, (2018)  
**Intermediate / A levels**  
, (2020)  
**Electrical Engineering**  
SEECS, NUST , 3.67 (2025)

## Internship Experience

**Intelligent Digital Twin Lab ( 01-Oct-2024 - 30-May-2025 )**  
**Digital & Embedded Systems Lab ( 02-Dec-2024 - 30-Dec-2024 )**  
**SINES, NUST. ( 03-Jun-2024 - 05-Sep-2024 )**  
**NUST PDC & Summer Fiesta 2024. ( 26-Jun-2024 - 09-Jul-2024 )**  
**Pakistan Red Crescent Society ( 28-Aug-2023 - 08-Sep-2022 )**

## Projects

### Design and Development of USV Swarm

This is my Final Year Project in which we are monitoring water quality using USV swarm. We are developing three USV's integrated with Pixhawk for controls and LoRa for data transfer to the ground station. My area of work is USV development and Pixhawk controls for efficient swarm operation.

### Fingerprint Detection

Developed a program to identify fingerprints from a provided database, even with slight alterations in the input fingerprint. Utilized the Scale-Invariant Feature Transform (SIFT) algorithm to extract and match features. Implemented a matching process to compare the input fingerprint with database entries an

### Traffic Light Control System

Developed an automated traffic light system that adjusts based on traffic density, using an ultrasonic sensor for detection. Implemented the system on an ESP-32 microcontroller with FreeRTOS, displaying the results through LEDs at the crossroads to indicate traffic signal changes.

### Five Stage RV-32I

Designed and implemented a fully functional Five-Stage Pipelined RISC-V RV-32I processor, adhering to the base instruction set architecture. Also implemented the hazard detection unit of the RV-32I pipelined architecture using Verilog, ensuring efficient execution and data handling in a five-stage pipeline



# Ahmad Hasnain



# Muhammad Huzaifa Qureshi

### Details

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 Lahore , Pakistan

### Professional Profile

A dedicated final-year Electrical Engineering student at SEecs NUST Islamabad, specializing in power systems with growing expertise in embedded design. Demonstrated practical experience through power electronics projects including PID-controlled converters and motor control systems. Currently developing a Battery Management System (BMS) for EVs, combining power engineering fundamentals with embedded system design. Actively expanding skills in PCB design and Machine Learning. Seeking opportunities in power engineering or BMS development to leverage cross-domain technical knowledge.

### Technical Skills

- Modelsim pe
- Embedded c
- Comsol
- C++, python, assembly
- Pspice, spss, minitab, ms office
- Proteus
- Matlab
- Simulink

### Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.0  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)  
**Matric**  
 Jamia-uloom High School Matric Multan, Pakistan , 1030 (2019)  
**Faculty of Science, Pre-Engineering**  
 Kips College Multan Pakistan , 1054/1100 (2021)  
**Bachelor of Electrical Engineering**  
 National University of Sciences and Technology , 3.00 (2025)

### Soft Skills

- German language (a1 level)
- Analytical thinking
- Networking
- C++ programming
- Problem solving skills
- Effective leadership and management
- Project and team management
- Video editing

### Internship Experience

**ECL LAB, USPCAS-E, NUST Islamabad ( 27-Jun-2024 - 02-Sep-2024 )**  
 Research Intern • Achieved the Voltage monitoring of 15 cells. • Integrate the ADC to get reading of voltages. • Achieved the controlling of voltages of cells by MOSFETs. • Explored different techniques of balancing. • Researched the JK Balancing technique.

### Reference

To be furnished upon request.

### Projects

**Smart Cell Balancing For EV Batteries**  
 Technologies: Proteus, Simulink, EasyEDA, Arduino Developing a Battery Management System For Electric Vehicle By using a technique of JK Balancing that uses Supercapacitor.

**Boost Converter for Smart Inverter**  
 Technologies: Simulink, Veroboard, Arduino Take the input of 48v convert it into 220v and maintains it output voltage by changing the duty cycle.

**Starting Methods of Induction Motor**  
 Technologies: MATLAB Simulink, COMSOL Implemented a different starting methods of single phase induction motor on MATLAB Simulink, Analyze 2D modelling different starting methods on COMSOL.

**Fault Detection in Induction Motor Using Machine Learning**  
 Technologies: MATLAB Simulink Designed a three-phase induction motor on MATLAB Simulink, generated faults, and applied machine learning models to compare accuracy

### Details

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 Rawalpindi , Pakistan

### Professional Profile

Final Year Electrical Engineering student specializing in Digital Design, Computer Architecture and Embedded Systems. Proficient in RISCv, FPGA Development and Hardware Description Languages like Verilog and SystemVerilog, with a strong focus on optimizing RISCv cores for time-critical applications. Experienced with microcontroller boards like STM32, ESP32 and Arduino; and programming languages such as C, C++, Python and Assembly (RISCv and AVR).

### Technical Skills

- Microcontrollers avr, pic, stm
- Embedded c
- C++, python, assembly
- Modelsim, xilinx ise, fpga
- Proteus

### Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.46  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)  
**Matriculation**  
 Siddeeq Public School , 93% (2019)  
**Intermediate**  
 Army Public School and College Fort Road , 93% (2021)

### Soft Skills

- Analytical thinking
- Networking
- Conflict management
- Communication and presentation

### Internship Experience

**NUST Chip Design Centre ( 10-Jun-2024 - 10-Aug-2024 )**  
 Researched the necessity of memory hierarchies in computing system design and explored out-of-order and pipelined microprocessors, focusing on hazards such as data (RAW, WAR, WAW) and control hazards (branching). Investigated hardware prefetching techniques to reduce latency in time-critical applications, aim

### Reference

To be furnished upon request.

### IMechE UAS Challenge Pakistan 2024 ( 13-Aug-2024 - 14-Mar-2025 )

Designing and developing the embedded systems for an autonomous quadcopter in the IMechE UAS Challenge Pakistan 2024. Integrating and programming the Pixhawk flight controller to enable precise flight control and autonomous navigation. Developing real-time control algorithms for brushless DC motors using the

## Projects

### Single Cycle RV32I Core

Designed and implemented a Single Cycle RV32I Core using Verilog, focusing on achieving efficient instruction execution. Utilized Quartus Prime for FPGA synthesis and implementation, ensuring optimal resource usage and performance. Developed testbenches and conducted simulations in ModelSim to verify function

### Design and Implementation of a Serial ALU

Designed and implemented a Parameterized Serial ALU using Verilog to process data in flexible bit widths (one, two, four bits, etc.), optimizing resource usage and ensuring accurate functionality. Conducted FPGA implementation of the serial architecture within the RISC-V processor framework, developing a ti

### 5 Stage Pipelined RV32I Core

Wrote Verilog RTL for a high throughput and low latency 5 stage pipelined RV32I core with Fetch, Decode, Execution, Memory and Write Back stages. Developed Verilog test-benches for RTL designs, ensuring functional correctness and timing accuracy through extensive simulation and waveform analysis. The core in

### Python Projects

Automated Email Sender JPG to PNG Converter PDF Merger



# Abdullah Ayaz

## Details

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TALAGANGDISTT CHAKWAL

Rawalpindi , Pakistan

## Technical Skills

- Operating systems
- C++, python, assembly
- Pcb designing
- Verilog programming
- Machine learning

## Soft Skills

- German language (a1 level)
- Coding
- Quick learner

## Reference

To be furnished upon request.

## Professional Profile

To enhance my abilities and capabilities by working in a dynamic organization that provides itself as an institution for refining and providing opportunities of experience to new individuals.

## Education

### BE Electrical Engineering

School of Electrical Engineering and Computer Science , 3.41

### Matric / O levels

, (2019)

### Intermediate / A levels

, (2021)

### EE

SEECs , 3.41 (2025)

## Internship Experience

### Smart Agri-Tech Lab ( 10-Jun-2023 - 01-Sep-2023 )

Designing PCB's for different environmental projects Like Air-Quality Machines and weather stations. Getting hands on experience with Soldering of pin-hole and SMD components.

### Smart Agri-Tech Lab ( 10-Jun-2023 - 01-Sep-2023 )

Designing PCB's for different environmental projects Like Air-Quality Machines and weather stations. Getting hands on experience with Soldering of pin-hole and SMD components.

## Projects

Intern at Smart Agri-Tech Lab



# Abeeha Fatima



# Awais Ahmed

## Details

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 Multan , Pakistan

## Professional Profile

A passionate electrical engineer with a strong foundation in AI, machine learning, and computer vision, eager to apply innovative technology in the energy sector. I thrive on solving complex problems, leveraging my analytical mindset and love for math to develop intelligent, efficient solutions. Driven by curiosity and adaptability, I aim to contribute to cutting-edge projects that make a real-world impact.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 2.8  
 , (2019)  
 , (2021)  
**Bachelors in Electrical Engineering**  
 SEECS, NUST , 2.8 (2025)  
**A-Levels**  
 Bloomfield Hall Schools , 1 A\* , 2 As (2021)

## Internship Experience

**UHU Power ( 01-Jun-2023 - 01-Jul-2023 )**  
 Energy Efficiency & Sustainability: Exploring methods to improve energy efficiency and reduce operational costs. Technical Documentation: Assisting in reports, schematics, and standard operating procedures (SOPs).

## Projects

- AI-Assisted Mobile Funduscopy For Retinal Disorder Diagnosis**
  - Created an affordable and accessible diagnostic tool for healthcare using model ConvNext\_Tiny.
  - Developed a smartphone-based fundus imaging system with AI-powered analysis for diabetic retinopathy screening.
- Vehicle Counting in Parking Spots Using Computer Vision**
  - Developed a computer vision-based system to automatically count vehicles in parking areas.
  - Improved parking management by providing accurate occupancy data using YOLO\_V8.
- Autonomous Soccer Robot**
  - Built an Arduino-based autonomous soccer robot with sensors for obstacle avoidance.
  - Programmed the robot to navigate towards the goal while detecting and avoiding obstacles using sensors.
- Project Report Credit Card Fraud Detection**
  - Developed a machine learning model to detect fraudulent credit card transactions using XGBoost.
  - Implemented classification algorithms to distinguish between legitimate and fraudulent activities.

## Technical Skills

- Microcontrollers avr, pic, stm
- Computer vision
- Embedded c
- C++, python, assembly
- Machine learning

## Soft Skills

- Communication and presentation
- English speaking and writing
- Teamwork & collaboration
- Leadership qualities

## Reference

To be furnished upon request.

## Details

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 Hyderabad , Pakistan

## Technical Skills

- Cisco packet tracer
- Networking tools (wireshark)
- Arm, avr, arduino, atmel
- Canva
- Python & c languages
- Matlab
- Simulink
- Figma

## Soft Skills

- Communication skills
- Microsoft word, excel, project
- Communication and presentation
- Project and team management

## Reference

To be furnished upon request.

## Professional Profile

As a Final Year Electrical Engineering Student at SEECS NUST, my goal is to use the knowledge of Electrical Engineering to solve the real world relating to my area of study.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.07  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)  
**Intermediate Degree**  
 Public School and College , 979 (2021)  
**Bachelor's of Electrical Engineering**  
 NUST , 3.14 (2021)

## Internship Experience

**CodeAlpha ( 01-Aug-2024 - 30-Aug-2024 )**  
 I worked as Machine Learning Intern. Implemented the classification algorithms and assessed their accuracy. • Developed a credit scoring model to predict the creditworthiness of individuals based on historical financial data, and a model to predict the likelihood of a disease based on medical data such as

## Projects

- IOT based smart home automation system with Arduino**
  - Developed a home automation system, used to remotely control and monitor all home appliances through mobile apps, enhancing security and energy efficiency.
- Bandpass Sampling of High-Frequency Signals using MATLAB**
  - Implemented bandpass sampling techniques in MATLAB to effectively capture and process high-frequency signals, enhancing signal analysis and reconstruction.
- Hybrid Power System based on Solar and Wind using Simulink**
  - Designed and Implemented hybrid power system that combines wind and solar energy to optimize electricity generation, improve reliability, cut down on carbon emissions and moving towards green energy
- IoT-Based Smart Temperature-Controlled Fan System Using Arduino**
  - This project aimed to build an IoT-based smart fan system using Arduino that automatically adjusts fan speed based on temperature readings, allowing users to monitor and control their environment remotely.



# Wajiha Fatima



# Muhammad Shayan Khan Babar

### Details

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 Sahiwal , Pakistan

### Professional Profile

Dynamic and motivated Electrical Engineering student seeking opportunities to apply theoretical knowledge in practical settings. Eager to contribute to innovative projects while further developing technical skills and gaining hands-on experience in the field.

### Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.57  
**Matric / O levels** , (2019)  
**Intermediate / A levels** , (2021)

### Internship Experience

**IPT Lab, SEECS, NUST ( 03-Jun-2024 - 31-May-2025 )**  
 Worked on the simulation of different research papers in the emerging field of 6G in wireless communication under the supervision of Dr. Syed Ali Hassan

### Sigma Lab , SEECS, NUST ( 01-Jun-2023 - 01-Sep-2023 )

Worked on "Self-Powered Automatic Faucet System" under Dr. Imran Abeel's supervision. Developed an energy-efficient, sensor-based system using a micro-hydropower generator to automate water flow and reduce waste. Key components included a turbine, hydro-generator, lithium-ion battery, IR sensor, and solenoid

### Projects

**STAR-RIS Assisted Comp-NOMA Networks**  
 Analyzed RIS impact on signal propagation, interference mitigation, and user fairness in multi-user communication. Conducted stochastic analysis of SINR, ergodic rates, and outage probabilities in RIS-assisted multi-cell NOMA networks. Currently integrating ISAC for performance evaluation.

### Plant Leaf Disease Detection

Designed a system to identify and categorize plant leaf diseases using image processing and machine learning techniques. Extracted features from leaf images, including color, texture, and shape, to train the model. Implemented CNN to classify diseases with an accuracy of 71%.

### Student Management System

Developed a system allowing students to register for tests, update information, and check admission results. Included an instructor module for managing test questions and compiling results. Demonstrated skills in object-oriented programming and file handling.

### Breast Cancer Detection

Developed an MLP-based neural network for breast cancer classification, achieving 97% accuracy. Preprocessed data with normalization, optimized hyperparameters, and used dropout for better generalization. Evaluated performance using a confusion matrix and loss curves, presenting findings with visualizations.

### Technical Skills

- Hardware breadboard arduino
- C language
- Basics of python
- C++, python, assembly
- Wireshark,ensp,labview,autocad
- Proteus, ads, pspice, octave
- Proteus
- Ms office

### Soft Skills

- Analytical thinking
- Self-management skills
- Human resource management
- Team management
- Group work

### Reference

To be furnished upon request.

### Details

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 Multan , Pakistan

### Professional Profile

I am passionate about pursuing my career to leverage my expertise in Electrical Engineering, Embedded Systems, Chip Design, and Machine Learning to develop innovative solutions at the intersection of hardware and AI. With a strong foundation in digital logic design, computer architecture and machine learning concepts, I aim to contribute to cutting-edge projects in semiconductor design, AI hardware, and machine learning applications while enhancing system performance and optimization.

### Technical Skills

- Embedded c
- C++, python, assembly
- Stm32/arm
- Hdl/vhdl
- Xilinx

### Soft Skills

- Flexibility and adaptability
- Logic building
- Problem solving and innovation
- Teamwork & collaboration

### Reference

To be furnished upon request.

### Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 2.91  
**Matric / O levels** , (2019)  
**Intermediate / A levels** , (2021)  
**Matric**  
 Nishat School For Boys (S.R.A) , 1055 (2019)  
**Intermediate F.Sc (Pre-Engineering)**  
 Punjab Group of Colleges (PGC) , 1049 (2021)

### Internship Experience

#### Lalpir Thermal Power Plant ( 17-Jul-2023 - 14-Aug-2023 )

Gained hands-on experience in power generation processes and thermal plant operations. Studied the functionality of boilers, turbines, and generators. Observed maintenance procedures and efficiency optimization techniques. Enhanced understanding of industrial-scale electrical systems and energy management.

#### ChipXPRT ( 24-Jun-2024 - 30-Aug-2024 )

Collaborated on Tensor Processing Unit(TPU) development. Implemented custom tensor instructions on RISC-V vector cores. Optimized matrix multiplication and systolic array architectures in Verilog. Enhanced performance of multiply-accumulate (MAC) operations for AI applications.

## Projects

### Solar Panel Controller Based on Light Intensity Using Arduino

Designed and implemented a system to optimize solar panel positioning based on light intensity using Arduino. The project utilized light-dependent resistors (LDRs) to detect sunlight direction and servo motors to adjust the panel's angle for maximum energy absorption. This automated solution improved solar pa

### Password-Based Digital Voting Machine

Developed a secure digital voting system as a semester project in Digital Logic Design. The system integrated a password authentication mechanism to ensure authorized access to the voting process. It used combinational and sequential logic circuits to enable voter identification, vote casting, and result tall

### PHP-Based Webpage

Designed and developed a dynamic webpage using PHP as a first-semester project for the Fundamentals of Programming course. The project involved creating a user-friendly interface, handling form data, and implementing basic server-side scripting to manage and display content dynamically. This experience provid

### Line Following Robot Using ATmega16A

Developed a line-following robot as a fourth-semester project for the Microprocessor Systems course. The robot utilized an ATmega16A microcontroller, IR sensors for line detection, and DC motors for movement. Implemented algorithms to enable the robot to follow a predefined path with accuracy and speed. This



# Muhammad Shafay

## Details

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Bolan Road H12

Islamabad , Pakistan

## Technical Skills

- Microcontrollers avr, pic, stm
- Freertos & mbed rtos
- Logisim
- Wireshark,ensp,labview,autocad
- Tensorflow/pytorch
- C/c++, python, assembly
- Design research
- Machine learning

## Soft Skills

- Auto cad civil
- Orcad lite
- Communication skills
- Bare metal c
- Technical documentation
- English speaking and writing

## Reference

To be furnished upon request.

## Professional Profile

An electrical engineering student with a strong foundation in embedded systems, computer vision, and machine learning, I aim to pursue postgraduate studies to apply my skills to real-world challenges. I am eager to work in a research-driven environment, collaborate with experts, and contribute to innovative technological solutions. With a passion for problem-solving and continuous learning, I strive to make a meaningful impact in my field.

## Education

### BE Electrical Engineering

School of Electrical Engineering and Computer Science , 3.03

, (2019)

, (2021)

## Internship Experience

### Center for Advanced Research in Engineering ( 17-Jan-2025 - 17-Apr-2025 )

Research Assistant • Conducting research on Ground Penetrating Radar (GPR) for subsurface anomaly detection, including tunnels. • Implementing deep learning models such as Siamese Twin Networks and ResNet50-based approaches for anomaly classification. • Developing CNN-based heatmap generation for enhanced

### WAPDA House Office of General Manager of Hydel Operations, Lahore ( 23-Nov-2023 - 24-Jan-2024 )

Intern. • Gained practical knowledge of Pakistan's power generation and distribution systems, including grid operations and energy management. • Studied the machinery used at dams, including turbines and control systems, and analyzed their working principles. • Enhanced understanding

## Projects

### Adaptive questioning using Multimodal Response and Behavioral Analysis(Ongoing)

• Developing an LLM-driven adaptive questioning system using multimodal behavioral and verbal analysis. • Implementing micro-expression detection, CNN-based deception evaluation, and verbal tone analysis. • Utilizing a RAG-based LangChain LLM to generate context-aware follow-up questions. • Designed for in

### Car Parking Management System using Object Tracking

• Developed an intelligent parking management system using YOLOv8 for real-time vehicle detection and tracking. • Optimized object detection algorithms to enhance accuracy and efficiency in dynamic parking environments. • Designed the system to automate parking space monitoring, reducing manual effort and i

### Credit Card Fraud Detection Using XGBoost

• Developed an XGBoost-based machine learning model to detect fraudulent transactions with high accuracy. • Analyzed a dataset with 31 features, optimizing feature selection and model hyperparameters for improved performance.

### Sound Localization on Raspberry Pi 4

• Implemented Time Difference of Arrival (TDOA) method with multi-threading on Raspberry Pi 4 for real-time sound localization using multiple USB microphones. • Developed a real-time audio processing pipeline with Python, PyAudio, and Matplotlib, transitioning from simulation to a functional hardware setup.



# Ghania Sarwar

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Faisalabad , Pakistan

## Technical Skills

- Convolutional neural networks
- Computer vision
- Vmware
- Cloud native computing
- Hardware breadboard arduino
- Planning and scheduling
- Lathe machine
- Milling machine

## Soft Skills

- Networking
- Leadership and communication
- Conflict management
- Communication and presentation
- Multi tasking
- Group work
- Communication oral/written
- Competitiveness

## Reference

To be furnished upon request.

## Professional Profile

A dedicated and detail-oriented engineer seeking a challenging position where I can contribute my technical expertise, innovative problem-solving skills, and a commitment to continuous learning to advance organizational goals.

## Education

### BE Electrical Engineering

School of Electrical Engineering and Computer Science , 3.32

### Matric / O levels

, (2019)

### Intermediate / A levels

, (2021)

### Electrical Engineering

SEECs , 3.32 (2025)

## Internship Experience

Korea EHT ( 07-Jul-2024 - 07-Aug-2024 )

Shadiyana ( 07-Jul-2024 - 07-Aug-2024 )

Lincoln Corner Nust ( 02-Dec-2024 - 02-May-2025 )

Takhleeq.io ( 01-Mar-2023 - 01-Jun-2023 )

Apna wifi ( 30-Jul-2024 - 30-Sep-2024 )

Chkk ( 01-Dec-2024 - 03-Mar-2025 )

## Projects

### Transmission Line Insulator Defect Detection using Vision Transformers

The model utilized for defect detection is based on the YOLOs-tiny architecture. We use Chinese data set (CLIPD). We train our model on 2025 images, 85 was test and 85 was valid. Our enhancements build upon Vision Transformer.

### Scrolling Text Display

Designed and built a text scrolling display making an LED matrix and Programmed microcontroller, improving real-time information dissemination at a university event.

### 4 bit Microprocessor

Implemented the software for a 4 bit microprocessor and displayed the Fibonacci series.

### Automatic temperature controlled fan

Developed a temperature-controlled fan system using Arduino, integrating a temperature sensor to adjust fan speed automatically based on ambient conditions.



# Muhammad Maahd Junaid



# Ali Hassan Khan

### Details

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Citi housing  
Jhelum , Pakistan

### Professional Profile

Seeking a challenging position in reputed organization where I can learn new skills ,expand my knowledge, leverage my learnings. To get an opportunity where I can make the best potential and contribute to the organization's growth

### Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.22  
**Matric / O levels**  
, (2019)  
**Intermediate / A levels**  
, (2021)  
**F.Sc**  
Army Public School and Colleges System , 1077/1100 (2021)  
**Matric**  
Army Public School and Colleges System , 1050/1100 (2019)  
**Bachelors in Electrical Engineering**  
SEECs , 3.21 (2021)

### Internship Experience

**Pakistan Tobacco Company ( 01-Jul-2024 - 31-Aug-2024 )**  
Internship  
**NESCOM ( 28-Sep-2024 - 28-Nov-2024 )**  
Internship

### Projects

### Technical Skills

- Computer vision
- Proficient in c & c++
- Auto cad
- C language
- Power bi
- Soldering
- Matlab, wireshark, sublime
- Python & c languages

### Soft Skills

- Team workshop
- Human resource management
- Multi tasking
- Group work
- Logisim
- Python
- Plantation
- Freertos

### Reference

To be furnished upon request.

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Faisalabad , Pakistan

### Technical Skills

- Atmel studio
- Proficient in c & c++
- Autocad plant 3d
- Proteus, ads, pspice, octave
- Canva
- Matlab
- Ms word
- Ms excel

### Soft Skills

- Analytical thinking
- Strong work ethics
- Self-management skills
- Teamwork, flexibility
- Communication and presentation
- Team management skills

### Reference

To be furnished upon request.

### Professional Profile

I am a 20-year-old student currently doing a Bachelor in Electrical Engineering at NUST, dreaming of becoming a successful entrepreneur. Moreover, I am very passionate about learning new things, gaining hand-one experience and exploring my inner potential.

### Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 2.85  
**Matric / O levels**  
, (2019)  
**Intermediate / A levels**  
, (2021)  
**FSC Pre Engineering.**  
Punjab Group of Colleges , 99% (2021)  
**Matric**  
Govt. Model High School , 95.9% (2019)

### Internship Experience

**1st International Conference of Microwave, Antennas & Circuits ( 21-Dec-2021 - 22-Dec-2021 )**  
**Schlumberger (SLB) ( 01-Aug-2022 - 15-Sep-2022 )**  
**3rd International Conference of AI / AI Techverse ( 21-Feb-2023 - 23-Feb-2023 )**  
**Interloop Limited ( 22-Jun-2023 - 04-Aug-2023 )**

### Projects

**Foot Step Power Generation**  
Electricity Generation By Conversion Of Mechanical Energy into Electrical Using Piezoelectric Discs  
**Medication Box Reminder**  
A reminder box consist of an alarm & indication on the logic of when, which and how many medicines to take using 555 IC's , Logic Gates and Counters.  
**Blood Bank Management System**  
Project in Object Orienting Programming using C++ Language  
**Line Following Robot**  
Implemented Techniques of Microprocessor Systems using AVR atmega 16A IC and C++ Assembly Language



# Umer Ali



# Saad Hamid

### Details

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 Jhelum , Pakistan

### Professional Profile

I am a final-year Electrical Engineering student with a keen interest in digital design and computer architecture. My Final Year Project involves developing a multi-core Linux-capable RISC-V processor, reflecting my expertise in hardware design and system integration. In addition to my academic pursuits, I have independently explored robotics and machine learning, expanding my knowledge of cutting-edge technologies. I am a motivated learner with a strong passion for innovation and problem-solving in the fields of digital systems and computer architecture.

### Technical Skills

- Vivado
- Verilog programming
- C++
- Python

### Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.68  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)

### Soft Skills

- Teamwork, flexibility

### Internship Experience

**System On Chip Lab (SINEST NUST) ( 24-Jun-2025 - 09-Sep-2025 )**  
 Worked on the extension of a simple pipelined RISC-V IMAC core to be Linux Capable. The design was based on the RISC-V privileged ISA and involved the implementation of modules such as caches, TLBs, page table walker, peripherals and interconnects among other things for Linux support. This work was later adoped.

### Reference

To be furnished upon request.

### Projects

- Multi-Core Linux Capable RISC-V Microprocessor**  
 This project involved designing a multi-core RISC-V processor capable of running a basic Linux kernel. RV32IMAC core was used as the base of the processor. Control and Status registers along with interrupt control logic. For virtual memory support MMU containing L1 instruction and data TLBs, L2 shared TLB
- Pipelined RV32I implementation**  
 Implemented an in-order RISC-V core with complete RV32I support. All the code was written in Verilog. The core was five-stage pipelined with forwarding and hazard unit implementation.
- 8-bit CPU Implementation On Breadboard**  
 Implemented an in-order RISC-V core with complete RV32I support. All the code was written in Verilog. The core was five-stage pipelined with forwarding and hazard unit implementation.
- 4-bit Custom Microprocessor**  
 Made a simulation of a custom 4-bit microprocessor with a small custom ISA.

### Details

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 Jhang , Pakistan

### Technical Skills

### Soft Skills

### Reference

To be furnished upon request.

### Professional Profile

Objective of my life is to make balance between my professional and social life and to make my and other's life easy

### Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 2.56  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)  
**pre-Engineering**  
 Chenab College , 1001 (2021)

### Internship Experience

**Energy Conservation Lab(ECL) U.S. Pakistan Center For Advanced Studies In Energy, NUST, Islamabad, ( 27-Jun-2024 - 27-Aug-2024 )**  
 - Explore various techniques of Active Cell Balancing system for electric vehicle (EV) batteries. - Designed and implemented a **Battery Management System (BMS)** with MOSFETs and transistors. - Explored and applied voltage monitoring techniques for efficient battery performance. - Worked on State

### Projects



# Muhammad Ismaeel Butt



# Maryam Naseem Dar

## Details

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 Gujranwala, Pakistan

## Professional Profile

An extremely driven and rigorous Electrical Engineer who has an immense passion for Hardware Design and Embedded system. Experienced in designing innovative chip architectures that enhance computational efficiency and reduce power consumption. With a strong background in digital circuit design and a dedication to technology development, I work best in dynamic, fast-paced settings where accuracy and creativity are crucial.

## Technical Skills

- Vivado
- Python, keras
- Pspice, spss, minitab, ms office
- Proteus
- Verilog programming

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science, 3.56  
**Matric / O levels**  
 : (2019)  
**Intermediate / A levels**  
 , (2021)

## Soft Skills

- Auto cad civil
- Modelsim
- Ms office, ms project, powerbi
- Matlab, c++, latex, python

## Internship Experience

### RESEARCH ENGINEER INTERN (DEPARTMENT CHIP DESIGN) SOC LAB, SIGNS NUST, ISLAMABAD ( 24-Jun-2025 - 09-Sep-2025 )

Designed a fully custom SRAM-based in-memory computing unit for accelerating multiplication and convolution operations in neural networks. Utilized Cadence Virtuoso for physical design. Employed Verilog for hardware-level digital design. Executed the RTL-to-GDSII flow for digital-to-physical transformation

## Reference

To be furnished upon request.

## Projects

### Design and Fabrication of SRAM Based In-Memory Computing Chip and its Integration with RISC-V

Designed a cutting-edge chip architecture aimed at data parallelism, reduced power consumption, and low-latency computation. Implemented a four-layer design integrating computing units and memory cells, enabling accelerated computation and energy-efficient processing. Specialized in In-memory multiplication

### CRC Hardware Implementation

Cyclic Redundancy Check (CRC) is a widely used error detection mechanism in digital networks and storage devices, designed to identify random alterations in digital data. When data blocks are processed, a short check value is generated, which is derived from performing polynomial division on the data's code

### AES to UART

Implemented AES encryption to ensure secure data transmission over UART communication. Developed the encryption logic using Verilog and synthesized the design with Quartus software for FPGA implementation. Focused on optimizing encryption performance and maintaining data integrity during transmission.

### 4-Bit Microcontroller

Developed a multi-cycle 4-bit microprocessor capable of executing basic arithmetic operations and jump instruction. Simulated and verified functionality using Digital Logic Sim by Sebastian Lague, showcasing effective instruction sequencing and control logic.

## Details

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 Jhelum, Pakistan

## Technical Skills

## Soft Skills

## Reference

To be furnished upon request.

## Professional Profile

Please update objective section.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science, 2.24  
**Matric / O levels**  
 : (2019)  
**Intermediate / A levels**  
 , (2021)

## Internship Experience

### pakistan tobacco company ( 01-Jul-2024 - 23-Aug-2024 )

engineering intern work on the unit handbook, internal energy audit and iso9001 audit of the factory

## Projects

### Regenerative Braking Using BLDC Motor

• The project was made using BLDC motor, ESC Speed Controller, Potentiometer (for controlling speed), Arduino UNO (for sending pulses), rectifier circuit, 3-way switches and electrical load (to be powered using regenerated energy). • The project utilizes regenerative braking, harnessing the electricity generated



# Muhammad Ahmad Nazir

## Details

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WAPDA TOWN EXTENSION  
PHASE-1

Lahore , Pakistan

## Technical Skills

- Microcontrollers avr, pic, stm
- Embedded c
- Python, keras
- Proficient in c & c++
- Basics of python
- Micro-controllers(pic, arduino)
- Matlab
- Simulink

## Soft Skills

- German language (a1 level)
- Teamwork, flexibility
- Leadership and communication
- Problem solving skills
- Effective documentation
- English speaking and writing

## Reference

To be furnished upon request.

## Professional Profile

An Electrical Engineering student passionate about innovative embedded systems and hardware design. Seeking opportunities to apply technical expertise to solve real-world problems.

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.61  
**Matric / O levels**  
, (2019)  
**Intermediate / A levels**  
, (2021)  
**Bachelors of Electrical and Electronics Engineering**  
National University of Sciences and Technology , 3.64 (2025)  
**F.Sc. Pre-engineering**  
Punjab Group of Colleges , 1021 (2021)  
**Matriculation**  
The Punjab School , 1041 (2019)

## Internship Experience

**Smart AgriTech and Advanced Signal Processing Lab, Islamabad  
Pakistan in collaboration with Xcelerium CA, USA ( 01-Jul-2024 - 30-  
Sep-2024 )**

Designed and simulated an FMCW radar system for automotive applications, enabling accurate detection and tracking of vehicles and pedestrians. The system measures range and velocity with high precision, supporting ADAS and autonomous driving scenarios.

**SiFiveTech - RapidSilicon, Islamabad Pakistan ( 01-Jun-2023 - 08-Sep-  
2023 )**

Gained expertise in digital system design using Vivado and Xilinx Artix-50T/100T FPGAs. Explored the OpenFPGA project, leveraging open-source tools to design and test custom FPGA fabrics, enhancing my knowledge of FPGA architecture, design principles, and system optimization.

## Projects

### Design and Simulation of FMCW Radar for Automotive Systems

Designed and simulated an FMCW radar system for automotive use, ensuring precise detection and tracking of vehicles and pedestrians. Leveraged FMCW technology to measure range and velocity with high accuracy, optimizing its use in ADAS and autonomous driving systems.

### Cursor Tracker for User Engagement Prediction

Developed an HTML-based app to classify user engagement on webpages by monitoring cursor motion. Generated data files were analyzed by a model to determine if users were actively reading or disengaged, enhancing understanding of user behavior.

### Multi-stage Pipelined RV32I Processor with GShare Branch Predictor

Designed a processor supporting RV32I ISA with a 5-stage pipeline (fetch, decode, execute, memory, writeback). Integrated a GShare Branch Predictor for dynamic branch prediction, replacing the static predictor to enhance accuracy. Included forwarding and hazard control units.

### Artificial Intelligence based Embedded Irrigation Control

Developed a field module with soil moisture and humidity sensors to gather crop data. Embedded an ML model on a microcontroller to classify irrigation needs based on sensor data, automating irrigation by controlling the switch based on the model's decision.



## Details

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 Lahore , Pakistan

## Technical Skills

- Computer vision
- Reactjs
- Html, css, javascript
- Basics of python
- Micro-controllers(pic, arduino)
- Web development (responsive)
- Open cv
- Proteus

## Soft Skills

- Communication skills
- Basics of adobe photoshop
- Problem solving skills
- Proteus, pcb designing
- C programming language

## Reference

To be furnished upon request.

## Professional Profile

Dedicated and dynamic Electrical Engineering student currently in 7th semester at NUST with a keen interest and specialized expertise in Power Electronics. Eager to leverage academic knowledge practical skills, and hands-on experience to contribute effectively I the field. Proven ability to analyze complex electrical systems a design innovative solutions. Passionate about exploring advancements in renewable energy and sustainable power technologies. Committed to continuous learning and professional development to stay at the forefront of the industry EXPERIENCE

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 2.6  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)  
**FSC**  
 Punjab Group Of College , 1081 (2021)  
**Matric**  
 LDA Model Boys High School , 1051 (2019)

## Internship Experience

### KOREA EHT ( 20-Jul-2024 - 18-Sep-2024 )

During my remote internship with Korea EHT Company as an Electrical Engineer Intern, I worked extensively on projects in the domain of Electric Heat Tracing (EHT). My role involved designing and analyzing electrical layouts for EHT systems, ensuring their efficiency, safety, and compliance with industrial sta

### USPCASE-NUST ( 22-Jul-2024 - 30-Aug-2024 )

During my onsite internship, I worked on reverse engineering a 3.3kW MPPT full-hybrid inverter, which also served as my final year project. This hands-on experience involved thoroughly analyzing the inverter's design and functionality to understand its operational principles. I focused on creating circuit sim

## Projects

### AI-Enhanced MPPT Inverter Design with Reverse Engineering Insights (Reinforcement learning algorithm)

As part of my final year project, I conducted a comprehensive reverse engineering study on a 3.2 kW off-grid MPPT inverter, emphasizing its bidirectional power flow capabilities. This involved analyzing and documenting the inverter's power electronics circuits, including the DC-DC conversion stage, inverter s

### MPPT Solar Charge Controller

As part of my work on MPPT inverter design, I researched various MPPT algorithms and charge control techniques, including Perturb and Observe (P&O) and Incremental Conductance, and designed the associated circuitry and hardware layout. I developed and fine-tuned the firmware for a microcontroller to control t

### Calories burnt prediction using Neural Network

I developed a machine learning model using TensorFlow to predict calories burned based on physiological data, leveraging advanced preprocessing techniques such as feature engineering, scaling, and train-test splitting to optimize performance. The model featured a custom-designed neural network with input, hid

### Interactive Browser Gestures Using Real-Time Hand Tracking

I developed an interactive, hands-free gesture-based interface for Google Chrome, utilizing real-time hand tracking to enhance browser accessibility and user experience. The system employed Mediapipe pre-trained model for robust hand landmark detection, enabling recognition of gestures such as tab switching,



# Eisa Sarwar



# Abdul Hadi

### Details

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### Professional Profile

I'm interested in AI , ML and cloud computing

### Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.24  
 , (2019)  
 , (2021)  
**O-levels**  
 The City School , 8 A\* (2019)  
**A-levels**  
 The City School , 3 A\* (2021)  
**EE**  
 SEecs , 3.24 (4th (8th semester))

### Internship Experience

**WisNet Lab ( 01-Jun-2024 - 30-Aug-2024 )**  
 Learned and worked on Kubernetes

### Projects

### Technical Skills

- Devops and cloud computing
- Basics of python
- Proteus, ads, pspice, octave
- Go language
- C++,python, linux(in progress)
- Matlab
- C++

### Soft Skills

- Communication skills
- Versatility
- Group work
- Analytical
- Ms office
- Team playing

### Reference

To be furnished upon request.

### Details

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 Near Gharipan Chowk  
 Muzaffarabad, ajk , Pakistan

### Technical Skills

- Computer vision
- Vivado
- C++, python, assembly
- Arm, avr, arduino, atmel
- C/c++, python, assembly
- Canva
- Freertos
- Proteus

### Soft Skills

- Communication skills
- Flexibility and adaptability
- Problem solving and innovation

### Reference

To be furnished upon request.

### Professional Profile

I'm a soon to be graduate with a passion for hardware design, experienced in circuit design and embedded systems, and eager to launch my career as a hardware engineer.

### Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.35  
**Matric / O levels**  
 , (2018)  
**Intermediate / A levels**  
 , (2020)  
**Intermediate**  
 Global College of Sciences , 940/1100 (2020)  
**Matric**  
 Pine Hills School , 952/1100 (2018)  
**Bachelor of Engineering In Electrical Engineering**  
 SEecs, NUST , 3.35 / 4 (2021)

### Internship Experience

**Patrind O&M (Private) Limited ( 01-Jul-2024 - 30-Aug-2024 )**

Completed a two month internship at Patrind O&M (Private) Limited gaining hands-on experience in powerhouse equipment, electrical and mechanical systems, SCADA/PLC automation, and fault troubleshooting.

### Projects

#### Voice Controlled Home Automation Using Google Assistant

Semester Project: Designed a Google Assistant-driven home automation system with temperature sensor, and Blynk app integration, creating a seamless smart living environment.

#### RISC-V based SoC with Wishbone Interconnect and custom UART

Semester Project: Designed a System on Chip (SoC) based on the RISC-V architecture, incorporating a Wishbone Interconnect and a custom UART peripheral.

#### Bomber Pacman

Semester Project: Developed a dynamic fusion of Pacman and Bomberman, delivering a thrilling arcade experience with maze navigation and explosive tactics.

#### Digital Oil Level Sensing Unit

Semester Project: Created a digital oil level sensing unit using Arduino, infrared sensor, and Blynk app integration for remote monitoring, enabling efficient industrial machinery maintenance.



# Muhammad Ali Haider



# Muhammad Huzaifa

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**Professional Profile**  
 Please update objective section.

**Education**  
**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 2.95  
**Matric / O levels**  
 : (2019)  
**Intermediate / A levels**  
 : (2021)  
**Matric**  
 Army Public School Ordnance Road , 1038 (2019)

**Technical Skills**

**Soft Skills**

**Reference**  
 To be furnished upon request.

**Internship Experience**  
**EDSAC ( 19-Jun-2023 - 08-Sep-2023 )**  
 I completed an exciting internship at EDSAC Laboratory (NUST), where I worked on Embedded Linux development using the DE1-SoC board. My responsibilities included developing and optimizing Linux-based applications and drivers, customizing the Linux kernel, and writing device drivers to interface with hardware

**Projects**

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**Professional Profile**  
 Please update objective section.

**Technical Skills**

**Soft Skills**

**Reference**  
 To be furnished upon request.

**Education**  
**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.0  
**Matric / O levels**  
 : (2019)  
**Intermediate / A levels**  
 : (2021)  
**HIGHER SECONDARY EDUCATION (HSSC)**  
 ARMY PUBLIC SCHOOL AND COLLEGE WESTRIDGE III, RAWALPINDI , 1072 (97.45%) (2019 - 2021)  
**SECONDARY EDUCATION (SSC)**  
 ARMY PUBLIC SCHOOL AND COLLEGE WESTRIDGE III, RAWALPINDI , 1038 (94.36%) (2017 - 2019)  
**BS ELECTRICAL**  
 NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY , 2.88 (2021 - 2025)

**Internship Experience**

**Projects**



# Hamna Rauf



# Ryan Rasheed

## Details

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Chakwal, Pakistan

## Technical Skills

- Operating systems
- Convolutional neural networks
- Modelsim pe
- Embedded c
- C++, python, assembly
- Tensorflow/pytorch
- Matlab
- Simulink

## Soft Skills

- Communication skills
- Human resource management
- Networking
- Conflict management
- Team management skills
- Reasoning
- Problem solving skills

## Reference

Name: Shahzada abuzar  
 Company: Atlas power limited  
 Phone: +92 300 4005286  
 Email: abuzar@apl.atlas.pk

## Professional Profile

Seeking a responsible career in electrical engineering and IoT, where I can drive innovation, optimize processes, and enhance system efficiency while contributing to organizational success.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science, 3.2  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)

## Internship Experience

**Pak Elektron Limited (PEL, Lahore) ( 05-Jun-2024 - 17-Jul-2024 )**  
 •Supported the technical project development team for renewable energy projects, with a primary focus on solar photovoltaics (PV) and production of Green Energy Meters. • Received training on PVsyst and project scheduling and budgeting.

**Atlas Power Limited ( 17-Jul-2023 - 17-Aug-2023 )**  
 •Presented final internship report on "Energy Efficiency and PLC optimization using IoT integration in power plant" promising 3.5 % increase in efficiency of the plant.

**Research Institute of Micro and Millimeter Waves Studies ( 01-Aug-2022 - 01-Sep-2022 )**  
 •Conducted EMC assessments on mobile phones, applied Pluto SDR technology to analyze and optimize wireless communication systems, gained practical expertise in RF testing and evaluation.

## Projects

**Design and Implementation of a Dual Axis Solar Tracking System with Efficient Energy Conversion**  
 •Designed and simulated a dual axis solar tracking system, meticulously selecting components to optimize performance. •Implemented the system using servo motors and light-dependent resistors (LDRs) to precisely orient solar panels for maximum sunlight capture. •Demonstrated functionality by effectively power

**ECG Image Classification Using Deep Learning**  
 •Developed a Convolutional Neural Network (CNN) to classify ECG signals as normal or abnormal, utilizing the Adam optimizer and binary cross-entropy loss function. •Preprocessed data with Min-Max scaling and evaluated model performance using accuracy metrics and confusion matrices for robust diagnostic prediction

**Solar-Powered HIDEc System with Automated Real-Time Optimization**  
 •Designing a UG-lab equipment for cooling system testing powered by solar energy. •Optimizing it using an IoT-based monitoring system using ESP32 and Raspberry Pi and sensors to collect real-time data on energy production and consumption.

**Efficient Full-Wave Rectifier Circuit for Mobile Charger**  
 Designed and built a full-wave bridge rectifier to ensure a stable DC supply for mobile devices. Used a step-down transformer, selected appropriate components, and validated performance through simulation. Enhanced skills in circuit analysis, component selection, and rectification principles.

## Details

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Rawalpindi, Pakistan

## Technical Skills

- Computer vision
- Arm, avr, arduino
- C/c++, python, assembly
- Proteus
- Matlab
- Simulink
- Machine learning
- Office 365

## Soft Skills

- Leadership and communication
- Conflict management
- Flexibility and adaptability
- Entrepreneurial skills
- Effective documentation
- Quick learner
- Project and team management
- Punctual and responsible

## Reference

To be furnished upon request.

## Professional Profile

An 8th semester electrical engineering student from NUST, with technical as well as non-technical skills. Having a vast experience being a part of the OC of many university level events, seeking to apply and enhance my skills in a real world environment. Committed to contributing to innovative projects while gaining practical experience.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science, 2.76  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)  
**Electrical Engineering**  
 SEECS, 2.76 (2025)

## Internship Experience

**IESCO ( 01-Jul-2023 - 31-Aug-2023 )**  
 Did a 2 months internship at IESCO Islamabad at their construction division, learning the basics of the industry and how they operate on various levels

**SA Dte. NUST ( 01-Jun-2023 - 31-Jul-2023 )**  
 I was a part of the organizing committee for the NUST Summer School 2023. We planned a 10 day campus tour for college/school level students, ranging from school visits to socials. Was awarded with a 2 month internship certificate for my participation.

## Projects

**Hybrid Energy generation using Solar and VAWT**  
 To cater the growing demand of electricity production, we are working on the production of energy from renewable sources like solar and wind turbine to provide clean energy and reduce global carbon emission.

**Automated Water Flow Control System**  
 We developed an automated water flow control system using Arduino and sensors. It provides real-time monitoring of flow rate and water quantity. When a set threshold is met, the water flow stops to prevent overuse.

**ECG Classification using MATLAB**  
 Using MATLAB, we developed a project that processes ECG data. The data is used to plot ECG signals, and through further signal processing, we classify the heart rate, determining whether the ECG is normal or abnormal.

**Temperature Sensing using ATmega16**  
 In the course of Microprocessors, using the ATmega16A microcontroller I designed a temperature sensing unit with help of LM35. There was effective use of timers, interrupts, ADC (Analog to digital) and the other relevant phenomenon's associated with the AVR microcontrollers.



# Muhammad Khuzaima



# Syed Muhammad Muslim

## Details

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Rawalpindi , Pakistan

## Technical Skills

- Auto cad
- Soldering
- Altium circuit designing
- Prototyping
- Basic electrical safety
- Proteus
- Pcb designing
- Matlab

## Soft Skills

- Leadership and communication
- Flexibility and adaptability
- Problem solving skills
- Time management
- Teamwork & collaboration

## Reference

To be furnished upon request.

## Professional Profile

Highly motivated Electrical Engineering graduate, my specialization focuses on Electrical Power Systems, and I am deeply passionate about advancing my technical expertise in areas such as power generation, transmission, distribution, renewable energy integration, energy efficiency, and power system analysis.

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.04  
**Matric / O levels**  
, (2019)  
**Intermediate / A levels**  
, (2021)  
**Electrical Engineering**  
SEECS, NUST , 3.04 (2025)  
**Electrical Engineering**  
SEECS, NUST , 3.04 (2025)

## Internship Experience

### **RADWI Electronics PVT Ltd. ( 01-Jun-2023 - 01-Sep-2023 )**

• Gained hands-on experience using Altium Designer for PCB design. • Developed strong PCB design skills through an in-depth learning process. • Optimized and modified their existing PCB's design. • IPC Standards

### **Smart AgriTech Lab SINES ( 04-Jun-2024 - 04-Sep-2023 )**

Designed PCB's for their Industrial Products. Fabricated and Tested PCB's on Hardware. Designed PCB's involving microcontrollers using I2C, SPI & Wireless Communication and sensors.

## Projects

### **3-phase Transmission Line Fault Detection & Protection System**

Developed Three-Phase Line Fault Detection and Protection System, utilizing various machine learning algorithms. System aims to swiftly detect faults in three-phase electrical lines and trigger protective measures.

### **3-phase Hybrid Micro Inverter (In progress)**

As a Final Year Project, currently developing a 3-phase Hybrid Microinverter, which will integrate solar energy with the existing power grid and provide a cost-effective, reliable, and environmentally friendly alternative to traditional power sources, alleviating power shortages in urban households and small

### **Audio Amplifier -**

Designed an Audio Amplifier using a PNP and NPN Transistors to increase the power of an audio signal.

## Details

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Taxila , Pakistan

## Technical Skills

- Raspberry pi, tinker board
- Vivado
- Stm32/arm
- Arm, avr, arduino
- C/c++, python, assembly
- Matlab

## Soft Skills

## Reference

To be furnished upon request.

## Professional Profile

Please update objective section.

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.47  
**Matric / O levels**  
, (2019)  
**Intermediate / A levels**  
, (2021)  
**FSc**  
F.G Degree Collage, Wah Cantt , 1072 (2021)  
**Matriculation**  
F.G Public High School , 1022 (2021)

## Internship Experience

### **Electronic Design & Automation Center (EDSAC) ( 01-Jul-2023 - 09-Sep-2023 )**

• Optimized the SC-TFSP lessor sensing algorithm for efficient execution on Jetson Nano. • Led a team of two in designing and conducting lab tutorials on embedded systems and RTOS for SAMI trainees. • Fringe detection of Self-mixing interferometry signal using the convolutional neural networks. • Contrib

### **System-on-Chip lab ( 24-Jun-2024 - 15-Sep-2024 )**

• Orchestrated the internship project "SRAM-based In-memory Computing Unit for AI Acceleration." • Designed the complete microarchitecture for the system. • Led a team of three in implementing the design using Cadence Virtuoso and Verilog HDL. • Designed the interface for the In-memory unit for the RISC-V

### **Photomath ( 01-May-2022 - 30-Aug-2022 )**

• Provided detailed mathematical solutions to problems in the domains of Geometry, Algebra, and Calculus. • Utilized LaTeX for writing mathematical equations and explanations. • Used GeoGebra for illustrations and graphical representations.

## Projects

### **AES over UART**

• Designed an AES hardware accelerator for communication between two FPGA nodes via UART. • Implementation was done in Verilog HDL for Intel's DE-10 FPGA. • Simulations were conducted using Modelsim.

### **Complex Arithmetic Logic Unit**

Designed an ALU that can handle the addition, Multiplication, Subtraction, and Division of the Complex numbers

### **Whistle Detection and Localization System**

• Developed a real-time whistle detection and localization system using three microphones and Python. • Implemented concurrent audio processing with threading, using libraries like pyaudio for stream handling, numpy and scipy for FFT-based signal analysis. • Designed a multi-threaded architecture to capture

### **CONV-ENGINE**

• Hardware Accelerator for 1D and 2D convolution. • Able to perform 256 additions in parallel • Able to perform 256 multiplications in parallel



# Easha Tir Razia



# Ali Hassan Bukhari

### Details

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Sahiwal , Pakistan

### Technical Skills

- Keil uvision assembly langua
- Proficient in c & c++
- Auto cad
- Vivado design suite
- Html, css, javascript
- Matlab, wireshark, sublime
- Proteus, ads, pspice, octave
- Canva

### Soft Skills

- Modelsim altera
- German language (a1 level)
- Human resource management
- Leadership and communication
- Basics of adobe photoshop
- Interest in computer security

### Reference

To be furnished upon request.

### Professional Profile

To contribute to the field of my interest and to expand my skill set accordingly to explore different fields and secure a professional career.

### Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.74  
, (2019)

, (2021)  
**BS Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.74 (2025)

### Internship Experience

**Radar Research Lab (Arraytech) ( 03-Jul-2024 - 03-Sep-2024 )**

**Electronic System Design Automation Centre (ESDAC) Lab ( 01-Jul-2024 - 26-Jan-2025 )**

**Technical University of Kaiserslautern (TUKL)-NUST R&D Centre ( 08-May-2023 - 04-Sep-2023 )**

**Deep Learning Lab ( 01-Oct-2023 - 01-Nov-2023 )**

**HamsanTech (SMC-Private) Limited ( 01-Dec-2022 - 01-Feb-2023 )**

### Projects

**Semi-finalist Teknofest'24**  
–UAV Competition organized by Teknofest Aerospace and Technology Festival, Turkey

**5-Stage Pipelined RISC-V Processor with Dynamic Branch Prediction**  
– Implemented a 5-stage pipelined single core RISC-V processor in Verilog with forwarding, hazard detection and dynamic branch prediction

**End-to-End Quiz Checking Application using LLMs**  
– Implemented an automated handwritten quiz grading system using OCR and Large Language Models and gave comparative analysis of different models on hand-crafted dataset

**2D Signal Processing on FPGA**  
– Analyzed the computational costs of convolution of 1D vs 2D bitmap data on Xilinx FPGA using BNNs

### Details

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Sialkot , Pakistan

### Technical Skills

- Videoscribe-animation
- Python socket programming
- Ethereum blockchain
- Web development frameworks
- Python/java/c++/octave
- Web scraping
- Nodejs
- Photoshop cc

### Soft Skills

- Strategic communications
- Web designing on wix.com
- Team workshop
- Ccna
- Analytical thinking
- Coding
- Logical and conceptual learner
- Modelsim

### Reference

To be furnished upon request.

### Professional Profile

A motivated final-year Electrical Engineering student with expertise in cybersecurity, digital marketing, design, full-stack development, and blockchain smart contract development. I aim to contribute my technical and creative skills to innovative engineering, software, or marketing solutions, enhancing organizational success.

### Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 2.43  
**Matric / O levels**  
, (2019)

**Intermediate / A levels**  
, (2021)

**MATRICULATION (9TH AND 10TH)**  
CLASSIC SCHOOL SYSTEM , 1020 (92.7%) (2018)

**INTERMEDIATE (FSC)**  
PUNJAB GROUP OF COLLEGE , 1029(93.54%) (2020)

**BACHELORS IN ELECTRICAL ENGINEERING**  
NUST SEecs , 2.5(63%) (2025)

### Internship Experience

**FUNNCART ( 08-Apr-2024 - 31-May-2024 )**

Position: Graphic Design Intern Duration: April 8, 2024 – May 31, 2024 Key Responsibilities: Designed creative and engaging graphics for Funncart's digital and social media platforms. Developed promotional materials, including banners, posters, and product advertisements. Assisted in branding and marke

**Korea EHT ( 03-Jun-2024 - 09-Mar-2025 )**

Position: System Design & Technical Writer Duration: June 3, 2024 – October 4, 2024 (Transitioned to Remote Job) Key Responsibilities: System Design & Documentation: Developed detailed technical documentation for Electrical Heat Tracing (EHT) solutions, including system configurations, installation gu

## Projects

### Electrical Heat Tracing (EHT) System Documentation

Developed detailed technical documentation for various Electrical Heat Tracing (EHT) solutions, including system configurations, installation guidelines, and operational principles. This project involved researching industry standards and ensuring the documentation met international compliance for industrial

### AutoCAD Product Catalog for EHT Systems

Created an AutoCAD-based product catalog for Korea EHT, detailing heating cables, controllers, junction boxes, and other key components. Designed product layouts, wiring diagrams, and installation drawings to ensure clear communication of product features and installation processes.

### Smart Freight Blockchain System

Developed a blockchain-based system for the shipping and freight industry to improve transparency and trust. The system tracks transactions and documents in real-time using an unchangeable shared ledger, and integrates GPS verification and OTP for secure access.

### Content Creation for Precision Newsletter

Designed and authored various technical articles for Precision's newsletter targeting oil and gas companies in the Middle East. Articles included product comparisons, technical problem-solving tips, and the latest industry trends to educate and engage engineers and technical professionals.



# Syed Zain Ali Jafri

## Details

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## Technical Skills

- Microcontrollers avr, pic, stm
- Computer vision
- Vmware
- Modelsim pe
- React
- Embedded c
- Freertos & mbed rtos
- Computer architecture

## Soft Skills

- Logical and conceptual learner
- Strong work ethics
- Reasoning and resilience
- Teamwork, flexibility
- Interest in computer security
- Efficient
- Quick learner
- Curiosity

## Reference

To be furnished upon request.

## Professional Profile

I am a very avid and curious learner who likes to learn different things. My aim in life is achieving the status of a modern day polymath. Right now, I am invested in cross-platform app development and embedded software engineering. I am also learning cybersecurity on my own as this is the one thing I have liked since childhood.

I am very much into programming in low-level languages and working on to improve the efficiency of the code to make it run faster. My current goals are working as an embedded software engineer and later scale to work as a firmware engineer for Nvidia or the fortune 1000s.

Given a problem, I love to play around things and find solutions, and not just any solution, but the most optimal solution (atleast the one apparent to me)

## Education

### BE Electrical Engineering

School of Electrical Engineering and Computer Science , 3.34

, (2019)

, (2021)

### O/A Levels

Jinnah Highs School System , 2A\*1A (A Levels), 5As2Bs1C (O Levels)  
(2021)

## Internship Experience

### truID ( 01-Jun-2023 - 01-Sep-2023 )

- Machine learning Basics: Classification algorithms(KNN, Naive Bayes, Decision trees, Random forest, SVM) and Regression(Linear and polynomial Regression).
- Machine learning concepts: Bias-Variance trade-off, generalizability, PCA, EDA, Performance Metrics, Loss functions, Regularization, Feature selecti

### System On Chip Lab ( 01-Jun-2024 - 01-Jun-2025 )

- Conduct research on the implementation of ANNs on FPGA with hardware constraints.
- Design and implement Generative models and algorithms tailored for face unmasking.
- Accelerating and optimizing hardware for computations regarding the custom architecture.
- Contribute to the development and refinement

## Projects

### Implementation of RV32I ISA

• Applied RISC-V RV32I ISA in Verilog, and verified it using a test bench. • Explored the RISC-V architecture and implemented its ISA. • Demonstrated the use of RV32I ISA for simulating a processor based on RISC-V.

### Best Frame Detection : OpenCV and CNNs

• Employed computer vision and deep learning techniques for Best Frame Detection • Utilized YOLO v8 and OpenCV for best finger-print detection, addressing challenges like blurred image and real-world variability. • Customized model architecture for accuracy and trained it on meticulously annotated datasets

### tinyML on AVR

• Developed a tinyML to estimate temperature values in a microcontroller-based application. • Employed machine learning into a microcontroller-based application to estimate temperature values. • Integrated data acquisition and display, pre-processing, min/max block, temperature calibration, serial port communication

### Processor Design with Custom Instruction Set

• Implemented a processor in Verilog, simulated it in C++, and implemented on hardware using logic gate ICs. • Created a working simulation in C++ in order to understand under-the-hood operations and get a gist of compiler design. • Prototyped the design in Verilog and synthesized the logic on FPGA. • Success



# Rimla Akhtar

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PINDGHEB DISTRICT ATTOCK

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## Technical Skills

- Ethereum blockchain
- Devops and cloud computing
- Digital marketing
- Convolutional neural networks
- Node.js
- FreeRTOS & mbed RTOS
- MongoDB (database)
- Planning and scheduling

## Soft Skills

- Analytical thinking
- Coding
- Strong work ethics
- Managing multiple priorities
- Communication skills
- Self-management skills
- Human resource management
- Versatility

## Reference

To be furnished upon request.

## Professional Profile

Final-year Electrical Engineering student at NUST with a strong foundation in embedded systems, machine learning, and communication networks. Passionate about applying analytical and problem-solving skills to innovative projects. Seeking opportunities to enhance my technical expertise while contributing to impactful solutions in the field of technology and engineering.

## Education

### BE Electrical Engineering

School of Electrical Engineering and Computer Science, 2.79

### Matric / O levels

(2019)

### Intermediate / A levels

(2021)

### Electrical Engineering

SEECS, 2.79/4 (2025)

### Intermediate

Pak-Turk International Schools and Colleges, 1008/1100 (2021)

### Matric

Fauji Foundation Model School Basal, 1056/1100 (2019)

## Internship Experience

WAPDA - Ghazi Brotha ( 17-Jul-2023 - 10-Aug-2023 )

Smart Grids - A Startup ( 16-Sep-2024 - 20-Dec-2024 )

Korea EHT (Remote Internship) ( 20-Jul-2024 - 18-Sep-2024 )

Cognet Lab ( 17-Jun-2024 - 19-Aug-2024 )

## Projects

### Solaris - A Blockchain based Peer-To-Peer Energy Trading System

Objective: Develop a decentralized energy marketplace for efficient and sustainable energy exchange. Key Components: Blockchain: Private Ethereum network for secure, transparent energy transactions. IoT Integration: Smart meters to monitor energy production and consumption. Embedded Systems: Utilized ESP32



# Sundas Rathore



# Azzan Rauf

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 MOHALLAH: ISLAMABAD NEAR  
 QAIDPUBLIC SCHOOL AND AL  
 FALAH MASJID, SIALKOT  
 Sialkot, Pakistan

## Technical Skills

- Microcontrollers avr, pic, stm
- Computer vision
- Embedded c
- Front end web development
- Planning and scheduling
- Social media management
- Logo designing
- Research and technical writing

## Soft Skills

- Communication skills
- Self-management skills
- Human resource management
- Graphics designing
- Lab view
- Freertos
- Problem solving skills
- Matlab, c++, latex, python

## Reference

Name: Sir mohsin kamal  
 Company: Nust  
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 dr.mohsinkamal@seecs.edu.pk

## Professional Profile

I am a final-year Electrical Engineering student at SEECS, passionate about leveraging technology to drive positive change through innovative research and development. My current work focuses on IoT security, reflecting my keen interest in securing interconnected systems and exploring emerging technologies. Additionally, I am deeply interested in the gaming industry and its intersection with cutting-edge technology.

Beyond academics, I bring a diverse skill set through experience in social media management, freelance writing, and event organization. I thrive on creativity, strategic thinking, and collaboration and am eager to partner with mentors and contribute to groundbreaking research initiatives.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science, 2.99  
**Matric / O levels**  
 , (2018)  
**Intermediate / A levels**  
 , (2020)  
**FSC Pre-Engineering**  
 Army Public School and College, 89% (2020)  
**Matric**  
 Pakistan International School, 93% (2018)  
**BE Electrical Engineering**  
 National University of Sciences and Technology, (2025)

## Internship Experience

**EV Academy ( 08-Jul-2024 - 09-Sep-2024 )**  
**Mindstorm Studio ( 07-Jun-2024 - 12-Aug-2024 )**  
**AgriTech Lab ( 01-Jul-2024 - 31-Aug-2024 )**  
**Team Burraq ( 01-Aug-2022 - 12-Aug-2024 )**

## Projects

**NUST High Achiever Award (2024)**  
 Received the Nust High Achiever Award for UASChallenge 2023.

**UAS Challenge (2022)**  
 My team and I were winners of UAS 22' under the project "AgriDrone". We also received an award for the most influential social media platform while I was their Social Media Manager.

**UAS Challenge (2023)**  
 Won the awards of "distinguished design" and "best safety and scrutineering" for the AquaGuard Project.

## Details

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 CANAL ROAD, FAISALABAD  
 Faisalabad, Pakistan

## Technical Skills

- Cuda
- Convolutional neural networks
- Recurrent neural networks
- Computer vision
- Freertos & mbed rtos
- Raspberry pi, tinker board
- Atmel 8051, pic atmega 16
- Auto cad

## Soft Skills

- Teamwork, flexibility
- Microsoft word, excel, project
- Team management
- Leadership and communication

## Reference

To be furnished upon request.

## Professional Profile

Passionate and results-driven **Embedded Machine Learning Engineer** with expertise in **computer vision, IoT, and neural networks**. Seeking to leverage my experience in **embedded systems, deep learning, and real-time processing** to develop innovative AI-driven solutions. Eager to contribute technical skills and problem-solving abilities to a dynamic team in a challenging, research-driven environment.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science, 3.29  
 , (2019)  
 , (2021)  
**Olevels(Sciences)**  
 Beaconhouse School System, 799/900 (2019)  
**Alevels(Pre-Engineering)**  
 Beaconhouse College Programme, 963/1100 (2021)

## Internship Experience

**Interloop Limited ( 22-Jun-2023 - 03-Aug-2023 )**  
 Internship Trainee at the Interloop Power plant. Learning the controls and organizations of tri-fuel engines producing electricity and also Solar technology to produce electricity.

## Projects

**BlueShield USV (Final Year Project)**  
 • A water surface drone for detecting heavy metals like iron, mercury etc. and removing surface trash.  
 • Enabled real-time monitoring via wireless LoRa communication with a software application. • Neural Network techniques to predict metal levels from water parameters.

**Essay Scoring using NLP and LSTM**  
 • Features extraction using NLP tools such as Spacy, Bert, NLTK. • Trained a Neural Network to make predictions based on these features. • Implemented an alternate approach using LSTM trained on textual data for automated scoring.

**DermaVision: Skin Disease Classification Project**  
 • Designed a web app to diagnose skin diseases using Convolutional Neural Network • Leveraged the ResNet-34 architecture for accurate predictions. • Developed a minimalistic, user-friendly interface for accessible healthcare solutions.

**Sound Localization using Raspberry pi**  
 • Integrated three microphones with a Raspberry Pi to detect the direction of high-pitched sounds. • Programmed the Raspberry Pi using Python to collect real-time sound data.



# Mahnoor Ibrar



# Fizza Haq

## Details

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 ISLAMABAD  
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 Islamabad , Pakistan

## Professional Profile

A driven and passionate final-year Electrical Engineering student with a strong foundation in **technology, innovation, and problem-solving**. Always eager to learn and adapt, I thrive in dynamic environments that challenge me to think critically and push boundaries. Known for my **dedication, responsibility, and analytical mindset**, I aspire to contribute to impactful projects while continuously expanding my expertise. Seeking opportunities to grow, innovate, and make meaningful contributions in the field of engineering and technology.

## Technical Skills

- Python/java/c++/octave
- Gui design on visual studio
- Altium circuit designing
- Proteus
- Autocad
- Pcb designing
- Matlab
- C++

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.83  
 , (2019)  
 , (2021)  
**Electrical Engineer**  
 NUST , 3.83/4.00 (2025)

## Internship Experience

**Adept tech solutions ( 03-Mar-2025 - 21-Jun-2025 )**  
**Intelligent Digital Twin Lab, RIC NUST ( 27-Sep-2024 - 27-Sep-2025 )**  
**Smart PCB ( 24-Jun-2023 - 21-Aug-2023 )**  
**SINES NUST ( 03-Jun-2024 - 05-Sep-2024 )**

## Projects

**AI-Enhanced USV Swarming (FYP)**  
 Designed and developed an autonomous Unmanned Surface Vehicle (USV) swarm using AI algorithms for coordinated navigation, obstacle avoidance, and environmental data collection.

**Eco-Powered Treadmill Tiles**  
 Designed a prototype using piezoelectric sensors to generate 5V per 15 steps, integrating an optimized battery storage system for sustainable energy harvesting.

**IoT-Based Health Monitoring System**  
 Developed a real-time health monitoring system using Arduino IDE and a mobile interface for tracking blood pressure and heart rate with a minimum error.

**FMCW Radar Simulation for Speed Monitoring**  
 Simulated a 77GHz radar using array signal processing and DSP techniques to measure vehicle speed, validating accuracy through Doppler maps.

## Reference

To be furnished upon request.

## Details

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 G.T ROAD WAH CANTT.  
 Wah cantt , Pakistan

## Professional Profile

Motivated Electrical Engineering graduate with comprehensive knowledge in electronics, control systems, and embedded technologies. Proficient in circuit analysis, system integration, and developing efficient engineering solutions. Excited to leverage technical expertise and analytical skills to drive innovation in diverse areas of electrical engineering.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.5  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)  
**FSC in Pre-Engineering**  
 The Scholars Science College , 1079/1100 (2021)

## Internship Experience

**Chipxprt ( 01-Jun-2024 - 31-Aug-2024 )**  
 Completed training sessions on OpenFPGA, acquiring expertise in fabricating diverse and customizable FPGA architectures. Designed and implemented various FPGA fabrics and tested their functionality using Icarus Verilog (Iverilog). Explored and successfully synthesized BRAM and DSP blocks on fabric. Conducted e

**Hato Agrikultural Lighting ( 17-Jul-2023 - 10-Sep-2023 )**  
 • Designed and implemented an embedded system for poultry farms that controls the lighting in cages and monitors their health, optimizing farm operations and ensuring better environmental control • Implemented MQTT for efficient local network communication • Developed control and monitoring devices that use

**Elements Learning ( 01-Jun-2023 - 31-Oct-2024 )**  
 Served as the Product Manager of mathematics books for grade 1 to 5, aligning them with the curriculum requirements. Gained interpersonal skills through collaboration with authors, editors, and designers to develop and enhance mathematics book content and layouts. Managed timelines and workflows for book deve

## Soft Skills

- Modelsim altera
- Orcad lite
- Cad
- Coding
- Strong work ethics
- Managing multiple priorities
- Designbuilder
- Communication skills

## Reference

To be furnished upon request.

## Projects

### Reprogrammable RISC-V based System on Chip (SoC)

Designed and implemented a custom memory controller for efficient data management within the SoC. Developed the Wishbone interconnect for seamless communication between RISC-V core and peripherals. Created the fabric control block, responsible for managing and controlling the programmable logic, ensuring dyn

### RISC-V: Pipelined RV-32I

Designed the Instruction Decode stage of the RV-32I pipelined. Created a forwarding unit to handle data forwarding between pipeline stage. Developed a hazard detection unit to identify and mitigate hazards, ensuring smooth instruction flow in the pipeline. Explored and implemented 1-bit dynamic branch predict

### Voltage Stabilizer

Designed and implemented a voltage stabilizer as part of the Electrical Machines project, ensuring consistent voltage output despite input fluctuations. Integrated key components such as transformers, relays, and control circuits to maintain stability. Conducted extensive testing and analysis to ensure optima

### Non-Invasive Blood Glucose Monitoring

Developed a non-invasive blood glucose monitoring system using Arduino and an infrared sensor. The system estimates glucose levels by processing signals from the sensor, eliminating the need for blood samples. Focused on improving user convenience and reliability with minimal discomfort.



# Muhammad Ali

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## Technical Skills

- Big data analytics
- Paint 3d
- Atmel studio
- Oracle
- Python/java/c++/octave
- Microcontrollers avr, pic, stm
- Network penetration testing
- Convolutional neural networks

## Soft Skills

- Cisco packet tracing, wireshar
- Microsoft azure
- Motivational speaking
- Technical documentation
- Efficient ms word, excel user
- Problem solving and innovation

## Reference

Name: Dr syed ali hassan

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## Professional Profile

An expertise electrical engineer with telecommunication, machine learning and power system background .Seeking oportunity to apply skills in these feilds

## Education

### BE Electrical Engineering

School of Electrical Engineering and Computer Science , 3.18

### Matric / O levels

, (2019)

### Intermediate / A levels

, (2021)

### Bachelors in Electrical Engineering

SEECs , 3.18/4 (2025)

### Pre Engineering

Fazaia Inter College , 88% (2019)

## Internship Experience

### Carriage Factory Islamabad ( 12-Aug-2024 - 24-Aug-2024 )

Power Management & Distribution: Monitored and managed the electrical supply system, ensuring stable power distribution across the factory. Maintenance of Large Power Banks: Assisted in the operation and maintenance of high-capacity power banks to support factory machinery and emergency backup systems. Elec

### METRO BUS COMMAND AND CONTROL PROJECT ( 03-Jun-2024 - 29-Jul-2024 )

Contributed to the electrical engineering aspects of the metro bus depot construction, including infrastructure planning and system integration. Gained hands-on experience in power distribution systems, electrical load calculation, and equipment installation. Enveloped proficiency in safety standards, docum

## Projects

### MotorMind

Technologies Used: Matlab , Simulink Designed a three phase induction motor on MATLAB SIMULINK, then generated few faults in it and applied different machine learning models in it to compare their accuracy

### Acoustic Sensing-Based Smart Water Management System

Developed a wireless water flow and level sensing system using ESP32 and acoustic sensors, enabling real-time monitoring and data transmission via Bluetooth to a mobile gateway. Integrated with cloud services, the system ensures efficient irrigation management and optimized water usage for agriculture

### Autonomous Lunar Lander Navigation and Control System

Simulated a Lunar Lander environment and trained agents using reinforcement learning algorithms like Deep Q-Network (DQN) to optimize landing performance and compare model accuracy

### Arduino-Driven Variable Frequency Drive for AC Motor Control

Designed a Variable Frequency Drive (VFD) system using Arduino to generate PWM signals. These signals controlled MOSFETs for precise switching, enabling efficient speed control of AC motors.



# Syed Ahmad Shah



# Rukhaima Maryam

### Details

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### Professional Profile

Innovative Electrical Engineering graduate with a strong foundation in machine learning, embedded systems, and computer vision. Seeking to leverage technical expertise in data analysis, automation, and system design to contribute effectively to cutting-edge projects in a dynamic work environment.

### Technical Skills

- Distributed systems
- Cuda
- Computer vision
- C
- Tensorflow, keras, pytorch
- Arm, avr, arduino
- Freertos
- C++,python, linux(basic)

### Soft Skills

- Communication skills
- Versatility
- Teamwork, flexibility
- Conflict management
- Team management skills
- Group work
- Competitiveness
- Analytical

### Reference

To be furnished upon request.

### Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 2.8  
, (2019)

, (2020)

**A-Levels**  
The City School Capital Campus , (2021)

**AS-Level**  
The City School Capital Campus , (2020)

**O-Levels**  
Army Public School Fort Road , (2019)

### Internship Experience

**Central Asian Cellular Forum ( 01-Jul-2023 - 31-Aug-2023 )**

Used machine learning models to analyse financial trends of Pakistani telecom companies. Applied data-preprocessing and model evaluation techniques to improve financial forecasting accuracy.

### Projects

**Adaptive Questioning Using Multimodal Sentiment and Response Analysis**  
Final Year Project. Integration of Computer Vision and Machine Learning Models with LLM for Adaptive Questioning through sentiment and response analysis. Implementation of knowledge from domains such as Machine Learning, Computer Vision, and Signal Processing.

**Gesture Controlled Robot**  
Designed an ESP32-based robot with flex sensors and FreeRTOS for real-time gesture recognition and obstacle avoidance. Accomplished this by establishing a connection between two ESP-32 devices through a server-client configuration.

**Sound Based Event Detection and Localization**  
Three microphones integrated with a Raspberry Pi to detect an event which was a high-pitched sound in this case. Created a Python program to collect real-time sound data on the Raspberry Pi OS.

**Containerized Weather Application Using Minikube**  
A weather application using an API that was containerized using Docker and deployed through Kubernetes.

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### Technical Skills

- Atmel studio
- Operating systems
- Kaspersky
- Ios
- Python/java/c++/octave
- Microcontrollers avr, pic, stm
- Gui design on visual studio
- X86 asm / 8051/8052 asm

### Soft Skills

- Team workshop
- Robot c
- Analytical thinking
- Cad
- Coding
- Logical and conceptual learner
- Modelsim
- Strong work ethics

### Reference

To be furnished upon request.

### Professional Profile

Motivated and detail-oriented electrical engineering student with expertise in digital systems, computer architecture, embedded systems, machine learning, and circuit design. With hands-on internship experience in cryptographic algorithms, AI/ML model development, and control systems, I seek to contribute my technical knowledge and problem-solving skills to innovative projects in a forward-thinking organization while continuing to learn and grow.

### Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.68  
**Matric / O levels**  
, (2019)

**Intermediate / A levels**  
, (2021)

**Matriculation**  
Punjab Group of Colleges , 1067 (2019)

**Intermediate (FSc)**  
Punjab Group of Colleges , 1091 (2021)

**Bachelors in Electrical Engineering**  
School of Electrical Engineering and Computer Sciences (SEECs) , 3.67  
(2025)

### Internship Experience

**ChipXPRT ( 01-Jun-2024 - 31-Aug-2024 )**

1. Worked on implementing and optimizing cryptographic algorithms using scalar and vector hardware extensions. 2. Enhanced performance by leveraging vector registers for cryptographic hardware acceleration. 3. Collaborated on projects focused on RISC-V architecture and hardware optimization for secure and e

### AI Community of Pakistan (AICP) ( 01-Apr-2022 - 01-Jul-2022 )

1. Contributed to AI/ML projects, including Exploratory Data Analysis (EDA) and disease prediction models. 2. Assisted in the design and development of machine learning algorithms and AI models. 3. Conducted research on emerging AI technologies and performed data pre-processing, feature engineering, and mod

## Projects

### Disease prediction model

Developed machine learning models to predict diseases using data-driven approaches, contributing to healthcare solutions.

### Grading Handwritten Quizzes using LLMs

Designed an ML project with API integration to grade student quizzes using Large Language Models, automating evaluation with high accuracy along with a comparison of the performance of different LLMs.

### Exploratory Data Analysis

Conducted detailed EDA and model training for AI-driven solutions during an internship with AICP.

### Smart Home Automation System

Designed and implemented a smart home system using microcontrollers to control and automate appliances, integrating IoT functionality for enhanced user experience.



# Asfar Ahmad

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## Technical Skills

- Devops and cloud computing
- Python/java/c++/octave
- Convolutional neural networks
- Recurrent neural networks
- Computer vision
- Vmware
- Quality management
- Proficient in c & c++

## Soft Skills

- C
- German language (a1 level)
- Coding
- Strong work ethics
- Communication skills
- Microsoft word, excel, project
- Team management
- Lab view

## Reference

To be furnished upon request.

## Professional Profile

Driven Electrical Engineering student specializing in wireless communication systems, machine learning, and cloud-native technologies. Passionate about developing innovative solutions that bridge the gap between advanced communication protocols and intelligent systems. Seeking opportunities to contribute expertise in federated and reinforcement learning within wireless networks, aiming to shape the future of interconnected, AI-powered infrastructures.

## Education

### BE Electrical Engineering

School of Electrical Engineering and Computer Science , 3.22

, (2019)

### Intermediate / A levels

, (2021)

### Bachelor of Electrical Engineering (BEE)

SEECS,NUST , 3.12 (2024)

### F.Sc. Pre-Engineering

KIPS COLLEGE , 1081 (2021)

### O-Levels

Jinnah High School System , 2 A\* , 2 A , 3 B , 1 C (2019)

## Internship Experience

### WisNet Lab, NUST ( 20-Jun-2024 - 20-Aug-2024 )

Worked on Kubernetes-based projects, gaining hands-on experience in container orchestration and managing cloud-native applications.

## Projects

### Kubernetes Cluster Visualization and Management Operator

Developed an operator to visualize and manage Kubernetes clusters, featuring a custom web-based UI for enhanced pod, node, and service management

### Pneumonia Detection using CNN

Built a Convolutional Neural Network (CNN)-based model to identify pneumonia in X-ray images, achieving high accuracy through deep learning techniques.

### Real-Time Road Lane Detection

Designed a system to detect road lanes in real-time, utilizing image processing techniques and sensor integration for predictive driving assistance.

### Bullet Direction Detection

Designed a signal processing system to accurately determine the direction of bullet trajectories in the Signals and Systems domain.



# Mohammad Saad

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Lahore , Pakistan

## Professional Profile

I am a final year electrical engineering student at NUST. My research interests include hardware accelerators, high performance computing and domain specific chip design. I am a highly meticulous individual with hands-on experience in both independent and collaborative work environments. I also have extensive knowledge of various software and hardware paradigms necessary for advancement in the embedded and digital design field.

## Technical Skills

- Computer vision
- Embedded c
- Freertos & mbed rtos
- Keil uvision assembly langua
- Vivado
- Vivado hls
- Proficient in c & c++
- Computer architecture

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.89  
**Matric / O levels**  
, (2019)  
**Intermediate / A levels**  
, (2021)  
**BE in Electrical Engineering**  
National University of Sciences and Technology , 3.90/4.00 (2021)  
**Intermediate, Pre-Engineering**  
Punjab College of Sciene , 1051/1100 (2021)  
**Matriculation**  
The Punjab School , 1067/1100 (2019)

## Soft Skills

- Intuitive problem solving
- Project and team management
- Time management
- Creativity
- Teamwork & collaboration
- Leadership qualities
- Punctual and responsible

## Internship Experience

**System on Chip Lab ( 01-Jun-2024 - 31-Aug-2024 )**  
- Design of custom Hardware Accelerator for Generative Adversarial Networks. - Research on existing accelerator and convolutional architectures. - SoC integration of accelerator (PL) via the Zynq Zedboard.

## EmbedAloT ( 01-Jun-2024 - 31-Aug-2024 )

- Design of Toeplitz matrix inversion via FFT. This included both MATLAB and Verilog implementation - Understanding and implementing basic programs using the RISC-V Vector Extension - Use of ARM CMSIS Library to implement DSP algorithms on the STM32 Discovery Board - MATLAB-to-HDL workflow for various DSP

## Reference

To be furnished upon request.

## Projects

### Implementation of RISC-V base ISA

• Designed and simulated a RV32I processor in Verilog • Added five staged pipelining along with hazard detection unit and forwarding • Integrated static branch prediction to reduce latency

### Programmable Matched Filter on FPGA

• Designed a matched filter in Verilog RTL • Has custom functionality and configurable parameters like order, threshold and phase • Successfully tested the filter on DE1-SoC Board via Logic Analyzer

### Fixed Point MUSIC Algorithm for Direction of Arrival Estimation

• Employed MATLAB to design Multiple Signal Classification (MUSIC) algorithm for uniform linear array radar systems • Utilized MATLAB's Fixed Point Designer to convert the floating-point algorithm to Q1.7 format • Verified results and showcased the errors caused by fixed point conversion

### Bresenham Circle Algorithm on FPGA

• Developed a synthesizable code for the Bresenham Circle Algorithm. • Integrated an existing VGA IP Core for interfacing with display • Ran the prototype on Intel DE1-SoC FPGA successfully.





# Murtaza Ahmed Khan



# Zunaira Aziz

### Details

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General public kohsar  
Hyderabad , Pakistan

### Professional Profile

Please update objective section.

### Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 2.52

, (2019)

, (2021)

**IGCSE**  
Jeel Yanbu International School , 2 A\* , 2 A (2019)

**A Levels**  
Jeel Yanbu International School , A , 2 A\* (2021)

### Internship Experience

#### Olayan Descon Co. Ltd ( 21-Jul-2024 - 01-Sep-2024 )

- Assisted Project Management Team in planning, execution, and QA/QC for a scheduled turn around in YANPET. – Scheduled for the turn around on Primavera P6.
- Conducted inspections of electrical panels, wiring, and equipment, and performed site visits to understand equipment roles in the Oil and Gas industr

### Projects

**ID-Card Detection**  
Applied computer vision concepts with OpenCV for feature extraction and validation of ID cards.

**4-Bit Processor**  
Designed and tested a physical 4-bit processor using various ICs capable of running basic programs.

**Electronic Speed Controller**  
Developed a controller for a 3-phase BLDC motor using basic components such as MOSFETs, regulators, and diodes.

**Gaming Gun**  
Developed a system using an IMU sensor and Raspberry Pi to control first-person shooter games by moving the gun (mounted with a mobile device) instead of swiping the touch screen. Implemented via ADB (Android Debug Bridge).

### Technical Skills

- X86 asm / 8051/8052 asm
- Recurrent neural networks
- Computer vision
- Freertos & mbed rtos
- Tensorflow, scikit-learn
- C++, python, assembly
- Stm32/arm
- C/c++, python, assembly

### Soft Skills

- Modelsim altera
- Orcad lite
- Analytical thinking
- Cad
- Mat lab.
- Lab view
- Primavera
- Multi tasking

### Reference

To be furnished upon request.

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Faisalabad , Pakistan

### Technical Skills

- Computer vision
- Risk management
- Vivado
- Business writing
- Unity game development
- Canva
- Open cv
- Google sheets

### Soft Skills

- Analytical thinking
- Strong work ethics
- Communication skills
- Self-management skills
- Human resource management
- Networking
- Teamwork, flexibility
- Conflict management

### Reference

To be furnished upon request.

### Professional Profile

Motivated and adaptable Electrical Engineer with a strong foundation in circuit design, power systems, and automation. Known for excellent problem-solving abilities, effective communication, and teamwork skills. Seeking to contribute technical expertise and collaborative mindset to drive innovation and success in a dynamic engineering environment.

### Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.05

**Matric / O levels**  
, (2019)

**Intermediate / A levels**  
, (2021)

**Matriculation**  
Umul Madaris Model School , 1056/1100 (2019)

**FSc**  
Punjab Group of Colleges , 1051/1100 (2021)

### Internship Experience

#### Xcelerium ( 03-Jun-2024 - 30-Sep-2024 )

Focused on Digital Signal Processing Developed low- level implementation of in-built MATLAB functions

### Projects

**Home Automation System 2022**  
Developed a smart home system integrating lighting, HVAC, security cameras, and entertainment for enhanced convenience, efficiency, and security.

**Automatic Plant Watering System. 2023**  
Implemented an Arduino-based system using temperature, humidity, moisture, rain, and light sensors to automate precise watering actions.

**Voltage Generation using Piezo-electric Sensor 2023**  
Developed a system converting mechanical stress into electrical power for self-powered sensors, wearable devices, and energy harvesting applications.

**Design and Simulation of FMCW Radar for Automotives. 2024**  
Developed an FMCW radar system with DSP algorithms, FPGA-based real-time processing, and MATLAB simulations for accurate target detection and velocity measurement.



# Malaikah Javed



# Zehra Ali

## Details

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Islamabad , Pakistan

## Professional Profile

Dedicated Python programmer with a strong foundation in **Computer Vision and Machine Learning**. Skilled in writing clean, efficient code and continuously learning to tackle new challenges. Experienced with **PyTorch, TensorFlow, OpenCV, Scikit-learn, NumPy, Pandas, and Matplotlib** for **AI and data analysis**. Also knowledgeable in **C++, Linux, and Parallel & Distributed Processing**.

## Technical Skills

- Operating systems
- Front end web development
- Data analysis
- Tensorflow, keras, pytorch
- Freertos
- Open cv
- C++,python, linux(basic)
- Machine learning

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.41  
**Matric / O levels**  
, (2019)  
**Intermediate / A levels**  
, (2021)

## Internship Experience

### Elements Learning ( 05-Jun-2023 - 05-Sep-2023 )

Web Development Intern - Worked on an e-tutor website, gaining expertise in HTML, CSS, JavaScript, WordPress, and the open-source software Moodle. - Designed user-friendly interfaces and implemented functionality, leveraging WordPress customization for efficient content management.

## Projects

### AI Custom Drawings Classifier with Python

Developed an AI-powered custom drawing classifier using Python and Tkinter for real-time sketch recognition. Integrated machine learning algorithms to classify user-drawn sketches, with an intuitive graphical user interface (GUI) for easy interaction and instant feedback.

### ECG Image Classification using Deep Learning in Python

Developed a Resnet-based model for classifying ECG images. Applied data preprocessing, feature extraction, and model training using PyTorch to achieve accurate classification of ECG patterns. Focused on improving model performance through fine-tuning and optimization techniques.

### ESP32-Based Weather Station Using FreeRTOS

Developed a multitasking system with a preemptive priority scheduling algorithm for efficient sensor management. Tasks were assigned priorities to ensure smooth execution. Lower-priority tasks ran during sensor delays, making the system more power-efficient and responsive for real-time data collection.

### Early Prediction of Lung Cancer using Deep Learning (Final Year Project)

Enhancing early lung cancer detection using Sybil model and NLST dataset. Conducted EDA for preprocessing and analysis. Improving accuracy through architectural modifications and clinical data integration. Aiming to predict lung cancer risk from a single CT scan and clinical data for timely diagnosis.

## Soft Skills

- Analytical thinking
- Problem solving skills
- Intuitive problem solving
- Time management
- Teamwork & collaboration

## Reference

To be furnished upon request.

## Details

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Wah cantt , Pakistan

## Professional Profile

Seeking a challenging role in **chip design and computer architecture**. Passionate about **microprocessor design, in-memory computing, and hardware acceleration**, with hands-on experience in **RISC-V architecture, Verilog HDL, and SRAM-based computing units**. Looking for an opportunity to contribute my expertise in **digital design, and hardware verification** to drive innovation in semiconductor and computing technologies.

## Technical Skills

- Convolutional neural networks
- Hardware breadboard arduino
- Embedded c
- Freertos & mbed rtos
- Python, keras
- Tensorflow, scikit-learn
- Micro-controllers(pic, arduino)
- Stm32/arm

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 2.83  
**Matric / O levels**  
, (2019)  
**Intermediate / A levels**  
, (2021)  
**Matriculation**  
Sir Syed College Campus 1 , 1025/1100 (2019)  
**FSc (Pre-Engineering)**  
The Scholars Science College , 1005/1100 (2021)

## Soft Skills

- C
- Modelsim altera
- Wildfire pro-engineer
- Mat lab.
- Self-management skills
- Team management
- Lab view
- C++ programming

## Internship Experience

### Nust Chip Design Centre, SoC Lab, SINES ( 01-Jul-2024 - 06-Sep-2024 )

In Memory Computing Unit: Designed In memory computing unit on cadence on transistor level. Developed SRAM cells and an in-memory computing unit at the transistor level using Cadence, achieving accurate multiplication results. For testing it, designed an emulator of IMCU in Verilog HDL with 42 layers of 32x

## Reference

To be furnished upon request.

## Projects

### SRAM-based In Memory Computing Unit for AI Acceleration

Designed and implemented a high-speed computing unit in Verilog HDL with 42 layers of 32x32 bit multiplication for parallel processing. Developed SRAM cells and an in-memory computing unit at the transistor level using Cadence, achieving accurate multiplication results. Created a Verilog-based emulator for

### Basic Communication System Using Verilog HDL

An implementation of Advanced Encryption Standard 128-bit block cipher in UART for serial communication with AXI Stream Interface. Encrypted data is received by the UART, decrypted, and validated using CRC (Cyclic Redundancy Check) to ensure integrity. If valid, the data is then encrypted again before tran

### RV-32I Core With Dynamic Branch Prediction

Project began with designing a single-cycle RISC-V core, executing each instruction in one clock cycle. While simple, this approach was inefficient due to delays caused by the slowest instruction. To improve performance, we adopted a pipelined architecture, dividing instruction execution into stages (Fetch

### Facial Recognition-Based Lock Control System

This project aims to design a secure and efficient access control system utilizing two ESP32-based devices. The Master ESP32 is responsible for receiving input from a button press, communicating with the Slave ESP32 CAM through WiFi communication to verify the user's identity through facial recognition, an



# Muneeb Ur Rehman



# Muhammad Talha

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Rawalpindi , Pakistan

## Technical Skills

- Digital marketing
- Social media management
- Html | css
- Ms excel
- Machine learning
- Python

## Soft Skills

- Microsoft word, excel, project
- Team management
- Python
- Relationship building
- Client service
- Social media

## Reference

Name: Shafiq  
 Company: Bright brothers solution pvt ltd  
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## Professional Profile

To leverage my technical knowledge in electrical engineering and practical experience in solar solutions to contribute effectively to innovative projects, while enhancing my skills in a dynamic and growth-oriented organization.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 2.71  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)  
**Matric - Computer Sciences**  
 Mr Cabin Public High School , 940/1100 (2019)  
**Fsc - Pre-Engineering**  
 Punjab Group of Colleges , 1059/1100 (2021)

## Internship Experience

**Bright Brother Solutions Pvt Ltd ( 21-May-2023 - 21-Nov-2024 )**  
 Electrical Engineer – Renewable Energy ◦ Achievements: Applied Electrical Engineering expertise to design and deliver customized renewable energy solutions, enhancing client satisfaction and supporting sales growth. Developed technical market strategies and content to boost engagement via social media and

**Lead Incorporation-Airbnb ( 21-Nov-2024 - 09-Jan-2025 )**  
 Virtual Assistant ◦ Responsibilities: Managed customer inquiries, booking issues, and provided timely support to both hosts and guests. Ensured smooth communication between users, resolving conflicts and addressing concerns efficiently. ◦ Customer Relationship Management: Provided exceptional virtual ass

## Projects

## Details

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## Technical Skills

- Convolutional neural networks
- Computer vision
- Front end web development
- Data analysis
- Python, keras
- Cisco packet tracer
- Gis
- C language

## Soft Skills

- Communication skills
- Self-management skills
- Team management
- Conflict management
- Communication and presentation
- Entrepreneurial skills
- Quick learner
- English speaking and writing

## Reference

To be furnished upon request.

## Professional Profile

I am a highly motivated Electrical Engineering student with a strong interest in ML, DL, Generative AI and NLP. My academic journey has equipped me with a solid foundation in engineering principles and hands-on experience with advanced technologies. I am eager to apply my skills and knowledge in a practical setting, contributing to innovative projects and gaining valuable industry experience.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.2  
**Matric / O levels**  
 , (2018)  
**Intermediate / A levels**  
 , (2020)  
**Matriculation**  
 Harvard Grammar High School , 988 (2018)  
**Intermediate**  
 Punjab Group of Colleges , 946 (2020)

## Internship Experience

**SOC Lab, NUST ( 05-Jul-2024 - 12-Sep-2024 )**  
 Developed dataset for CNN model using QGIS. Applied CNN on glacial dataset to predict a glacial lake outburst flood.

**ESDAC Lab, NUST ( 19-Jun-2023 - 08-Sep-2023 )**  
 Linux based embedded deployment using DE1 SoC development board.

## Projects

**LLM Web App**  
 Made a hand written quiz checking Web App by integrating Gemini API. Web App was developed using Flask.

**Prediction of solubility of molecules in water**  
 Made a prediction algorithm using linear regression and random forest. The tools used are Scikit-Learn, Pandas, NumPy, Matplotlib.

**AVR AtMega16-A Robot**  
 Built a robot which moved on a grid using different combinations. Programmed AtMega16-A microcontroller In RISC-V.

**Text Editor Web App**  
 Made a text editor Web App using front-end web frameworks such as Bootstrap and React.



# Noor Ul Eman

## Details

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Islamabad , Pakistan

## Technical Skills

- Atmel studio
- Python/java/c++/octave
- Microcontrollers avr, pic, stm
- Convolutional neural networks
- Computer vision
- Modelsim pe
- Risk management
- Embedded c

## Soft Skills

- Modelsim altera
- Team workshop
- Modelsim
- Strong work ethics
- Managing multiple priorities
- Communication skills
- Self-management skills
- Human resource management

## Reference

To be furnished upon request.

## Professional Profile

I'm currently in my final semester of Electrical Engineering, and over the course of my studies, I've developed a solid understanding of the field. I'm particularly interested in areas like **Artificial Intelligence, Machine Learning, Computer Vision, Digital Logic** and **System Design**, as well as working with **microcontrollers** and **Embedded Systems**.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.34  
**Matric / O levels**  
 ; (2019)  
**Intermediate / A levels**  
 ; (2021)  
**Matriculation**  
 Islamabad College for Girls ICG F-6/2, Islamabad , 1025 out of 1100 (93% marks) (2019)  
**FSc(Intermediate)**  
 Islamabad College for Girls ICG F-6/2, Islamabad , 1054 out of 1100 (96% marks) (2021)

## Internship Experience

### Korea Electric Heat Tracing Company(KEHT) ( 24-Jun-2024 - 27-Sep-2024 )

During my internship at Korea Electric Heat Tracing Company, I worked on a comprehensive project analyzing various electric heat tracing systems and designing optimal solutions for client facilities. The project involved in-depth analysis of power plants, petrochemical plants, and oil refineries, identifying

### One International Services Private Limited ( 07-Oct-2024 - 10-Dec-2024 )

I am currently employed at International Services Limited. Prior to this role, I completed a three-month internship where I gained valuable experience writing technical articles focused on electrical heat tracing systems and design. These articles were reviewed and approved before being published on the comp

## Projects

### Motion Generation for Humanoid Robots

This project focuses on developing generative AI-driven algorithms that enable humanoid robots to perform a continuous, fluid series of actions, based on natural language commands provided, making them more adaptable, safe and efficient in various environments.

### Automatic Class Terminator

Created an automated classroom management system that utilizes timer-based technology to efficiently terminate sessions, ensuring seamless transitions and optimized scheduling.

### 4-bit microprocessor

Built a basic microprocessor on a board level to perform various arithmetic and logical operations.

### Heartbeat Sensor

Design heart rate monitoring system by utilizing optical sensors to accurately measure and track cardiac activity.



## Details

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 Lahore , Pakistan

## Technical Skills

- Microcontrollers avr, pic, stm
- Computer vision
- Embedded c
- Autocad,plaxis 2d,slide,etab
- Modelsim, xilinx ise, fpga
- C/c++, python, assembly
- Proteus, ads, pspice, octave
- Matlab

## Soft Skills

- Modelsim altera
- Stm32cubemx
- Team workshop
- Persuasion
- Teamwork, flexibility
- Ms office
- Communication & interpersonal
- Punctual and responsible

## Reference

To be furnished upon request.

## Professional Profile

Dedicated and driven Electrical Engineering student at NUST, with a specialized focus on Digital Systems and Deep Learning. Passionate about designing and implementing cutting-edge solutions that merge advanced digital architectures with intelligent algorithms. Equipped with a solid foundation in computational hardware and deep learning frameworks, complemented by hands-on experience in model optimization and system-level design. Enthusiastic about exploring transformative applications of AI in embedded systems, robotics, and IoT. Committed to continuous learning and innovation to make impactful contributions to the advancement of intelligent systems and technology.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 2.53  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)  
**Matric**  
 The Punjab School, Sector C-1 Township Lahore , 1033/1100 (2019)  
**Intermediate**  
 Punjab Group of Colleges Campus #8 Muslim Town, Ferozpur Road , 1010/1100 (2021)

## Internship Experience

**MICROTECH INDUSTRIES(Pvt) Ltd. LAHORE. ( 22-Jun-2023 - 21-Jul-2023 )**

Worked as an internee in R&D department, designing Smart Energy Meters for WAPDA. Worked on Power Supply Design for Energy meters. Programming the STM32 for measure AC/DC voltage, current, and calculate active, reactive, and apparent power using built-in ADCs and DSP capabilities and for computing power con

**FAUJI FERTILIZERS COMPANY, GOTH MACHHI SADIQABAD ( 26-Jul-2023 - 06-Sep-2023 )**

Worked as an internee in Electrical and Instrumentation Department, aimed at designing sensors for Controlling various components of fertilizer i.e Urea, Water etc. Also worked on Power Distribution Systems and Emergency Shutdown Systems. Reviewed manuals and APIs aiding in maintenance of instrumentation eq

## Projects

### Calories burnt prediction using Neural Network

I developed a machine learning model using TensorFlow to predict calories burned based on physiological data, leveraging advanced preprocessing techniques such as feature engineering, scaling, and train-test splitting to optimize performance. The model featured a custom-designed neural network with input, hid

### Examination Time Management System using Digital Logic Design.

The setup asks user to allocate the time for each question (in this case 3) separately. If the user has done a question before time ends, the time allocated for the next question is incremented by the remaining time. Simulated it on Proteus and played my role in configuring registers(memory storing eleme

### Fault Detection of Induction Motor using Machine Learning and Signal Processing in MATLAB

**DATA COLLECTION:** Involves the acquisition of data from sensors or the induction motor. **DATA PREPROCESSING:** Data preprocessing includes cleaning, normalization, and feature extraction to prepare the data for machine learning. **MACHINE LEARNING:** Machine learning models are trained on the preprocessed da

### Implementation of Programmable IIR Filters for Software-Defined Radio on FPGA

Design and implementation of programmable Infinite Impulse Response (IIR) filters for Software-Defined Radio (SDR) applications on an FPGA platform. The primary objective is to achieve efficient interference suppression while minimizing resource utilization, targeting real-time processing of wideband sig



# Ghulam Qadar



# Aazmir Ahmed Bhatti

## Details

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Faisalabad , Pakistan

## Professional Profile

Undergraduate in Electrical Engineering with specializing in power systems and a keen interest in modeling, simulation, and analysis of energy networks. Passionate about integrating advanced control strategies with efficient power conversion technologies. Eager to leverage strong mathematical skills and hands-on project experience in innovative engineering solutions.

## Technical Skills

- Ethereum blockchain
- Wondershare filmora
- Computer vision
- Photoshop cc
- Power bi
- Ads for microwave circuits
- Cryptography
- Unity game development

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.38  
**Matric / O levels**  
, (2019)  
**Intermediate / A levels**  
, (2021)  
**Board of Intermediate & Secondary Education**  
Students' Inn College , 1078 ( May 2017 - Aug 2021)  
**Bachelor's in Electrical Engineering**  
National University of Sciences & Technology , 3.4 (Nov 2021 - Jun 2025)

## Soft Skills

- C
- Orcad lite
- Team workshop
- Filmora
- Analytical thinking
- Cad
- Autodesk 3ds max
- Modelsim

## Internship Experience

**Summer Internship | Power Network Modeling & Simulation ( 11-Jun-2024 - 05-Sep-2024 )**  
**Volunteer Educator | Community Service Initiative ( 04-Mar-2025 - 02-Apr-2025 )**  
**Unity Developer | 3D Applications & Game Development ( 05-Jun-2023 - 03-Aug-2023 )**  
**Mathematics Expert | Photomath ( 03-Jan-2022 - 01-Feb-2024 )**

## Reference

To be furnished upon request.

## Projects

**Intelligent Control for Three-Phase Hybrid Solar Microinverter**  
Designed and implemented an intelligent control system for a three-phase hybrid solar microinverter of 1 kilo watt, optimizing power conversion efficiency and grid synchronization.

**AC to DC Buck Converter**  
Developed and implemented an AC to DC buck converter to transform 240V AC to 48V DC using a PID controller, enhancing power conversion efficiency and stability. Designed and optimized control algorithms to maintain a stable output voltage under varying load conditions.

**Fault Detection in 3-Phase Induction Motors**  
By comparing various ML/DL techniques for fault classification in three-phase induction motors, achieving detection of up to six faults with 90% to 95% accuracy. The model processed approximately 1500 readings in just 1 to 2 seconds.

**Wireless Pedometer**  
Implementing a wireless pedometer using Arduino ESP8266 and ADXL345 accelerometer demonstrates IoT and sensor integration proficiency. Created an interface for seamless wireless monitoring of step counts.

## Details

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BRIDGE  
Islamabad , Pakistan

## Technical Skills

- Computer vision
- Power bi
- Proficient in python, c & c++
- Matlab, wireshark, sublime
- Ms office
- Machine learning

## Soft Skills

- German language (a1 level)
- Analytical thinking
- Autodesk 3ds max
- Lab view
- Proteus, pcb designing
- Premiere pro
- Cisco packet tracer, wireshark
- Problem solving and innovation

## Reference

To be furnished upon request.

## Professional Profile

To bring new innovation and work together in building a sustainable future. Learn new skills and dedicate to my passion as an electrical engineer.

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.05  
, (2019)  
, (2021)  
**BE Electrical Engineering**  
SEECs , 3.05 (2021)  
**A-Levels**  
BMI-A , 1A\* 2A (2019)  
**O-Levels**  
BMI-B , 1A\* 6A 2B (2016)

## Internship Experience

**Electric Vehicles Lab, SINES ( 03-Jun-2024 - 09-Sep-2024 )**  
3-month internship on final year design project "Integrating Radar, Machine Learning, and Computer Vision for Fast-Moving Object Detection" . • Applying Computer Vision models such as YoloV8 for Object Tracking and Classification. • Use of Edge Devices(eg Raspberry pi) implemented with ML algorithms an

## CPPA-G ( 04-Jul-2022 - 15-Aug-2022 )

Worked in Central Power Purchasing Agency for a 6-weeks as an internee to learn data visualization. • Used Power Query and Power Bi to make dashboards. • Took part in a 4-day workshop for power Bi under the internship (from beginner to advanced). • Used formulas to calculate growth rate yearly and monthl

## Projects

**Integrating Radar, Machine Learning, and Computer Vision for Fast-Moving Object Detection (FYDP)**  
• Using YoloV8 for Object Tracking and Classification. • FMCW Radarbook2 for initial Detection. • Use of Edge Devices(eg Raspberry pi) implemented with ML algorithms. • Achieved real-time monitoring and response for various environments. • Demonstrated effectiveness for applications like surveillance system

**Motor Bearing Fault Detection Using CNN and LSTM**  
Trained and compared CNN 1D, CNN 2D, LSTM models, tested on Simulink. Collaborated with Russian authors for the project.

**Self Mixing Interferometry For Displacement Measurement Using Deep Learning**  
Developed deep learning models for accurate displacement measurement using Self-Mixing Interferometry (SMI) signals. Compared Transformers, LSTMs, and Random Forests for prediction accuracy, robustness, and computational efficiency.

**Image Stitching Using Computer Vision Techniques**  
Implemented 360-degree panorama creation using computer vision techniques. Utilized OpenCV libraries, RANSAC, and homography to stitch multiple images seamlessly into a panoramic view.



# Ali Raza



# Ahmad Faisal Mirza

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 Islamabad , Pakistan

**Professional Profile**  
 Skilled at computer architecture, digital design and low level software, with experience in deep learning and signal processing. I am a fast learner with a strong understanding of team dynamics and management, and have a knack for boosting productivity of the group as a whole.

**Technical Skills**  

- Operating systems
- Python and bash scripting
- Embedded c
- Data analysis
- Post-quantum cryptography
- Modelsim, xilinx ise, fpga
- Proficient in python, c & c++
- Verilog programming

**Education**  
**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.03  
 , (2019)  
 , (2021)

**Soft Skills**  

- Strategic communications
- Analytical thinking
- Teamwork, flexibility
- Team management skills

**Internship Experience**  
**NUST Chip Design Centre ( 01-Jul-2024 - 06-Sep-2024 )**  
 Research work related to Post-Quantum Cryptography including literature review of the state-of-the-art in Hardware Security. Profiling the CRYSTALS-Kyber algorithm on the open source Ibex RV32IMC core using GNU toolchain and Xilinx Vivado. Scripting using Bash and Python for reproducibility.

**Reference**  
 To be furnished upon request.

**Projects**  
**ISA Extension for RISC-V Based PQC Kernels for IoT Applications**  
 Final Year Project to improve data security on low-power processors by leveraging tightly coupled hardware acceleration. Extending the RISC-V ISA to optimise the execution of expensive algorithmic operations in Post-Quantum Cryptographic algorithms. Hardware design of custom execution units using SystemVerilo  
**Cache Design and Integration in RISC-V processor**  
 Designed a 2-Way Set-Associative cache with LRU replacement policy and integrated it within a pipelined RISC-V processor designed in Verilog HDL.  
**Deep Learning based Displacement Prediction**  
 Predicting object displacement accurate to nanometers in a Self-Mixing Interferometry experimental setup using a synthetic dataset to train a decoder-only Transformer model.  
**Out of Order RISC-V processor**  
 Design of Reservation Stations and Register Alias Table in Verilog HDL to support out-of-order execution according to Tomasulo's algorithm.

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 ALLAMA IQBAL TOWN  
 Lahore , Pakistan

**Technical Skills**  

- Cuda
- Convolutional neural networks
- Recurrent neural networks
- Computer vision
- Specialization in python
- Data analysis
- Vivado hls
- Python, keras

**Soft Skills**  

- Communication skills
- Networking
- Team playing
- Strategic communications
- Leadership qualities

**Reference**  
 To be furnished upon request.

**Professional Profile**  
 A final year electrical engineering student at NUST, Islamabad with expertise in Deep Learning, Machine Learning, Signal Processing and Telecommunications

**Education**  
**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.63  
 , (2019)  
 , (2021)  
**Electrical Engineering**  
 School of Electrical Engineering and Computer Science (SEECs) , 3.63  
 (2025)

**Internship Experience**  
**Information Processing Technology Lab (IPT) ( 15-May-2024 - 01-Jun-2025 )**  
**King Abdul Aziz Web Observatory Lab ( 05-Sep-2024 - 20-Dec-2024 )**  
**DLL Group @ LCWU ( 13-Jul-2023 - 12-Sep-2024 )**  
**Deep Learning Lab, National Centre of Artificial Intelligence (NCAI) ( 15-Jun-2023 - 01-Jun-2024 )**

**Projects**  
**Vision Assisted Beamforming**  
 Analyzed deep learning models for vision-assisted beamforming (DeepSense 6G dataset), achieving 57.1% accuracy (VGG11) and 52.9% (Vision Transformers); explored YOLOv11 preprocessing for efficient, real-time-capable applications (48.3% CNN, 41.2% FCN).

**End-to-End RAG-LLM Based Medical Chatbot**  
 Designed/implemented an end-to-end RAG-LLM medical chatbot (LangChain, Pinecone, Flask, Gemini-1.5 Pro), building a RAG pipeline for accurate medical queries, diagnosis/treatment recommendations, and using Pinecone/Flask for scalable knowledge retrieval/frontend.

**Challenging Roads, Smarter Segmentation: Deep Learning vs. Traditional Methods**  
 Conducted a comparative analysis of semantic segmentation (Indian Driving Dataset), achieving high IoU scores with UNet (0.7869) and SegFormer (0.7746), and evaluated traditional approaches (MST: 0.4434, Watershed: 0.3862) for efficient autonomous driving in dynamic conditions.

**Real Time Pakistani Sign Language Recognition**  
 Developed a real-time PSL recognition system (PkSLMNM dataset) classifying 7 affective expressions (100 individuals) using a ResNet50/LSTM pipeline achieving 92.7% test accuracy (Optuna hyperparameter tuning).

# Muhammad Saad Farrukh

## Details

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## Technical Skills

- Distributed systems
- Ethereum blockchain
- Computer vision
- Cisco packet tracer
- Hyperledger
- Raspberry pi, tinker board
- Post-quantum cryptography
- Cryptography

## Soft Skills

- Analytical thinking
- Interest in computer security
- Entrepreneurial skills
- Matlab, c++, latex, python
- Problem solving and innovation
- Strategic communications
- Leadership qualities

## Reference

To be furnished upon request.

## Professional Profile

- **Electrical Engineer** with a strong foundation in advanced technologies and innovative problem solving.
- Specialized in applying **Artificial Intelligence** and **Blockchain**-based solutions.
- Proficient in Generative AI, Smart Contracts, and Zero-Knowledge Proofs.
- Dedicated to leveraging **Advanced Technologies** for societal impact and sustainable progress.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.36  
**Matric / O levels**  
 : (2019)  
**Intermediate / A levels**  
 : (2021)  
**Intermediate - FBISE**  
 ASTRON College , 97.2% (2021)  
**Matriculation - FBISE**  
 Bahria Foundation College , 93% (2019)

## Internship Experience

**AI Lounge ( 01-Jun-2023 - 15-Oct-2023 )**  
 - Designed and assisted in an intensive course on programming as part of NUST's– High Impact Skills Development Program for GB Youth's. - Provided a comprehensive practical knowledge to decentralized architectures.

**TUKL NUST R&D Center ( 01-Jul-2021 - 15-Nov-2021 )**  
 - Focused on Deep Learning, FPGA, PyTorch, and Linux. Advanced courses in Machine Learning, Deep Learning, Vivado, and NASA's real-time data collection. - Researched on Quantized Models, and runned different Deep Learning Models on Hardware

## Projects

### TeleCardio: AI-powered IoT ECG Device

Tools: Deep Learning, Raspberry PI, Google Firebase, C/C++ - Co-funded by Erasmus+ Programme of the European Union - Enhances cardiac care in Pakistan with AI-based portable tools, offering real-time diagnostics and bridging healthcare gaps, even in remote areas

### Forest Diseases Detection

Tools: PyTorch, Brevitas, FPGAs, Vivado, Linux, C/C++ ◦ Developed a drone-based system for forest disease monitoring, integrating real-time data from NASA for enhanced accuracy. ◦ Utilized quantized models trained in PyTorch to optimize real-time analysis of environmental data collected by drones.

### Advanced Motor Fault Diagnosis

Tools: Deep Learning, Generative AI, Simulink, MATLAB, Arduino- IDE ◦ CNN and LSTM models for precise motor fault diagnosis, focusing on bearing faults. ◦ On CWRU dataset, it achieves over 98% accuracy, surpassing state-of-the-art methods and excelling in noisy environments. ◦ Developed a speed control

### Federated Learning in Healthcare

Tools: Elliptical Curve Cryptography, Zero Knowledge Proofs, Deep Learning, Ethical AI ◦ Researched federated learning in healthcare, optimizing inference time for medical data. ◦ Explored SNARKs, circuits, and post-quantum cryptography for secure decentralized systems.



# Muhammad Saqib



# Hasan Ali

## Details

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 Rawalpindi , Pakistan

## Professional Profile

Motivated Electrical Engineer with a strong foundation in **Machine Learning, Computer Vision, and Parallel Programming**. Passionate about developing efficient algorithms and optimizing computational performance. Skilled in **programming** with hands-on experience in software development, data analysis, and real-time systems. Seeking a challenging role where I can apply my technical expertise to solve complex engineering problems and contribute to cutting-edge innovations.

## Technical Skills

- Python socket programming
- Computer vision
- Cisco packet tracer
- Research and technical writing
- Engineering equation solver
- Engineering analysis
- Matlab, wireshark, sublime
- C++,python, linux(in progress)

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 1.88  
**Matric / O levels**  
 : (2018)  
**Intermediate / A levels**  
 : (2020)  
**Electrical Engineering**  
 NUST School of Electrical Engineering and Computer Science (SEECS) ,  
 1.88 (2025)

## Soft Skills

- Communication skills
- Self-management skills
- Microsoft word, excel, project
- Project and team management
- Time management
- Strategic communications
- Teamwork & collaboration

## Internship Experience

### Projects

**Real-Time Bitcoin Transaction Fee Prediction Using Mempool and Live Network Data**  
 This project focuses on developing a machine learning model for real-time prediction of Bitcoin transaction fees using data from the mempool and live network activity. By analyzing transaction sizes, timestamps, and other key blockchain metrics, the model aims to improve the accuracy of fee estimations. The a

## Reference

To be furnished upon request.

## Details

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 Karachi , Pakistan

## Professional Profile

A proactive final year BE Electrical Engineering student at SEECS NUST, Islamabad with strong academic achievement.Possess strong leadership and communication skills with fluency in English and Urdu. I have gained practical expertise in diverse areas, including machine learning, computer vision, Internet of Things and electronics.I am dedicated to leveraging my academic knowledge and practical skills to contribute effectively to innovative projects and pursue excellence in the field of Artificial Intelligence.

## Technical Skills

- Computer vision
- Auto cad
- Unity game development
- C++, python, assembly
- Networking tools (wireshark)
- Proteus, ads, pspice, octave
- Ms office
- Matlab

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.53  
 , (2019)  
 , (2021)  
**A levels (Pre-engineering)**  
 Karachi Grammar School , Grades: 2 As and 2 Bs (2021)  
**Olevels (Pre-engineering)**  
 ST Patrick's High School , Grades: 4A\*s, 4As and 1B (2019)

## Soft Skills

- German language (a1 level)
- Analytical thinking
- Coding
- Logical and conceptual learner
- Strong work ethics
- Managing multiple priorities
- Communication skills
- Human resource management

## Internship Experience

**Electric Vehicle Lab, SINES, NUST, Islamabad ( 03-Jun-2024 - 05-Sep-2024 )**

I was a research intern at this lab and performed the following tasks: • Achieved detection of UAVs for defense system using YOLO and OpenCV. • Integrated deep learning models on Raspberry pi4 • Configured and took data readings from radarbook2 radar by Inras. • Worked on supercomputers. • Researched

## Reference

To be furnished upon request.

## Projects

**Detection of fast moving objects using machine learning and computer vision**  
 OpenCV, YOLOv8 Detected fast-moving objects using deep learning, computer vision and radar systems through the use of edge devices.

**FAULT DETECTION IN INDUCTION MOTOR USING MACHINE LEARNING**  
 MATLAB SIMULINK Designed a three phase induction motor on MATLAB SIMULINK, then generated few faults in it and applied different machine learning models in it to compare their accuracy.

**SMOG DETECTION USING MACHINE LEARNING**  
 Python, Arduino, various sensors Real-time atmospheric data is collected using Arduino, processed, and analyzed to ascertain gas concentrations. The framework includes the implementation of machine learning algorithms to establish predictive models for smog detection.

**SMART CAR PARKING SYSTEM**  
 Python, OpenCV, JavaScript, Arduino Used ultrasonic sensors, machine learning, and computer vision techniques to identify faculty and student vehicles while pinpointing reserved parking spaces at our university.



# Amna Bushra



# Muhammad Talha Kamran

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## Professional Profile

A highly motivated Electrical Engineering student seeking a full-time position to develop technical expertise, contribute to innovative solutions, and advance professionally within a dynamic organization.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.24  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)  
**Higher Secondary School Certificate (HSSC)**  
 Aspire College, Samundri , 1078 (2021)  
**Bachelor of Electrical Engineering**  
 National University of Sciences and Technology, Islamabad, Pakistan , 3.24  
 (2025)

## Technical Skills

- Convolutional neural networks
- Computer vision
- Maintenance management
- Data analysis
- Proficient in c & c++
- Auto cad
- Prototyping
- Project planning

## Internship Experience

**Millat Equipment Limited, Pakistan ( 05-Jun-2024 - 17-Jul-2024 )**  
 Acquired practical experience in power generation systems and Programmable Logic Controllers (PLCs), with a focus on real-time monitoring and control. Contributed to the troubleshooting and maintenance of industrial equipment, further developing expertise in system diagnostics and maintenance protocols.

## Projects

**Boost Converter for Voltage Regulation**  
 Collaborated on designing a Boost Converter to maintain a stable 220V output for a smart inverter. Focused on optimizing component selection and circuit design to ensure high efficiency and reliability under varying load conditions.

**Regenerative Braking for Brushless DC Motors in Electric Vehicles**  
 Contributed to developing regenerative braking for BLDC motors in electric vehicles, focusing on energy recovery and efficiency. Utilized a DC-DC converter to match voltage and enhance sustainability and EV performance.

**Dual-Axis Solar Tracking System Design**  
 Contributed to designing and implementing a dual-axis solar tracking system using LDRs, potentiometers, and motor drivers to optimize solar panel efficiency. The system enhances energy absorption, offering a cost-effective solution for sustainable energy generation aligned with SDG7.

**GestureVox – A Real-Time Gesture-to-Speech System**  
 Designing a gesture-to-speech system using ESP32, flex sensors, MPU6050, and machine learning with a Flutter app. The project improves communication for speech-impaired individuals (SDG 10) and advances assistive technology (SDG 9) to foster inclusivity and innovation.

## Soft Skills

- Strategic communications
- Analytical thinking
- Managing multiple priorities
- Communication skills
- Self-management skills
- Teamwork, flexibility
- Microsoft word, excel, project
- Team management

## Reference

To be furnished upon request.

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## Technical Skills

- Ethereum blockchain
- Modelling of energy projects
- Arm, avr, arduino, atmel
- Matlab, wireshark, sublime
- Wireshark,ensp,labview,autocad
- C/c++, python, assembly
- Pcb designing
- React / node.js / apis

## Soft Skills

- Teamwork, flexibility
- Leadership and communication
- Competitiveness
- Arabic speaking
- Logic building
- Social media
- Problem solving and innovation
- Creativity

## Reference

To be furnished upon request.

## Professional Profile

As an electrical engineering student with a strong academic record and demonstrated passion for leadership, my objective is to secure postgraduate studies where I can apply my academic knowledge and practical skills to solve real-world problems. I am eager to gain hands-on experience in the field while working with a team of professionals to develop innovative solutions. With hands-on experience in cutting-edge technologies and a commitment to lifelong learning, I aspire to tackle complex challenges in electronics and computer engineering, contributing to research and development that drives technological advancement.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.54  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)  
**Bachelors in Electrical Engineering**  
 National University of Science and Techology , 3.54 (2025)

## Internship Experience

**NIMIR ( 23-Jun-2023 - 23-Aug-2023 )**  
 – Acquired hands-on experience with industrial electrical systems, including transformers, motors, and generators, through comprehensive training and technical engagement. – Gained advanced knowledge of SCADA systems and their application in coal plant operations. –

## Cognet Lab SEECS ( 12-Jun-2024 - 23-Aug-2024 )

– Designed and deployed a private Ethereum blockchain Proof of Authority (PoA) network to support decentralized energy trading systems. – Integrated ESP32 for smart metering, load control and blockchain connectivity. – Established MQTT broker for the communication protocol and visualized

## Projects

### IoT-Based Motor Control System using ESP32

– Designed a real-time motor control and monitoring system integrating the ESP32 microcontroller with Hall sensor, MPU6050 accelerometer and gyroscope. – Implemented FreeRTOS for task scheduling and established WiFi-based communication by hosting a web interface with WebSocket for remot

### 4-Bit Microprocessor Design

– Developed a fully functional 4-bit microprocessor, implementing arithmetic and logic operations using custom instruction sets. – Designed and integrated key components, including the control unit, ALU, memory, and input/output modules, with optimized timing and signal integrity.

### Enhanced Sign Language Translation System

– Developed a Convolutional Neural Network (CNN)-based system for recognizing and translating sign language gestures into text. – Trained and tested a custom dataset of 37,600 images covering 26 alphabets and 20 user-defined words, achieving 90.72% validation accuracy.

### Sound Localization on Raspberry Pi 4

– Implemented Time Difference of Arrival (TDOA) method and multi-threading on Raspberry Pi 4 for accurate sound source localization using multiple USB microphones. – Conducted real-time audio capture, processing, and visualization with Python, PyAudio, and Matplotlib, transitioning from s



# Umer Abdullah Khan

## Details

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THOKAR NIAZ BAIG LAHORE

Lahore , Pakistan

## Technical Skills

## Soft Skills

## Reference

To be furnished upon request.

## Professional Profile

Aspiring engineer and an enthusiastic researcher with growing expertise in Kubernetes, a keen interest in wireless networking, machine learning and neural networks and a passion for mathematics.

## Education

### BE Electrical Engineering

School of Electrical Engineering and Computer Science , 3.54

, (2019)

, (2021)

## Internship Experience

### WiSNet Lab, ( 15-Jun-2024 - 31-Aug-2024 )

Acquired in-depth knowledge of Kubernetes architecture and best practices for cluster management through CKA certification, enhancing skills in deploying and managing containerized applications. ◦ Developed proficiency in deploying applications on Kubernetes and implementing core concepts, leading to impro

## Projects

### Kubernetes Dashboard Operator

Developed and deployed a Kubernetes Operator to enhance operational management of cluster resources, improving system efficiency and reliability. ◦ Designed a user-friendly web interface using Next.js to enable real-time visualization and interaction with Kubernetes resources and their relationships, intro

### Ray Tracing Engine Development

◦ Implemented core ray tracing algorithms to simulate realistic lighting, reflections, and shadows in C++. ◦ Optimized rendering performance using efficient data structures and debugging techniques. ◦ Successfully rendered realistic images, enhancing my knowledge of computer graphics principles. ◦ Tools an

### Wind Turbine Mathematical Modelling and Simulation using PMSM with Space Vector PWM

◦ Conducted extensive research and literature review to develop mathematical models for Permanent Magnet Synchronous Motor and implement Space Vector Pulse Width Modulation. ◦ Presented findings, modeling details, and conclusions in an IEEE research paper format. ◦ Simulated the Wind Turbine Model using Si



# Muhammad Moazam Nafees



# Rameen Shahzad

## Details

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Islamabad , Pakistan

## Technical Skills

- Hardware breadboard arduino
- Embedded c
- Engineering equation solver
- C++, python, assembly
- Stm32/arm
- C
- Canva
- Freertos

## Soft Skills

- C
- Stm32cubemx
- Orcad lite
- Modelsim
- Human resource management
- C++ programming
- Freertos

## Reference

To be furnished upon request.

## Professional Profile

I am a final-year Electrical Engineering student at **NUST** with a strong passion for **Embedded systems and Circuit integration**. Currently, I am designing a hybrid solar inverter as part of my final year project, where I am gaining hands-on experience in renewable energy and power electronics. I enjoy exploring new technologies and applying them to real-world problems. In addition to my academic pursuits, I actively participate in co-curricular activities, fostering both personal and professional growth.

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 2.74  
**Matric / O levels**  
, (2019)  
**Intermediate / A levels**  
, (2021)  
**Fsc Pre-Engineering**  
Government College University (GCU), Lahore , 92% (2021)

## Internship Experience

**USPCAS-E ( 01-Jun-2024 - 01-Sep-2024 )**  
**Murabbi ( 01-Jun-2023 - 01-Sep-2023 )**  
**Photomath ( 01-Apr-2022 - 03-Mar-2025 )**  
**Phantom Flyers ( 01-Jun-2023 - 03-Mar-2025 )**

## Projects

**AI-Enhanced-MPPT-Inverter-Design-with-Reverse-Engineering-Insights-(FYP)**  
I am working on my Final year project AI-Enhanced MPPT Inverter by reverse engineering a 3.5 kW INVEREX Hybrid Solar Inverter and optimizing power tracking using Reinforcement Learning (RL). Conducted circuit simulations in PSIM software and validated results with real inverter testing. Designed custom ha

### Fire and Gas Hazard Detection Using Free RTOS

Developed a real-time fire and gas hazard detection system using FreeRTOS on Arduino Nano. Integrated MQ-2 gas and YS-17 flame sensors with actuators for immediate response, ensuring efficient task management through RTOS Scheduling.

### T20 Match Prediction Model Using Neural Networks

Developed a T20 cricket match score prediction model using Neural Networks with TensorFlow/Keras. Designed an interactive web interface for real-time predictions, leveraging machine learning for strategic insights.

### MPPT Solar Charge Controller

Developed an MPPT-based Solar Charge Controller using a Boost Converter and ESP32 to maximize power extraction from solar panels. Implemented Perturb & Observe (P&O) and Incremental Conductance algorithms, real-time voltage current sensing and PWM control for efficient battery charging.

## Details

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Islamabad , Pakistan

## Technical Skills

- Distributed systems
- Cuda
- Web development frameworks
- Atmel studio
- Operating systems
- Production planning and control
- Convolutional neural networks
- Recurrent neural networks

## Soft Skills

- Strategic communications
- Statistical data analysis
- Orcad lite
- Modelsim
- Communication skills
- Self-management skills
- Teamwork, flexibility
- Team management

## Reference

To be furnished upon request.

## Professional Profile

Driven and detail-oriented Electrical Engineering graduate with a strong foundation in machine learning, computer vision, and IoT systems, seeking to leverage my technical expertise and research experience to contribute to innovative projects in AI, embedded systems, and energy-efficient technologies, while enhancing smart solutions for real-world challenges

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.62  
, (2019)  
, (2021)  
**Bachelors in Electrical Engineering**  
School of Electrical Engineering and Computer Science (SEECS) , 3.62  
(2025)

## Internship Experience

**RESEARCH INTERN- NUST ( 03-Jun-2024 - 30-Aug-2024 )**  
**RESEARCH INTERN- SIGMA LAB ( 01-Jun-2023 - 25-Aug-2023 )**  
**RAN PLANNING INTERN- JAZZ HEADQUARTERS ( 11-Jul-2024 - 13-Sep-2024 )**  
**FREELANCE AI PROMPT ENGINEER- ANTHROPIC ( 18-Jan-2024 - 03-Oct-2024 )**

## Projects

### Energy Positive Human Activity Recognition Using Solar and Kinetic Signal Fusion

•Achieved 96.5% accuracy in activity classification by fusing solar and kinetic energy data, utilizing machine learning models such as Random Forest and SVM with optimized hyperparameters and SMOTE technique for class imbalance •Processed data points using advanced preprocessing techniques, feature engi

### Real-Time Eye Gaze Tracking for Human-Computer Interaction

•Developed a real-time gaze tracking system using MediaPipe and OpenCV, leveraging advanced techniques like Eye Aspect Ratio (EAR) and SolvePnP for gaze estimation and head pose analysis •Implemented 3D facial landmark detection and gaze angle calculations (pitch, yaw, roll) using PnP-based pose estimat

### Real Time Sign Language Recognition

•Achieved real-time translation of hand gestures into readable text using deep learning models like LSTMs trained on gesture datasets with TensorFlow/Keras and Mediapipe Holistic. •Implemented Mediapipe for real-time hand tracking and feature extraction, combined with OpenCV for webcam input and image pr

### Voice Activated Smart Security System with Face Recognition

• Developed and deployed AI models using Edge Impulse for real-time voice recognition and face verification, leveraging neural networks for multi-factor authentication on ESP32 modules and ESP32-CAM. • Optimized task execution with FreeRTOS, enabling efficient management of voice detection and facial rec



# Ahmad Raza



# Alishba Ibraheem

### Details

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### Professional Profile

Please update objective section.

### Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.12

**Matric / O levels**  
 , (2019)

**Intermediate / A levels**  
 , (2021)

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science (SEECS), NUST, Islamabad, Islamabad , 3.12 as of 6th semester (2025)

**F.Sc Pre-Engineering**  
 PGC for Boys , 1089/1100 (2021)

### Internship Experience

**Truid ( 10-Jun-2023 - 14-Aug-2023 )**

Reasearch position as a Machine Learning Intern at truid, NSTP, NUST H-12. Pose detection and Key Points estimation on Identity cards as the Final Project using tools as YOLOv8, pytorch, numpy , Google Colab, Labelme, Python.

**ChipXPRT ( 10-Jun-2024 - 29-Aug-2024 )**

Chip design intern during summer 2024. Explored architectures of different accelerators like GPUs, TPUs, and dedicated accelerators. Specifically focused on researching architecture of tensor processing units and how to make one using open source RISC-V ISA.

### Projects

### Technical Skills

- Ann
- Convolutional neural networks
- Embedded c
- Freertos & mbed rtos
- Data analysis
- Vivado
- Vivado hls
- Computer architecture

### Soft Skills

- Teamwork & collaboration

### Reference

To be furnished upon request.

### Details

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### Technical Skills

- Matlab, wireshark, sublime
- Cisco packet tracer, uml
- Canva
- Cad
- Proteus
- Autocad
- Ms office
- Simulink

### Soft Skills

- Orcad lite
- Mat lab.
- Communication skills
- Teamwork, flexibility
- Microsoft word, excel, project
- Team management
- Lab view
- Team management skills

### Reference

To be furnished upon request.

### Professional Profile

Highly motivated and results-oriented Electrical Engineering graduate with a strong foundation in [Machine learning,Deep leaning]. Seeking an entry-level position in a dynamic environment where I can leverage my technical expertise and contribute to innovative projects. Possessing a keen interest in app development, particularly those incorporating Machine Learning (ML) and Artificial Intelligence (AI) technologies. Eager to learn and contribute to a challenging and rewarding work environment.

### Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.18

**Matric / O levels**  
 , (2019)

**Intermediate / A levels**  
 , (2021)

**Bachelor of Electrical Engineering**  
 National University of Science and Technology , (2025)

### Internship Experience

**Sui Northern Gas Pipelines Ltd. Main Head Office Lahore ( 07-Jul-2023 - 03-Aug-2023 )**

-Gained practical experience in operating and monitoring SCADA systems. -Prepared project presentations and reports to assist senior staff. -Contributed to a positive team environment by collaborating with fellow interns on group projects and presentations. - Explored new technologies and approaches to stre

## Projects

### Line Following Robot

Designed and constructed a line-following robot using Atmega16 microcontroller, showcasing expertise in embedded systems and robotics. Implemented control algorithms to enable the robot to autonomously navigate along designated paths, employing sensor feedback for accurate line tracking. The project involved

### Solar Powered EV-Regenerative Braking System

Led a Simulink project focused on developing a solar-powered electric vehicle (EV) equipped with a regenerative braking system utilizing an induction motor. Designed and simulated the vehicle's powertrain and control systems, optimizing energy efficiency and performance. Implemented regenerative braking algor

### Breast Cancer Detection using ML

Developed and implemented a machine learning model for breast cancer classification using neural networks. The project focused on neural networks and deep layers to analyze medical data and predict the presence of malignant or benign tumors. This project demonstrated proficiency in machine learning, image pro

### Plant leaf disease detection

Developed and implemented a machine learning model for the identification of plant leaf diseases using computer vision techniques. The project involved image preprocessing, feature extraction, and classification using CNNs to accurately detect and classify various plant diseases based on visual symptoms. This



# Abdul Rafay

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BALDIASAEEDABAD, TOWN,  
KARACHI WEST.

Karachi , Pakistan

## Technical Skills

- Data handling
- Freertos & mbed rtos
- Proficient in c & c++
- Connectship logistics
- Python, tensorflow/keras
- Proteus
- Matlab
- Simulink

## Soft Skills

- C
- Team workshop
- Coding
- Lab view
- Python
- C++ programming
- C++ (beginners)
- Freertos

## Reference

To be furnished upon request.

## Professional Profile

A technology passionate and innovative individual, with a strong focus on embedded systems and computer architecture design. I enjoy exploring operating system concepts and delving into machine learning, constantly seeking to understand how these fields evolve. My goal is to leverage my skills to create efficient and impactful solutions in the tech landscape.

## Education

### BE Electrical Engineering

School of Electrical Engineering and Computer Science , 2.88

### Matric / O levels

, (2019)

### Intermediate / A levels

, (2021)

### Electrical Engineering

SEECS , 2.9 (2025)

## Internship Experience

### system on chip lab (SOC) SINES ( 10-Jun-2024 - 20-Aug-2024 )

Explored computer architecture concepts like vector processing , memory hierarchy, VLIW architecture. Studied the RISC privilege ISA documentation Worked on microarchitecture diagram for the implementation of interrupt handling module the control and status Registers Learnt system Verilog

## Projects

### RISC V processor implementation with floating point unit

Implemented RV32I in Verilog. Implementation of floating-point register file, ALU and floating-point instruction (ADD, MUL, LOAD and STORE).

### Automated handwritten quiz checking application using LLM

Developed an application on python to evaluate the quizzes provided in the given format. Able to fetch the file from a specified directory and manage the folders for new and already checked quizzes. Implemented by using OCR for image recognition and LLM for evaluation. Manage the data of the evaluate

### Circle drawing VGA compatible hardware implementation on FPGA

Implementation of bresenham circle drawing algorithm using a finite state machine in Verilog. Interfaced using a VGA controller with a Monitor to display the circle.

### platform level interrupt controller (PLIC)

Implemented PLIC in system Verilog. Hardware interrupts are managed on basis of priorities as well as thresholds.



# Muhammad Saher



# Muhammad Ahmad Raza

## Details

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 OLD GRAINTABLEEGI  
 MARKAZ,BEHIND  
 GODAM,BAHAWALNAGAR  
 Islamabad , Pakistan

## Professional Profile

A dedicated BSEE student with a strong passion for Artificial Intelligence and Machine Learning. Proficient in several programming languages and different tools usage. Committed to excellence, with a proven record of problem solving and project delivery

## Technical Skills

- Python socket programming
- Convolutional neural networks
- Cisco packet tracer
- Hardware breadboard arduino
- Lathe machine
- Milling machine
- Atmel 8051, pic atmega 16
- C language

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 2.0  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)  
**Matriculation**  
 Spring Tide English Immersion School , 938 (2019)  
**Intermediate**  
 Punjab College - Quaid Campus , 980 (2021)  
**BS - Electrical Engineering**  
 SEECS , 2.06 (2021)

## Internship Experience

**Pak weighing Corporation ( 01-Jul-2024 - 11-Sep-2024 )**  
 1. Gathering, organizing, and managing data for decision-making processes. 2. Ensuring data accuracy and availability. 3. Demonstrating technical skills and attention to detail. 4. Contributing to team efforts effectively. 5. Exhibiting an understanding of data collection systems. 6. Improving internal p

## Projects

- Chess game against computer using C programming**
- Hotel Management System using OOP (C++)**
- Fire Fighting Robot using Arduino**  
 The project focuses on implementing C++ programming using arduino to extinguish fire by detecting through flame sensors and send notification to user.
- Password protected attendance system using IC's**

## Soft Skills

- Gui(tkinter)
- Communication skills
- Microsoft word, excel, project
- Lab view
- Communication and presentation
- Multi tasking
- Proteus, pcb designing

## Reference

To be furnished upon request.

## Details

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 SAHIWAL  
 Sahiwal , Pakistan

## Technical Skills

- Atmel studio
- Modelsim pe
- Vivado design suite
- Basics of python
- Proteus
- Matlab

## Soft Skills

- Logical and conceptual learner
- Communication skills
- Teamwork, flexibility
- Microsoft word, excel, project

## Reference

To be furnished upon request.

## Professional Profile

Aiming to work in an organization that recognizes and values my technical and non-technical skills and provides an environment where not only can I advance my skills but also utilize them efficiently to solve problems of the society.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.27  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)  
**F.Sc ,Pre-Engineering**  
 divisional Public School and Inter College , 1033 (2021)  
**MATRICULATION**  
 divisional Public School and Inter College , 1062 (2019)  
**Bachelors of Electrical Engineering**  
 School of Electrical Engineering and Computer Sciences , 3.27 (2025)

## Internship Experience

**Rapid-Silicon ( 20-Jun-2023 - 20-Aug-2023 )**  
 Verification of digital system design using system verilog

## Projects

- Autonomous Drone for Human Aid**  
 Designed an autonomous drone for human aid in emergency areas using computer vision and AI. This project is a part of UAS competition 2023 held at national level.
- RISC-V(IMAB) processor with G share branch predictor**  
 Designed and implemented a 32-bit RISC-V processor with a 5-stage pipelined architecture, supporting the IMAB instruction set, Along with G-share branch predictor, optimized for efficient integer arithmetic, atomic operations, and basic system instructions.
- Final Year Design Project: RISC-V Goes Real Time**  
 Building our own custom Soc for real-time embedded applications. Implementing Zephyr RTOS on the RV32IMAC core.
- Bomberman Game**  
 Designed and developed a 2D game, Bomberman, implementing gameplay mechanics such as bomb placement, enemy navigation using BFS(Breadth First Search) algorithm and interactive player controls. Utilized object-oriented design principles including inheritance, polymorphism and templates to build a scalable and m



# Hassan Ali Irtaza



# Mohamed Imthiyaz Saied Ramalan

<p><b>Details</b> Cell: 923005270060 Email: hirtaza.bee21seecs@seecs.edu.pk Address: H.NO.205, ST.NO.8, SHADMAN COLONY, NEW MORGAH RD.KOTHA KALAN, JHELUM RD. , RAWALPINDI Rawalpindi , Pakistan</p>	<p><b>Professional Profile</b> A final year electrical engineering student ready to embrace real world challenges and work for the betterment of human race</p>
<p><b>Technical Skills</b></p> <ul style="list-style-type: none"> <li>• Shotcut-videography</li> <li>• Auto cad</li> <li>• Adobe creative cloud</li> <li>• Editing and proofreading</li> <li>• Monitoring and surveys</li> <li>• Canva</li> <li>• Python &amp; c languages</li> <li>• Google sheets</li> </ul>	<p><b>Education</b></p> <p><b>BE Electrical Engineering</b> School of Electrical Engineering and Computer Science , 2.8 <b>Matric / O levels</b> , (2019) <b>Intermediate / A levels</b> , (2021) <b>electrical engineering</b> SEECs , 2.83 (2025) <b>Intermediate</b> Fauji Foundation Boys College , 1043/1100 (2021) <b>Matriculation</b> Fauji Foundation Boys college , 1059/1100 (2019)</p>
<p><b>Soft Skills</b></p> <ul style="list-style-type: none"> <li>• Communication skills</li> <li>• Human resource management</li> <li>• Graphics designing</li> <li>• Team management</li> <li>• Freelance writer</li> <li>• Motivational speaking</li> <li>• Social media</li> <li>• Deadline oriented</li> </ul>	<p><b>Internship Experience</b></p> <p><b>Ministry of foreign affairs ( 04-Jun-2024 - 16-Jul-2024 )</b> Learning the defects of the communication system of the ministry and providing remedies</p> <p><b>RP2F Lab RIMMS ( 01-Aug-2022 - 31-Aug-2022 )</b> PCB fabrication</p>
<p><b>Reference</b> To be furnished upon request.</p>	<p><b>Projects</b></p> <p><b>Gesture Vox : PSL to audio</b> A wearable gloves equipped with sensors to capture hand movements and gestures accurately system that translates Pakistani Sign Language gestures into audio for improved accessibility and communication.</p> <p><b>Walk and Charge</b> A device that generates electricity to charge your appliances on the go</p> <p><b>License Plate Detection</b> Detection of license plate using CV to detect from videos</p> <p><b>RISC V implementation in verilog</b> Implemented risc v in verilog</p>

<p><b>Details</b> Cell: +94772026837 Email: imthiyazramalan123@gmail.com Address:</p>	<p><b>Technical Skills</b></p> <ul style="list-style-type: none"> <li>• Python/java/c++/octave</li> <li>• Convolutional neural networks</li> <li>• Recurrent neural networks</li> <li>• Python, keras</li> <li>• Proficient in c &amp; c++</li> <li>• Autocad plant 3d</li> <li>• Auto cad</li> <li>• C language</li> </ul>
<p><b>Soft Skills</b></p> <ul style="list-style-type: none"> <li>• Analytical</li> <li>• Communication skill</li> <li>• Technical documentation</li> <li>• Coordination</li> <li>• Social media</li> <li>• Verbal communication</li> <li>• Communication &amp; interpersonal</li> <li>• Strategic communications</li> </ul>	<p><b>Reference</b> To be furnished upon request.</p>

<p><b>Professional Profile</b> Dedicated and driven with a solid academic foundation and a passion for technology. Proficient in both theoretical principles and practical applications. Strong problem-solving skills and attention to detail. Committed to continuous learning and eager to contribute to projects in the field of electrical engineering.</p>
<p><b>Education</b></p> <p><b>BE Electrical Engineering</b> School of Electrical Engineering and Computer Science , 3.16 , (2016) , (2020) <b>BE Electrical Engineering</b> National Univesity of Science and Technology,Islamabad ,Pakistan , 3.2 (2025) <b>High School</b> Zahira College Colombo , (2020)</p>
<p><b>Internship Experience</b></p> <p><b>EV Academy -Islamabad ( 03-Jun-2024 - 12-Jul-2024 )</b> Modeled and simulated electric vehicles using EVSim in Simulink MATLAB. Improved simulation models for EV components and analyzed results. Gained hands-on experience in electric vehicle dynamics and energy management</p> <p><b>Crysto Solar Energy Private Limited ( 03-Jul-2023 - 04-Aug-2023 )</b> Conducted site assessments and shading analyses. Assisted with testing, troubleshooting, and commissioning of solar panels and inverters. Contributed to project documentation and customer communication. Gained hands-on experience with solar energy monitoring and data analysis tools.</p>
<p><b>Projects</b></p> <p><b>SoC Estimation for Drone Battery Using ML (FYP)</b> Developing a machine learning-based system for accurate drone battery State- of-Charge (SoC) estimation. Using EV datasets and drone-specific data to train models like DNN, LSTM, and Random Forest. Integrate real-time SoC monitoring into drone hardware to enhance flight safety and efficiency.</p> <p><b>220V DC to AC Inverter</b> Design and Implementation of a Single-Phase 220V DC to AC Inverter Designed a 220V DC to AC inverter using IGBTs and PWM control with Arduino/ESP32. Achieved 90% efficiency and maintained Total Harmonic Distortion (THD) at 5%. Implemented and tested the inverter for stable and efficient power conversion</p>



# Abdus Subahan Lukman



# Naima Yaqub

## Details

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, Pakistan

## Technical Skills

- Python socket programming
- Microcontrollers avr, pic, stm
- Gui design on visual studio
- Convolutional neural networks
- Cisco packet tracer
- Data science
- Python, keras
- C language

## Soft Skills

- Strategic communications
- Situational awareness
- Problem solving skills
- Communication & interpersonal
- Quick learner
- Time management
- Good listner
- Teamwork & collaboration

## Reference

To be furnished upon request.

## Professional Profile

Motivated Electrical Engineering student with a strong interest in Wireless Communication, Networking, and Machine Learning. Possess excellent academic achievements, active participation in extracurricular activities, and research experience in communication and ML. Equipped with a solid theoretical foundation and practical skills, with a passion for innovation and a commitment to leveraging transformative technologies. Eager to contribute to the fields of Artificial Intelligence and Reinforcement Learning while exploring cutting-edge advancements.

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.46  
, (2017)

, (2020)  
**Bachelor of Electrical Engineering**  
School of Electrical Engineering and Computer Science (SEECs) , 3.5  
(2025)  
**A/L -Physical Stream**  
Zahira College , (2020)

## Internship Experience

**SINES-NUST ( 03-Jun-2024 - 05-Sep-2024 )**  
Gained hands-on experience in the design, development, and testing of Unmanned Surface Vehicles (USVs), focusing on system integration, communication protocols, and sensor deployment. Contributed to enhancing autonomous navigation, real-time data acquisition, and operational efficiency through innovative solu

**Global Designing & Construction PVT (Ltd) ( 10-Oct-2019 - 14-Oct-2021 )**  
Played a key role in supporting diverse construction projects by overseeing site preparation, executing manual tasks such as excavation, lifting, and material transport, and ensuring site cleanliness and organization.

## Projects

**Design and Development of Swarm USV for Water Quality Monitoring**  
Developed an integrated Unmanned Surface Vehicle (USV) swarm system utilizing LoRa-based communication for inter-USV and ground station connectivity. Implemented adaptive communication protocols for real-time data transmission, including telemetry and sensor data for water quality analysis. Focused on integra

**Fingerprint Identification Using Computer Vision**  
Developed a fingerprint identification system leveraging advanced computer vision techniques, including SIFT (Scale-Invariant Feature Transform), SURF (Speeded-Up Robust Features), and RANSAC (Random Sample Consensus). Focused on feature extraction, KeyPoint matching, and robust alignment to enhance accuracy

## Details

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Faisalabad , Pakistan

## Technical Skills

- Atmel studio
- Gui design on visual studio
- Convolutional neural networks
- Computer vision
- Python, keras
- Cisco packet tracer
- Networking tools (wireshark)
- Docker | kubernetes

## Soft Skills

- Strategic communications
- Team workshop
- German language (a1 level)
- Managing multiple priorities
- Communication skills
- Self-management skills
- Human resource management
- Networking

## Reference

To be furnished upon request.

## Professional Profile

To gain hands-on experience and grow professionally in a collaborative environment, contributing meaningfully to organizational success while developing my technical expertise.

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.8  
**Matric / O levels**  
, (2019)

**Intermediate / A levels**  
, (2021)  
**FSc Pre Engineering**  
Punjab College for Women , 1094/1100 (2019)  
**Matric**  
Govt. Girls, Higher, Secondary School, Faisalabad , 1049/1100 (2017)  
**Bachelor's in electrical engineering**  
National University of Sciences and Technology , 3.78/4.00 (2021)

## Internship Experience

**MATCO Foods ( 15-Jun-2025 - 17-Aug-2023 )**  
Electrical Design Intern: Completed projects on Automatic Lighting System and IoT-based Fire Alarm System. Analyzed motor and pump capacity requirements. Evaluated power distribution systems and alternate power sources to ensure adequate power supply for project completion.

**Ecobricks ( 10-Feb-2024 - 10-May-2024 )**  
Conducted market research on national and international markets, estimating local target markets and identifying competitors. Assisted project managers in planning and executing projects, ensuring timelines and deliverables were met. Developed business plans and gained insights into startup challenges and p

**School of Interdisciplinary Sciences (SINES) | NUST, Pakistan ( 03-Jun-2024 - 05-Sep-2024 )**  
Analyzed electrical power systems and performed power flow and stability studies using PowerWorld Simulator. Simulated and evaluated contingency scenarios to identify potential vulnerabilities in power grids. Utilized large-scale power network models to support system planning and operational decision-makin

## Projects

### Footstep Power Generation

Designed and demonstrated a model for generating electricity using piezoelectric sensors, which produce voltage when pressure is applied. The project explored two potential applications: integrating sensor plates into flooring in busy areas or embedding them in footwear to harness kinetic energy from walking.

### Smart Medicine Box with Reminder System

Developed a medicine reminder system using basic ICs, including gates, encoder, decoder, LED lights, and a 4x4 membrane keypad. The system allows users to store medicine in designated boxes, set a timer via the keypad, and receive alerts when it's time to take the medicine. A buzzer sounds, and an LED light i

### Line Following Robrt Using Atmega-16

Designed and developed a line-following robot capable of navigating predefined paths by detecting lines using sensors. The robot was programmed in assembly language to handle various scenarios, including junctions, end lines, and turns. The project demonstrated proficiency in microcontroller programming, logi

### Fault Detection in Transmission Lines using Vision Transformers

Implemented a novel approach to detect faults in transmission lines using Vision Transformers (ViTs), leveraging their capability to analyze images effectively. Based the project on a research paper published in September 2023, showcasing improved efficiency compared to traditional methods. Trained and tested



# Muhammad Abdullah

## Details

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Chaklala cantt,  
Rawalpindi , Pakistan

## Technical Skills

- Microcontrollers avr, pic, stm
- Computer vision
- Data cleansing and analysis
- Data science
- Hardware breadboar aurdino
- Embedded c
- Raspberry pi, tinkery board
- Data analysis

## Soft Skills

- Analytical thinking
- Communication skills
- Leadership and communication
- Analytical
- Problem solving skills
- Intuitive problem solving
- Problem solving and innovation
- Empathy

## Reference

To be furnished upon request.

## Professional Profile

Innovative Embedded Systems and AI/ML Engineer with a strong background in developing intelligent hardware solutions. Skilled in designing and integrating **AI-powered embedded systems**, optimizing **real-time data processing**, and deploying **ML models**. Passionate about **microcontrollers, FPGAs, and edge devices** bridging the gap between **machine learning and hardware**, improving efficiency, and enabling smart automation in IoT, healthcare, and industrial applications. Seeking to contribute expertise in **embedded AI, signal processing, and model deployment** to drive innovation in cutting-edge technology solutions.

## Education

### BE Electrical Engineering

School of Electrical Engineering and Computer Science , 3.25

, (2019)

, (2021)

### Bachelor of Engineer, Electrical

School of Electrical Engineering and Computer Science , 3.25 (2025)

## Internship Experience

### Centre of Artificial Intelligence & Computing (CENTAIC), NASP ( 14-Jun-2024 - 22-Aug-2024 )

Worked as an AI Intern at the Centre of Artificial Intelligence & Computing, National Aerospace Science & Technology Park. 1. Anomaly Detection for ECG Data: Developed an anomaly detection system for ECG signals using Temporal Convolutional Networks (TCNs) with the Darts library. The system enhances autom

## Projects

### BlueShield USV

As part of my Final Year Project at NCIL Lab, SEECS, I am developing an Unmanned Surface Vehicle (USV) equipped with IoT and AI-driven analytics for water quality monitoring and heavy metal trace prediction in surface water. This project integrates wireless communication, IoT and machine learning to enhance e

### DermaVision

DermaVision is an AI-powered skin disease classifier that helps users identify potential skin conditions through image analysis. I used the ResNet-34 Model, fine-tuned it on the DermNet dataset with 23 classes and 19,500 images. The number of classes were reduced to 6, using the confusion matrix, to increase

### ECG Anomaly Detection

This project focuses on anomaly detection in ECG 5000 time series dataset using Temporal Convolutional Networks (TCNs) with the Darts library and an LSTM approach. The project includes data preprocessing, exploratory data analysis (EDA), forecasting, and anomaly detection and visualization. GitHub: <https://>

### ReachAble-A Gesture Controlled Robot

This project demonstrates the design and implementation of a gesture-controlled robot using ESP32 microcontrollers, flex sensors, and FreeRTOS for real-time task prioritization. The system allows intuitive control of a robotic car through hand gestures, with obstacle detection ensuring safe operation. Feature



# Omer Amin

## Details

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Mustafa Towers  
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Islamabad , Pakistan

## Professional Profile

As a dedicated student pursuing a Bachelor's degree in Electrical Engineering, I have built a solid foundation in the field through my 7 semesters of study. My interest revolves around **Artificial Intelligence, Machine Learning, Digital Logic/System Design, Microcontrollers, and Embedded Systems.**

## Education

### BE Electrical Engineering

School of Electrical Engineering and Computer Science , 3.5  
, (2019)

, (2021)

### Olevels

Roots International Schools, Wellington Campus H-8, Islamabad , 89%  
(2019)

### Alevels

Roots International Schools, Wellington Campus H-8, Islamabad , 88%  
(2021)

### Value Methodology Associate (VMA) Certification

SAVE International, USA , Passed (2023)

## Internship Experience

### Korea Electrical Heat Tracing ( 24-Jun-2024 - 27-Sep-2024 )

To compile a list of potential customers and establish relationships with them, with the aim of eventually making contracts and becoming partners for sales in the Middle East market. The process will involve extensive research to identify these potential partners, followed by outreach and negotiations to est

### Ibn-e-Adam ( 01-Nov-2024 - 01-Jan-2025 )

Voice of Ibn-e-Adam Record and edit professional Quranic Recitations

## Projects

### Motion Generation for Humanoid Robots

Designed a system that enables humanoid robots to interpret and execute actions based on natural language text commands, bridging the gap between human communication and robotic control.

### Heartbeat Sensor

Developed a system to measure and monitor heart rate using optical sensors.

### Automatic Class Terminating System

Designed a timer-based system to automate classroom session termination.

### 4-Bit Microprocessor

Built a basic microprocessor to perform arithmetic and logical operations with 4-bit data.

## Technical Skills

- Convolutional neural networks
- Computer vision
- Research and technical writing
- C++, python, assembly
- Micro-controllers(pic, arduino)
- Editing and proofreading
- Verilog programming
- Machine learning

## Soft Skills

- Typing (70wpm)
- Managing
- Efficient
- Problem solving skills
- Efficient ms word, excel user
- Quick learner
- English speaking and writing
- Punctual and responsible

## Reference

To be furnished upon request.



# Muhammad Huzaifa Bin Shamayl



# Momina Tabassum

### Details

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Islamabad , Pakistan

### Technical Skills

- Devops and cloud computing
- Digital marketing
- Front end web development
- Html/css 5
- Proficient in c & c++
- Basics of python
- Networking tools (wireshark)
- Docker | kubernetes

### Soft Skills

- Strong work ethics
- Communication skills
- Microsoft word, excel, project
- Team management skills
- Flexibility and adaptability
- C programming, content writing
- Problem solving skills
- Entrepreneurial skills

### Reference

To be furnished upon request.

### Professional Profile

Please update objective section.

### Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 2.84  
**Matric / O levels**  
, (2019)  
**Intermediate / A levels**  
, (2021)  
**Matriculation**  
Hamza Army Public School and College , 1033/1100 (2019)  
**FSc**  
Hamza Army Public School and College , 1070/1100 (2021)

### Internship Experience

**Secure Tech Pvt. Ltd ( 03-Jul-2023 - 28-Aug-2023 )**  
• My key responsibilities and duties performed includes HTML-CSS, HTML-5, CSS-3, JAVASCRIPT, BOOTSTRAP 5, WEBSITE DESIGN, PORTAL DESIGN. • Proficiency in HTML, CSS, JavaScript, and Bootstrap. • Improved problem-solving and debugging skills in front-end development. • Developed a deeper understanding

**WISNET LAB - NUST, Islamabad ( 20-Jul-2024 - 20-Aug-2024 )**  
• Building an Admission Controller using EKS best practices. • Testing different cases with the policies in Kyverno. • Improved programming skills. • Developed a deeper understanding of CKA (Kubernetes Certified Administrator) course and best practices.

### Projects

### Details

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WESTRIDGE 2 RAWALPINDI  
Rawalpindi , Pakistan

### Technical Skills

- Python socket programming
- Oracle
- Microcontrollers avr, pic, stm
- Convolutional neural networks
- Computer vision
- Used cisco packet tracer
- Docker
- Social media management

### Soft Skills

- Strong work ethics
- Managing multiple priorities
- Persuasion
- Reasoning and resilience
- Communication skills
- Self-management skills
- Versatility
- Leadership and communication

### Reference

To be furnished upon request.

### Professional Profile

To leverage my academic foundation in electrical engineering and hands-on project experience to contribute to innovative solutions in telecom and engineering industries , while enhancing my technical expertise in a dynamic and growth-oriented environment.

### Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 2.84  
**Matric / O levels**  
, (2019)  
**Intermediate / A levels**  
, (2021)  
**Bachelors in Electrical Engineering**  
NUST , 2.84 (2025)

### Internship Experience

**Biomechanics Lab ( 01-Jul-2024 - 15-Aug-2024 )**  
hands on workshop on the following modules: Mocap Open Sim Pose Estimation using ML

### Projects

**Automatic Rain sensing wind shield wipers**

**Pacman Using Java**

**Bomber-man Game using OOP principles in C++**

**Audio Amplifier**



# Muhammad Bilal Khan

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DAUDKHEL DISTRICT MIANWALI  
Daud khel , Pakistan

## Technical Skills

- Modelsim pe
- Vivado
- Proficient in c & c++
- Modelsim, xilinx ise, fpga
- Wireshark,ensp,labview,autocad
- Proteus
- Matlab
- Verilog programming

## Soft Skills

- German language (a1 level)
- Group work
- Analytical
- Communication skill

## Reference

To be furnished upon request.

## Professional Profile

Final-year Electrical Engineering student with a strong passion for hardware design and computer architectures. Equipped with knowledge of cryptography and experience in optimizing existing designs for improved efficiency and performance. Seeking opportunities to apply technical expertise and innovation to develop cutting-edge solutions in hardware and system design.

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 2.95  
**Matric / O levels**  
, (2019)  
**Intermediate / A levels**  
, (2021)  
**Electrical Engineering**  
School Of Electrical Engineering and Computer Science , 2.92 (2021)

## Internship Experience

**NCDC ( NUST Chip Design Center ) ( 01-Jul-2024 - 30-Aug-2024 )**

- Gained foundational knowledge of cryptographic schemes and their practical applications in daily life. • Explored Fully Homomorphic Encryption (FHE) schemes and identified potential bottlenecks in their implementations. • Studied various Number Theoretic Transform (NTT) designs and evaluated open-source i

**USPCASE ( National University Of Science and Technology, Islamabad) ( 11-Jul-2024 - 29-Aug-2024 )**

- Worked with CRIO and CDAQ systems for data acquisition, filtering signals from various sensors and voltage inputs. • Gained hands-on experience with LabVIEW software to implement algorithms for processing and analyzing acquired data. • Designed and deployed data processing workflows, ensuring accurate and

## Projects

### VGA Controller and Drawing Circles using Verilog

•Design a finite-state machine and datapath system in Verilog. •hardware to draw circles on the VGA screen using Bresenham circle algorithm . •Gained experience of using third-party IP in the design.

### RISC-V pipelined with Hazard Control

• Developed a fully functional 32-bit RISC-V processor compliant with the RISC-V ISA specifications. • Implemented a pipelined architecture to improve instruction throughput and overall performance. • Designed a mechanism to detect and deal with hazards.

### RISC-V pipelined with Hazard Control

• Developed a fully functional 32-bit RISC-V processor compliant with the RISC-V ISA specifications. • Implemented a pipelined architecture to improve instruction throughput and overall performance. • Designed a mechanism to detect and deal with hazards.

### Exhaust Fan Control System Using the Digital Logic Design Concepts

• Used the state machine to deal with possible states. • Designed and implemented a digital timer circuit to control an exhaust fan. • Utilized sequential logic principles to create a user-adjustable timer with a 7-segment display. • Automated the fan's operation to switch off after the timer elapsed,





# Ahsan Tahir



# Muhammad Abdul Rehman Al-Dakhil

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 Islamabad , Pakistan

### Technical Skills

- Convolutional neural networks
- Html/css 5
- Web design and developmnt
- Python, keras
- C language
- Tensorflow, scikit-learn
- Html, css, javascript
- Google firebase platform

### Soft Skills

- C
- C++ programming
- Programming in python
- Cisco packet tracing

### Reference

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 Company: Rahim & sons enterprises  
 Phone: 03052221628  
 Email: engradnan083@gmail.com

### Professional Profile

"Driven by a passion for innovation in electrical engineering, I aim to tackle complex challenges, deliver practical solutions, and grow alongside a forward-thinking organization where my unique skills and dedication can make a lasting impact."

### Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.19  
**Matric / O levels**  
 , (2018)  
**Intermediate / A levels**  
 , (2020)  
**Matric**  
 The Educators, Chaklala Campus , 961/1100 (2018)  
**Intermediate**  
 Pakistan International Public School & College , 869/1100 (2020)  
**Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.16 (2025)

### Internship Experience

**Rahim & Sons Enterprises ( 01-Jun-2024 - 01-Sep-2024 )**  
 Electrical site engineer in the field of Solar Networks

### Projects

**IoT-Enabled Air Quality Monitoring with Machine Learning-Based Prediction System**  
 This project combines IoT and AI for air quality monitoring and prediction. Sensors (MQ7, MQ135, PMS5003) and an ESP32 measure CO, SO<sub>2</sub>, AQI, and PM, with real-time data displayed on an OLED and a website. A transformer model uses meteorological factors and current AQI to forecast future trends.

### Details

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 Lahore , Pakistan

### Technical Skills

- Embedded c
- Vivado
- Computer architecture
- Research and technical writing
- Basics of python
- Arm, avr, arduino, atmel
- Modelsim, xilinx ise, fpga
- C/c++, python, assembly

### Soft Skills

- Voracious reader
- Modelsim altera
- Logical and conceptual learner
- Modelsim
- Arabic speaking

### Reference

To be furnished upon request.

### Professional Profile

I'm an ambitious person with hands-on approach that has led me to build projects like drones, radio transceivers, and even steam engines. I'm a polyglot, bringing strong communication skills to any team.

Beyond academics, I possess a deep fascination with firearms and military history. In my free time, I enjoy horseback riding and competitive football.

However, my true passion lies in the world of chip design and fabrication. I'm particularly interested in processor design, and I'm actively learning RISC-V architecture alongside some Intel assembly language. My dream is to establish Chip fabrication facilities in Pakistan

### Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 2.12  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)  
**Fsc**  
 Government college university , (  
**Bachelors electrical engineering**  
 National university of Sciences and technology , (2025)

### Internship Experience

**Rapidev ( 01-Jul-2024 - 30-Aug-2024 )**  
 embedded systems, FPGA

### Projects

- Arduino based UAV**  
 A fixed wing drone made using arduino and some motors
- Obstacle avoiding robot**  
 Robot that avoids barriers using atmega32
- SAP-1 processor**  
 simple processor using basic gates implemented on hardware
- Quiz checker using LLM**  
 implements automated quiz checking using gpt



# Muhammad Omais



# Moonis Amir Zaman

### Details

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 Lahore , Pakistan

### Technical Skills

- Web development frameworks
- Atmel studio
- Microcontrollers avr, pic, stm
- Convolutional neural networks
- Computer vision
- Modelsim pe
- Nodejs
- React

### Soft Skills

- C
- Modelsim altera
- Stm32cubemx
- Orcad lite
- Coding
- Modelsim
- Bare metal c
- Orcad lite

### Reference

To be furnished upon request.

### Professional Profile

Aspiring IoT and Hardware Engineer with a strong foundation in embedded systems, FPGA development, and IoT applications. Seeking opportunities to contribute technical expertise and innovation in designing real-time, efficient, and scalable solutions.

### Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 2.97  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)

### Internship Experience

**ELEMENTS LEARNING ( 09-Jul-2024 - 09-Sep-2025 )**  
 Web Designer

### Projects

**Pipelined RISC-V Processor**  
 Designed and implemented a 5-stage in-order pipelined RISC-V RV32I processor in Verilog, featuring hazard detection and static branch prediction. The processor supports forwarding to minimize data hazards and ensures efficient instruction execution. Verified functionality using RTL simulation and a comprehens

**Programmable IIR Filter on FPGA**  
 Developed a programmable IIR filter on FPGA with user-defined range for real-time signal processing. Integrated the design with MATLAB for parameter configuration and result visualization. The filter supports flexible reprogramming of coefficients for various applications.

**Real-Time DNN Deployment on FPGA**  
 Implemented a deep neural network deployment pipeline on FPGA using YOLOv5s for real-time object detection. Binarized the network following XNOR-Net methodology to optimize resource utilization. Mimicked inference in C and converted the design into Verilog using High-Level Synthesis (HLS). The FPGA-based solu

### Details

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 Islamabad , Pakistan

### Technical Skills

- Freertos & mbed rtos
- Cryptography
- C++, python, assembly
- Modelsim, xilinx ise, fpga
- Arm, avr, arduino
- Matlab

### Soft Skills

- Communication skills
- Microsoft word, excel, project
- Problem solving skills
- Problem solving and innovation
- Creativity
- Curiosity

### Reference

To be furnished upon request.

### Professional Profile

Dedicated individual with a strong interest in digital hardware design, particularly in hardware accelerators for future cryptographic systems. Committed to achieving a specialized skill set in this domain, to drive innovation and contribute meaningfully to advancing the company's technological goals.

### Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.85  
 , (2019)  
 , (2021)  
**Cambridge A Levels**  
 Beaconhouse School System Margalla Campus , 3A\* 1A (2021)  
**Cambridge O Levels**  
 Beaconhouse School System Margalla Campus , 5A\* 3A (2019)

### Internship Experience

**Nust Chip Design Centre (NCDC) ( 01-Jul-2024 - 30-Aug-2024 )**  
 Worked on the project "Hardware assisted homomorphic encryption (HME) acceleration". More specifically on understanding the algorithm of CKKS scheme for HME. Further, exploring different hardware designs for the NTT operation used in the CKKS scheme.

### Rapid Silicon ( 13-Jun-2023 - 31-Aug-2023 )

Worked on the verification and provided feedback of various labs designed by the company for their upcoming chip design training programs. The labs were related to "Digital System Design", "Computer Architecture", and "System on chip Design".

## Projects

### Hardware Assisted Homomorphic Encryption (HE) Acceleration

• Final Year Project (Domains: Integrated Circuits & Systems, Digital System Design) • Accelerating the bottleneck operations of most HE schemes: The number theoretic transform (NTT) and its inverse (INTT), by designing a parametric unified hardware architecture for Xilinx FPGAs. The design will be compare

### 5-Stage Pipelined RISCv Processor in Verilog With Cache

Implementation of a 32-bit single core RISCv processor (RV32I) in Verilog. A 2-way set associative cache is also implemented as data cache. The core was tested on the Digilent Artix-7 100T FPGA board, in Vivado. GitHub: <https://github.com/MoonisAmir10/Classical-5-stage-pipelined-RISCv-Processor-In-Verilog.git>

### TinyML based Temperature Sensing Using AVR-ATmega

• Implementation of a temperature sensing unit using AVR ATmega16A microcontroller, and a simple machine learning algorithm to enhance it • LM35 sensor is used for temperature sensing and a moving average filter was used to stabilize the readings • Linear regression was used to improve the accuracy of the

### FPGA-VGA-Circle-Drawing

This project consists of designing an FSM to draw circles on VGA displays. The FSM and VGA controller will be mapped to the Altera DE10 FPGA board using Intel Quartus IDE. The FSM was based on the Bresenham circle drawing algorithm and the VGA controller was designed by the University Of Toronto. GitHub: <http://>



# Mohammad Saad Husnain

## Details

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Pakistan

Jeddah , Pakistan

## Technical Skills

- Data engineering
- Computer vision
- Data cleansing and analysis
- Hardware breadboard arduino
- Tensorflow, scikit-learn
- Html | css
- Basics of python
- Plc

## Soft Skills

- Modelsim altera
- Coding
- Logical and conceptual learner
- Modelsim
- Team management
- Python
- Interest in computer security
- Excel

## Reference

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Email: [Rs458@cummins.com](mailto:Rs458@cummins.com)

## Professional Profile

Please update objective section.

## Education

### BE Electrical Engineering

School of Electrical Engineering and Computer Science , 2.41

, (2018)

, (2020)

### Electrical Engineering

SEECs , 2.42 (4)

## Internship Experience

### Cummins Arabia ( 01-Jul-2024 - 31-Aug-2024 )

During my training, I learned the importance of conducting a Pre-Delivery Inspection (PDI) on generators prior to performing load tests. This step is crucial in ensuring the generator is in optimal condition and that any potential issues are addressed beforehand. I was taught to carefully examine the generato

## Projects



# Muhammad Aqdas Chaudhary



# Muhammad Anser Sohaib

## Details

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Address: House # CB-7/A  
Lane # 9/11, gulistan colony  
Rawalpindi , Pakistan

## Professional Profile

Passionate electrical engineering student with a strong focus on hardware design and optimization. Skilled in Verilog, RISC-V, and embedded cryptography systems, with hands-on experience in implementing custom extensions and hardware-accelerated systems. Eager to contribute to advancements in hardware acceleration and computational efficiency.

## Technical Skills

- Embedded c
- Computer architecture
- Stm32/arm
- Robot design

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.12  
**Matric / O levels**  
, (2019)  
**Intermediate / A levels**  
, (2021)  
**Matriculation**  
FFCB, New Lalazar , 1069/1100 (2019)  
**Intermediate**  
FG-Sir Syed College, The Mall , 1061/1100 (2021)

## Internship Experience

**Murabbi ( 05-Jun-2024 - 15-Sep-2023 )**  
Served as an Embedded Systems Intern at Murabbi, NUST, where I led a team of trainers, prepared STM-32 training materials, and conducted workshops for Saudi interns, focusing on STM-32 architecture, FreeRTOS, and IMU integration.

**ChipXPRT ( 10-Jun-2024 - 06-Sep-2024 )**  
Worked as a Computer Architecture Intern at ChipXPRT, contributing to hardware design and optimization tasks, including implementing RISC-V extensions and exploring performance improvements in modern processor architectures.

## Projects

**Cryptography Extension for RISC-V**  
Developing hardware-accelerated cryptographic extensions for the RISC-V ISA to optimize algorithms like AES and SHA, integrating a custom vector unit for enhanced parallelism. (In progress)

**SHA capable RV32M RISC-V Processor**  
Designed and implemented a custom 32-bit RISC-V processor with an integrated SHA unit for efficient hashing operations.

**4-Bit Microprocessor Using Basic Logic Blocks**  
Developed a functional 4-bit microprocessor from scratch, focusing on combinational and sequential logic design.

**Kinematic Control of a 3-DOF Robotic Manipulator**  
Designed control algorithms and implemented kinematic analysis for precise motion control of a robotic arm.

## Details

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Multan , Pakistan

## Technical Skills

- Data science
- Front end web development
- Back-end developer
- Machine learning

## Soft Skills

- Python
- Programming in python
- Matlab, c++, python

## Reference

To be furnished upon request.

## Professional Profile

Please update objective section.

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.01  
**Matric / O levels**  
, (2019)  
**Intermediate / A levels**  
, (2021)  
**Bachelor of Electrical Engineering**  
National University of Sciences and Technology (NUST) , 3.01 (2025)

## Internship Experience

**SoC Lab ( 06-Jun-2024 - 01-Aug-2024 )**  
AI/ML Intern

**Global Resources ( 01-Jun-2024 - 01-Aug-2024 )**  
AI/ML Intern

**SIEMENS ( 01-Jun-2024 - 01-Aug-2024 )**  
AI/ML Intern

## Projects



# Rayan Malik



# Muhammad Faiz

### Details

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 Address: H No 547, Hamza Block, Sitara Sapna City, Daewoo Road  
 Faisalabad , Pakistan

### Professional Profile

Aspiring electrical engineering student with a strong interest in machine learning and artificial intelligence. I have done projects and courses related to machine learning applications and computer vision. Seeking an entry-level position to apply my technical skills.

### Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.13  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)  
**Matric**  
 Pakistan International School Riyadh KSA , 95.8 (2019)  
**Intermediate**  
 Pakistan International School Riyadh KSA , 97.27% (2021)  
**Bachelor's in Electrical Engineering**  
 National University of Sciences and Technology NUST , (2025)

### Internship Experience

**EV Lab Sines ( 03-Jun-2024 - 05-Sep-2024 )**  
 Worked on a project which included detection of aerial objects using Radar and Computer Vision. Machine Learning was used to train the model for detection. The model was implemented on an edge device Raspberry Pi

### Takhleeq.io ( 16-Jun-2023 - 16-Aug-2023 )

Video Editor

### Projects

**Fast Moving Objects Detection using Radar and CV**  
 FYP. The project is related to the detection and tracking of UAVs using Radar and CV. The tracking is real-time and the focus is established once the target is detected. The aim remains on the target even when it's moving thus proving a prototype of an air defense system.

### Technical Skills

- Computer vision
- Proficient in python, c & c++
- Machine learning

### Soft Skills

- Communication skills
- Leadership and communication
- Project and team management
- Time management
- Video editing

### Reference

To be furnished upon request.

### Details

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 Email: faizinc26@gmail.com  
 Address: 362 KABUL BLOCK DC COLONY  
 Gujranwala , Pakistan

### Technical Skills

- Oracle
- Microcontrollers avr, pic, stm
- Arm, avr, arduino
- Matlab

### Soft Skills

- Statistical data analysis
- Team workshop
- Filmora
- Analytical thinking
- Fine art
- Communication skills
- Self-management skills
- Human resource management

### Reference

To be furnished upon request.

### Professional Profile

Please update objective section.

### Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 2.53  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)  
**Matric**  
 Quaid-e-Azam Divisional Public School , 1069/1100 (2019)  
**Pre Engineering**  
 Punjab College of Science II , 1098/1100 (2021)  
**Bachelors in Electrical Engineering**  
 National University of Science and Technology , 2.53/4 (2025)

### Internship Experience

#### Energy Conservation Lab USPCAS-E ( 24-Jun-2024 - 30-Aug-2024 )

Conducted research on enhancing the thermal management system of battery packs using hybrid cooling techniques combining water and air. Designed and implemented a honeycomb cooling system, enabling water flow through honeycomb sheets with air assistance for efficient heat dissipation. Improved cooling eff

#### Electric Vehicle Lab SINES ( 04-Mar-2024 - 12-May-2024 )

Worked as a Research Assistant in an electric vehicle lab, focusing on nonlinear control for regenerative braking to improve system efficiency. Compiled and analyzed experimental data by running and adjusting various models, optimizing performance for battery saving. Achieved a 63 percent increase in batt

#### HATO Agricultural Lighting ( 04-Nov-2024 - 19-Jan-2025 )

Designing comprehensive user manuals for an agricultural lighting equipment, integrating technical expertise from electrical engineering with creative graphic design skills. Simplified complex technical concepts into user-friendly visuals and instructions to enhance customer understanding and usability.

## Projects

### Thermal Management System for an EV Battery Pack (FYDP)

Developing a thermal management system for a battery pack, using hybrid cooling (water and air) to optimize heat dissipation and prevent thermal runaway. Implementing LSTM (Long Short-Term Memory) models for machine learning-based error detection, predicting thermal runaways and short-circuit risks with 85

### Regenerative Braking Using Reinforcement Learning

Designed and developed a regenerative braking system using MATLAB and Simulink, incorporating reinforcement learning for full automation. Implemented machine learning to identify environmental factors such as turns and bumps, automatically toggling the braking system for optimized performance. Achieved a

### Development of a FreeRTOS-Based HVAC Control System

Designed and implemented a FreeRTOS-based HVAC control system leveraging ESP32 microcontrollers for real-time task management and efficient environmental parameter monitoring. Integrated wireless sensors and actuators using the ESP-NOW protocol to measure and control temperature, humidity, and pressure, en

### Shutter Actuator For DSLR Camera

Developed a camera-mounted mechanism to automate time-lapses and long exposures, replacing manual operations with a precision-engineered solution. Achieved perfect accuracy in capturing shots, enhancing efficiency and eliminating errors in photography workflows.



# Mahin Shahzad

## Details

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mshahzad.bee21seecs@seecs.edu.pk  
Address: SUH#1, LANE 14, ASKARI 7  
, ADYALLA ROAD

Rawalpindi , Pakistan

## Technical Skills

- Python/java/c++/octave
- Microcontrollers avr, pic, stm
- Convolutional neural networks
- Recurrent neural networks
- Computer vision
- Cisco packet tracer
- Data science
- Python, keras

## Soft Skills

- Team workshop
- Leadership and communication
- Team management skills
- Entrepreneurial skills
- Effective leadership and manag
- Project and team management
- Leadership qualities

## Reference

To be furnished upon request.

## Professional Profile

Proactive professional with demonstrated interest and experience in problem solving, creative thinking, and developing bespoke engineering solutions. Capable of delivering exceptional results in dynamic environments, working within diverse teams whilst approaching challenges with resilience.

## Education

### BE Electrical Engineering

School of Electrical Engineering and Computer Science , 3.18  
, (2019)

, (2021)

### Bachelor of Electrical Engineering

School of Electrical Engineering and Computer Science , 3.08 (2021)

## Internship Experience

### Packages Limited ( 01-Jul-2024 - 11-Aug-2024 )

Developed a mobile application and dashboard using Flutter to digitize the company's CLT maintenance process under TPM. Designed a database with SQL and integrated the backend using a Node.js server.

### HATO Pakistan (PVT) LTD ( 17-Jul-2023 - 11-Sep-2023 )

Developed an IoT system with ESP 32, using MQTT connections and visualized on Node-RED. Designed web-based monitoring dashboards on Grafana and worked on data annotation, and live image processing.

### Elements Learning ( 05-Jun-2023 - 05-Nov-2023 )

Led a web development team to build an e-commerce platform for a company reshaping K-12 education in Pakistan. Contributed to developing interactive toolkits for enhanced learning.

## Projects

### BCI BASED ROBOTIC ARM USING EEG AND DL

Currently developing an intelligent control system for a robotic arm using BCI and AI. Utilizing EEG signals and DL algorithms to create a responsive assistive device for individuals with motor dysfunctions. Key tasks include preprocessing noisy data, and implementing an ESP32- based control system for p

### EYE CATARACT DETECTION USING DL

Developed an InceptionV3-based model for automated cataract detection. Used Grad-CAM for interpretability and evaluated performance with accuracy and loss metrics.

### NON-INVASIVE BLOOD GLUCOSE MONITORING

Utilized NIR spectroscopy for glucose measurement via skin contact with photodiodes. Employed AVR ATmega32 microcontroller and circuit for signal filtering and amplification.

### DIGITAL HEARING AID FOR VARIED LEVELS OF DEAFNESS

Performed real-time audio processing using MATLAB. Applied noise reduction filtering and amplification for consistent output signal amplitude. Added AWGN (Additive White Gaussian Noise) for robustness testing.



# Alishba Arif



# Abdullah Siddiqui

## Details

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Rawalpindi , Pakistan

## Technical Skills

- Atmel studio
- Computer vision
- Modelsim pe
- Risk management
- Hardware breadboard arduino
- Embedded c
- Freertos & mbed rtos
- Raspberry pi, tinker board

## Soft Skills

- C
- Modelsim altera
- Orcad lite
- Autodesk 3ds max
- Modelsim
- Mat lab.
- Communication skills
- Self-management skills

## Reference

To be furnished upon request.

## Professional Profile

I'm an electrical engineer seeking opportunities in the field to apply my knowledge, technical skills, and passion to contribute to cutting-edge projects and gain experience in a professional environment.

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 2.44  
**Matric / O levels**  
, (2018)  
**Intermediate / A levels**  
, (2021)  
**Matric**  
Siddeeq Public School , 964/1100 (2018)  
**F.Sc**  
Hamza Army Public School and College , 944/1100 (2021)

## Internship Experience

### Projects

**Event-Based Transmission Scheduler for Software-Defined Radio on FPGA**  
The project implements an event-based transmission scheduler on an FPGA platform to initiate streaming of samples (transmit or receive) in software-defined radio (SDR) applications.

**Wind turbines using doubly-fed induction generators**  
The project explored the performance and optimization of Doubly fed induction generator systems utilized in wind turbines in response to disturbances faced by the grid.

**Low Voltage Ride-through Capability Enhancement of DFIG-based Wind Turbines Under Voltage Dips**  
This project presents a control strategy for improving the fault ride-through capability of DFIG-based wind turbines by optimizing converter control and adding damping resistances in the DC circuit.

**Whistle Sound Detection and Localization Using Raspberry Pi**  
This project implements real-time whistle sound detection and localization using a microphone array and Raspberry Pi, leveraging signal processing techniques like FFT and GCC-PHAT for accurate direction-of-arrival estimation.

## Details

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Gujranwala , Pakistan

## Technical Skills

- Operating systems
- Embedded c
- Freertos & mbed rtos
- C++, python, assembly
- Modelsim, xilinx ise, fpga
- Tensorflow, keras, pytorch
- Matlab
- Verilog programming

## Soft Skills

- Strategic communications
- Analytical thinking
- Strong work ethics
- Initiative and enterprise
- Teamwork, flexibility
- Microsoft word, excel, project
- Team management skills
- Freelance writer

## Reference

To be furnished upon request.

## Professional Profile

Skilled at computer architecture, digital design and embedded software, with experience in deep learning and signal processing. Always willing to learn new skills and explore new ideas, and I thrive in team-based, highly social environments.

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.49  
, (2019)  
, (2021)  
**Cambridge A Level**  
Beaconhouse Palm Tree Campus , 3A\*, 1B (2021)  
**Cambridge O Level.**  
Cadet College Hasanabdal , 8A\*, 1A (2019)

## Internship Experience

**NUST Chip Design Centre - SOC Lab ( 20-Jun-2024 - 06-Sep-2024 )**  
Interned under the supervision of Dr. Muhammad Imran. Researched state-of-the-art cores, open-source RISC-V softwares. Literature review of state-of-the-art prefetching and cache-replacement algorithms and memory system design.

## Projects

**Cache Prefetching for RISC-V (Final Year Project)**  
Comparative analysis of combined efficiency of cache prefetching and replacement algorithms via ChampSim. Design, implementation and integration of fully functional memory system and pipelined, out-of-order RISC-V core using Verilog HDL.

**ReachAble - Gesture Controlled Robot.**  
FICS Project. Use of ESP32 and FreeRTOS to create helper robot controlled remotely via a glove equipped with flex sensor. Target market includes elderly and differently abled individuals.

**Parameterized Serial RISC-V**  
Design of a parameterized, serial RISC-V processor for application in low-power, limited area systems using Verilog HDL

**Self Mixing Interferometry Using Deep Learning**  
Research Project. Create a synthetic dataset for SMI power signal via MATLAB. Provide a comparative approach of predicting displacement via laser feedback systems through various deep learning models, including vanilla RNNs, LSTMs, Transformers etc.



# Rimsha Jawad



# Ahsan Abdul Rehman

## Details

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 SAIDPUR SCHEME 2, SATELLITE  
 TOWN,RAWALPINDI  
 Rawalpindi , Pakistan

## Technical Skills

- Atmel studio
- Python/java/c++/octave
- Microcontrollers avr, pic, stm
- Computer vision
- Embedded c
- Lathe machine
- Milling machine
- Statistical analysis

## Soft Skills

- Statistical data analysis
- Filmora
- Strong work ethics
- Versatility
- Networking
- Technical drawing,3d modelling
- Microsoft word, excel, project
- Lab view

## Reference

To be furnished upon request.

## Professional Profile

Please update objective section.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.48  
 , (2019)

, (2021)  
**Electrical Engineering**  
 SEECS , 3.48 (2025)

## Internship Experience

### Quality Solutions ( 26-Jun-2024 - 12-Mar-2025 )

Schematic Design: Designed and managed electrical schematics with a focus on effective design and detailed documentation. Component Management: Organized and maintained electrical component libraries for efficient design workflow. Circuit Design and Analysis: Gained foundational skills in designing, analyzing

## Projects

## Details

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 arehman.bee21seecs@seecs.edu.pk  
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 Doctor street, machine mohallah no.  
 3  
 Jhelum , Pakistan

## Technical Skills

- Laptop repair
- Python socket programming
- Cuda
- Atmel studio
- Machining and fabrication
- Microcontrollers avr, pic, stm
- Convolutional neural networks
- Recurrent neural networks

## Soft Skills

- Strategic communications
- Analytical thinking
- Coding
- Reasoning and resilience
- Networking
- Organization
- Conflict management
- Communication oral/written

## Reference

To be furnished upon request.

## Professional Profile

As a senior Electrical Engineering student at NUST, I bring a multidisciplinary approach to problem-solving with a strong foundation in both hardware design and software development. With hands-on experience in PCB design, embedded systems, and Electrical Engineering projects, I am passionate about leveraging technology to create innovative solutions. My leadership roles in managing family business operations and technical clubs reflect my strong organizational and team collaboration skills. Eager to apply my technical expertise in a professional environment, I am committed to driving impactful contributions while continuing to learn and grow.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 2.94  
**Matric / O levels**  
 , (2019)

**Intermediate / A levels**  
 , (2021)

**Bachelor of Electrical Engineering**  
 School of Electrical Engineering and Computer Sciences (NUST) , 2.93  
 (ongoing) (2025)

**Higher Secondary School Certificate (HSSC)**  
 Army Public School and College System, Jhelum Cantt (FBISE) , 1007/1100  
 (2021)

**Secondary School Certificate (SSC)**  
 Army Public School and College System, Jhelum Cantt (FBISE) , 963/1100  
 (2019)

## Internship Experience

### Smart Agri-tech Lab ( 01-Jul-2024 - 24-Aug-2024 )

PCB Design Intern • PCB Design Mastery: Successfully designed and fabricated a PCB, gaining hands-on experience with hardware integration. • Regenerative Braking Insights: Compiled a report on regenerative braking for eBikes, exploring motor types and their efficiency. • DC Motor Controller: Pioneered a

### Umer Hardware and Plywood Store ( 02-Jun-2023 - 20-Jun-2025 )

Business Manager • Sales & Financial Management: Oversaw daily sales operations, managed financial records, and maintained customer relationships. • Employee Supervision: Led a team of 4 warehouse workers and 4 pickup drivers, delegating tasks and ensuring smooth operations. • Inventory & Logistics Coord

## Projects

### Regenerative Braking Using BLDC Motor

• The project was made using BLDC motor, ESC Speed Controller, Potentiometer (for controlling speed), Arduino UNO (for sending pulses), rectifier circuit, 3-way switches and electrical load (to be powered using regenerated energy). • The project utilizes regenerative braking, harnessing the electricity generated.

### 12V DC to 220V AC Inverter for Emergency Power Supply Backup

• Pioneered a 12V DC to 220V AC inverter for emergency power backup using a DC-AC converter circuit. • Focused on efficiency, stable power delivery, and safety features to prevent overloading and short circuits.

### Solar Battery Charge Controller with MPPT Algorithms

• Designed a solar battery charge controller using MPPT algorithms, comparing Perturb and Observe (P&O) and Incremental Conductance methods. • Simulated performance in Simulink and implemented a hardware prototype with Arduino, demonstrating expertise in power electronics and renewable energy.

### Buck Booster for Voltage Regulation (0-20V)

• Pioneered a Buck Booster DC-DC converter for precise voltage regulation between 0-20V using MOSFETs for efficient switching, increasing output voltage based on specific requirements, while being responsible for circuit design, component selection, and ensuring system efficiency and reliability. • Focused on



# Hafsa Misbah

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## Technical Skills

- Atmel studio
- Python/java/c++/octave
- Microcontrollers avr, pic, stm
- Convolutional neural networks
- Pic microcontroller
- Embedded c
- Freertos & mbed rtos
- Lathe machine

## Soft Skills

- Modelsim altera
- Orcad lite
- Analytical thinking
- Coding
- Communication skills
- Self-management skills
- Team management
- Lab view

## Reference

To be furnished upon request.

## Professional Profile

My aim is to keep upgrading my skills, by trying to work in challenging domains, with the goal of technologically advancing my country.

## Education

### BE Electrical Engineering

School of Electrical Engineering and Computer Science, 3.84

, (2019)

, (2021)

### GCE O' Levels

Beaconhouse Margalla Campus Islamabad (BMI), 7 A\* 1A (2019)

### GCE A' Levels

Beaconhouse Margalla Campus Islamabad (BMI), 3A\* 1A (2021)

## Internship Experience

### Chip XPRT ( 24-Jun-2024 - 30-Aug-2024 )

Using SIMD instructions to write vectorized ML functions to be deployed on FPGA. Basic RISC V programs were simulated with vector extension using QEMU and SPIKE.

### Sir Imran Abeel Internship Program ( 01-Jun-2023 - 30-Aug-2023 )

Brain Computer Interface (internship research): • Researching ESP32 and ADS1299 functionalities to add Wi-Fi option for transfer of data in BCI so that plug and play feature is possible

## Projects

### 1) Transmission Scheduler for SDR on FPGA

1) Implementing digital system design principles using Verilog to implement transmission scheduler for Software Defined Radio on FPGA

### 2) Source localization using Raspberry Pi

2) Applying triangulation algorithm to determine direction of whistle source using Raspberry Pi

### 3) Doubly Fed Induction Generator (DFIG)

3) Using Simulink to implement doubly fed induction generator working in windfarm with efficient control systems of rotor and grid side converter to give desired regulated output

### 4) Low Voltage Ride Through Capability Enhancement for DFIG

4) Using Simulink to implement control strategies through current loops in case of symmetric and asymmetric voltage dips



# Numaira Atif



# Muhammad Ammar

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 KORANG TOWN. ISLAMABAD  
 Islamabad , Pakistan

### Professional Profile

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### Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 2.86  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)  
**Electrical Engineering**  
 SEECS, NUST , 2.86 (2025)

### Internship Experience

**MAQSOOD AND SONS ( 01-Jul-2024 - 16-Aug-2024 )**  
 Participation in the installation and management of HVAC systems Involvement in scanning-related services and ensuring operational maintenance. Handling customer service tasks and managing complaints effectively

**EMR Chains, NSTP ( 16-Jul-2024 - 07-Sep-2024 )**  
 Social Media Management: Making reels, managing social media accounts, communicating with clients

### Projects

**GestureVox**  
 Converting Sign language to speech using ESP32, Flex sensors and accelerometer

**Walk and Charge**  
 A battery that charges upon any movement by the principle of Faraday's law

**License Plate Detection**  
 Detection of license plates using computer vision

### Technical Skills

- Atmel studio
- Python/java/c++/octave
- Digital marketing
- Computer vision
- Python, keras
- Proficient in c & c++
- Social media management
- Auto cad

### Soft Skills

- Coding
- Fine art
- Communication skills
- Teamwork, flexibility
- Microsoft word, excel, project
- Graphics designing
- Team management
- Communication and presentation

### Reference

To be furnished upon request.

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 PAKISTAN  
 Islamabad , Pakistan

### Technical Skills

- Atmel studio
- Microcontrollers avr, pic, stm
- Risk management
- Embedded c
- Freertos & mbed rtos
- Raspberry pi, tinker board
- Computer architecture
- Arm cortex-m4

### Soft Skills

- Strategic communications
- Modelsim altera
- Robot c
- Analytical thinking
- Coding
- Strong work ethics
- Managing multiple priorities
- Communication skills

### Reference

To be furnished upon request.

### Professional Profile

Innovative and detail-oriented Electrical Engineering student with a 3.90 GPA and hands-on experience in RISC-V architecture, FPGA design, and embedded systems. Seeking to leverage my expertise in hardware-software integration, in-memory computing, and system development to contribute to cutting-edge technology projects, while enhancing my skills in a dynamic and collaborative environment

### Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.9  
 , (2020)  
 , (2021)  
**Bachelors in Electrical Engineering**  
 School of Electrical Engineering and Computer Science (SEECS) , 3.90  
 (2025)

### Internship Experience

**Research Intern- System on Chip (SoC) Lab, NUST ( 10-Jul-2024 - 09-Sep-2024 )**  
 • Designed a RISC-V processor core and an SRAM-based in-memory computing unit • Demonstrated strong aptitude for comprehending complex concepts and working collaboratively

**Web Developer Intern- AHAD Softech ( 21-Jun-2023 - 25-Aug-2023 )**  
 • Contributed in making websites for startups using HTML, CSS and JavaScript • Collaborated effectively within a team, clearly communicating ideas and adapting to changing circumstances • Recognized for skills, enthusiasm, and commitment throughout the internship

## Projects

### In-Memory Computing-Based ML Accelerator with RISC-V Integration (in progress)

Collaborating with Chipxprt Pvt. Ltd to enhance an existing SRAM-based in-memory computing method outlined in the research paper titled "A Fully Digital SRAM-Based Four-Layer In-Memory Computing Unit Achieving Multiplication Operations and Results Store." Aiming to manufacture a custom chip through Google'

### RV32I RISC-V Core with Forwarding and Hazard Detection

Designed an RV32I RISC-V core with forwarding and hazard detection mechanisms to ensure efficient pipeline operation. Includes a Dynamic Branch prediction as well

### Basic Secure Communication System using Verilog on FPGAs

Developed for Bcube Pvt. Ltd., enabling encrypted UART transmission between two DE1 FPGAs, with decryption and CRC validation at the receiver

### Sign Language Gesture Detection

Developed a Python-based model using TensorFlow and Media pipe to detect both dynamic and static sign language gestures. The system translates recognized gestures into complete sentences using NLPs for real-time communication



# Muhammad Taqi Raza Kazmi

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PUBLICSCHOOL,MULTAN  
SCHOOL ROAD,P/O  
GULGHASTCOLONY,MULTAN.

Multan , Pakistan

## Technical Skills

- Convolutional neural networks
- Proficient in c & c++
- Kali linux
- Auto cad
- C language
- Network programming
- Tensorflow, scikit-learn
- Basics of python

## Soft Skills

- Computer vision toolbox
- Image processing
- Problem solving skills
- Entrepreneurial skills
- Effective documentation
- Technical documentation
- Premiere pro
- Cisco packet tracing

## Reference

To be furnished upon request.

## Professional Profile

I am excited to leverage my academic knowledge, practical skills, and passion for Machine Learning and Computer vision to contribute to a forwardthinking research team dedicated to innovation and positive impact. I am eager to learn from experienced professionals and contribute fresh perspectives to help drive success and growth. My strong analytical and problem-solving skills enable me to approach tasks with a detail-oriented mindset, ensuring accurate and efficient results.

## Education

### BE Electrical Engineering

School of Electrical Engineering and Computer Science , 3.03

### Matric / O levels

, (2019)

### Intermediate / A levels

, (2021)

## Internship Experience

### NUST ESDAC Lab ( 19-Jun-2023 - 08-Sep-2023 )

Introduction to the field of embedded systems with a focus on linux based embedded deployment by using DE1 SoC development board.

## Projects

• AUTOMATIC PLANTS IRRIGATION SYSTEM • ONLINE RAILWAY RESERVATION SYSTEM • 4-BIT MICROPROCESSOR • QUIZ COMPETITION CIRCUIT • AM RADIO TRANSMITTER & RECEIVER • ADVANCE AUDIO EQUALIZER IN MATLAB



# Zuha Fatima



# Saad Akram Khan Niazi

### Details

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### Professional Profile

Please update objective section.

### Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 2.15  
**Matric / O levels**  
, (2018)  
**Intermediate / A levels**  
, (2020)  
**Matric**  
KMCG , 1048 (2018)  
**FSc**  
KMCG , 955 (2020)

### Internship Experience

**Global Resources ( 15-Jul-2024 - 22-Aug-2024 )**  
Artificial Intelligence ( Using AI in aerial parts manufacturing)

### Projects

**GLOF (Glacial Lake Outburst Flood) detection System**  
GLOF Detection using machine learning multi\_model approach(CNN and LSTM)

### Technical Skills

- Arcgis
- Python socket programming
- Python/java/c++/octave
- Erdas imagine , arcmap, qgis
- Python, keras
- 3d rendering on autocad
- C++, python, assembly
- Tensorflow/pytorch

### Soft Skills

- C
- Orcad lite
- German language (a1 level)
- Arc gis desktop, erdas imagine
- Arcgis
- Unreal engine, graphics , 3d m
- Modelsim
- Mat lab.

### Reference

To be furnished upon request.

### Details

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### Professional Profile

I aim to leverage my skills in Kubernetes, Devops practices and Networks to provide impactful solution that help the community. I am eager to learn new technology and utilizing it to foster innovation and scalability. I want to be a part of projects that positively impact global and local communities

### Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.16  
**Matric / O levels**  
, (2019)  
**Intermediate / A levels**  
, (2021)  
**Bachelor of Engineering in Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.16/4.00 (2025)  
**Matric**  
Sanai School System , 1042/1100 (2019)  
**FSc Pre-Engineering**  
Punjab College Sargodha , 1076/1100 (2021)

### Technical Skills

- Devops and cloud computing
- Computer vision
- Computer architecture
- Docker | kubernetes
- C++,python, linux(in progress)
- C++,python, linux(basic)

### Soft Skills

### Reference

To be furnished upon request.

### Internship Experience

**WISNET Lab, SECS, NUST ( 01-Jul-2024 - 01-Sep-2025 )**  
Worked on developing health-checks for stateful Kubernetes add-ons

### Projects

- Hand Written Quiz Checker using LLM
- Development and Deployment of Flask-based Weather Webapp on minikube
- Development of Health-checks for Stateful Kubernetes add-ons
- Whistle Localization using Raspberry Pi



# Hashaam Zafar



# Muhammad Umar Adam

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 Chakwal, Pakistan

### Professional Profile

Please update objective section.

### Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science, 2.5  
**Matric / O levels**, (2019)  
**Intermediate / A levels**, (2021)  
**Bachelor's in Electrical Engineering**  
 NUST, (2025)

### Internship Experience

**Technical Project Coordinator VisionRD** ( 01-Aug-2024 - 30-Nov-2024 )  
**Business Development Executive trulD** ( 01-Apr-2024 - 31-Dec-2024 )  
**Business Development Pixfolio** ( 01-Jun-2024 - 30-Jun-2024 )  
**Project Management Intern Shadiyana** ( 03-Jul-2023 - 31-Aug-2023 )  
**Outreach Member Futurefest** ( 01-Jan-2024 - 31-Jan-2024 )  
**Brand Ambassador Vyro** ( 01-Apr-2024 - 31-Oct-2024 )

### Projects

**Kaar-e-Khair(Fundraiser)**  
 This was more than just an event; it was a practical application of Project Management methodologies. From ideation to execution, we embraced the full project lifecycle—strategic planning, resource allocation, risk management, and real-time problem-solving. Key Results:  Funds successfully raised for scho

### Classification of ECG Images as Normal or Abnormal

Trained an ML model and simultaneously applied signal(image) processing concepts to automate a system that can classify ECG reports as normal or abnormal smoothing the process of anomaly detection.

### Pulse Talk (Chat Room Application)

Developed a chat room in Python with the functionalities of message broadcast, file transfer, block options, and data functionalities using SQLite.

### Online Store Website

Designed a front-end interface for an online store as a personal project.

### Technical Skills

- Agile and waterfall methods
- Python/java/c++/octave
- Production planning and control
- Convolutional neural networks
- Recurrent neural networks
- Computer vision
- Risk management
- Contract management

### Soft Skills

- Strategic communications
- Analytical thinking
- Human resource management
- Networking
- Teamwork, flexibility
- Leadership and communication
- Conflict management
- Communication and presentation

### Reference

To be furnished upon request.

### Details

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 Lahore, Pakistan

### Technical Skills

- C++, python, assembly
- Mern stack
- Hdl/vhdl

### Soft Skills

### Reference

To be furnished upon request.

### Professional Profile

A motivated 4<sup>th</sup> year electrical engineering student interested in all aspects of computer engineering including computer architecture, operating systems, web development, algorithm visualizations and physics-based simulations, among other things

### Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science, 2.84  
 , (2018)  
 , (2020)  
**A levels**  
 The City School Ravi Campus, 2As 1B (2021)

### Internship Experience

**SOC Lab SINES ( 24-Jun-2024 - 01-Sep-2024 )**  
 Studied computer architecture concepts Worked on RISC-V processors

### Projects

**Real Time RayTracer on GPU using OpenGL**  
 • Written using OpenGL API • Written in GLSL • The application can render spheres with accurate reflections using the concepts of ray tracing

### RV32I with FPU

• RV32I from scratch in Verilog • Addition of floating point register file and ALU • Addition of instructions like Floating Add, Floating Multiply and Floating Load/Store

### 2D Rigid Body Collision Detection and Resolution in C++

• Written in C++ • Implementation of Collision detection Algorithms like Separating Axis Theorem and GJK Algorithm to detect intersection between polygons • Using numerical methods like Euler's Method to numerical solve differential equations for physically realistic simulation based on Newton's laws of mot

### Algorithm Visualizations in C++

• Cellular Automata Visualization in C++ • A\* Algorithm Visualization in C++ • Ray casting visualization in C++



# Shameer Hussain Khan



# Muhammad Abdullah Mustafa

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### Professional Profile

I am a final-year Electrical Engineering student at SEecs, passionate about the digital domain, including FPGA design, microcontroller programming, and hardware description languages. My experience spans working with digital logic, hardware design, and system-on-chip (SoC) development, with hands-on expertise in Verilog, MATLAB, and microprocessor architectures. I am currently working on my Final Year Project focusing on the development of an LF RFID transponder chip for animal tagging in Pakistan.

### Technical Skills

- Front end web development
- Vivado
- Computer architecture
- Engineering analysis
- Basics of python
- Knowledge of html & css
- Painting and sketching
- Arm, avr, arduino, atmel

Beyond academics, I have worked on various digital system projects, including RISC-V microprocessor design, FPGA-based image processing, and software-defined radio. I thrive on problem-solving, innovation, and collaboration and am eager to contribute to cutting-edge research and technology-driven advancements.

### Education

- BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.17  
**Matric / O levels**  
, (2019)  
**Intermediate / A levels**  
, (2021)  
**BE Electrical Engineering**  
National University of Sciences and Technology , 3.17 (2025)
- FSC Pre-Engineering**  
Punjab Group Of Colleges , 97% (2021)  
**Matric**  
Siddique Public School , 93% (2019)

### Internship Experience

- Sabro Technologies ( 01-Jan-2023 - 21-Jan-2023 )**
- Rapid Silicon ( 01-Jun-2023 - 31-Aug-2023 )**
- Inlights ( 01-Jun-2023 - 30-Nov-2023 )**
- NCDC ( 01-Jul-2024 - 31-Aug-2024 )**

### Projects

**PM Youth Program Innovation Award**  
 Worked on the "Inlights" project as a hardware designer, under "Capital development authority CDA ISLAMABAD PAKISTAN", the project focused on automated traffic lights system.

### Soft Skills

- Analytical thinking
- Microsoft word, excel, project
- Communication and presentation
- Communication skill
- C++ programming
- Problem solving skills
- Matlab, c++, python
- Leadership qualities

### Reference

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### Details

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 Hyderabad , Pakistan

### Technical Skills

- Atmel studio
- Python/java/c++/octave
- Microcontrollers avr, pic, stm
- Convolutional neural networks
- Computer vision
- Python, keras
- C language
- Basics of python

### Soft Skills

- Strategic communications
- C
- German language (a1 level)
- Mat lab.
- Basics of adobe photoshop
- Orcad lite
- Python
- Analytical

### Reference

To be furnished upon request.

### Professional Profile

Passionate about advancing the energy sector by contributing to the transition towards sustainable and renewable energy solutions. Seeking a role in electrical power plants where I can apply my expertise in power systems, power electronics, and energy conversion to enhance efficiency, optimize grid performance, and support the country's shift towards greener energy. Committed to leveraging my technical skills and research experience to develop innovative solutions that drive sustainability and energy security.

### Education

- BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.43  
, (2019)  
, (2021)  
**Bachelor of Electrical Engineering**  
National University of Sciences and Technology , 3.43 (2025)
- A Levels**  
Blue Jays School System , 987/1100 (2021)

### Internship Experience

- Energy Conversion Lab - USPCAS-E, NUST ( 03-Jun-2024 - 23-Aug-2024 )**
  - Conducted research on Voltage, SOC, and SOH Measurement Techniques, exploring advanced methods such as Kalman filters for precise estimations.
  - Simulated various State of Charge (SOC) estimation techniques using Simulink, analyzing accuracy and efficiency in different scenarios.
  - Developed and fabricated
- Energy Conversion Lab - USPCAS-E, NUST ( 09-Sep-2024 - 30-May-2025 )**
  - Simulating active cell balancing using supercapacitors and DC-DC converters to optimize energy redistribution and improve battery performance.
  - Implementing hardware realization of the simulated balancing system, integrating microcontroller-based control strategies for real-time operation.
  - Conducting

## Projects

### Road Lane Detection

◦ Built a lane detection system using Python and OpenCV, leveraging Canny edge detection, region masking, and Hough Transform for real-time applications. ◦ Processed both static images and video streams, accurately detecting lane boundaries under varying road conditions. ◦ Proposed future enhancements like

### Predicting Employee Attrition

◦ Developed a machine learning model using TensorFlow/Keras to predict employee attrition, addressing class imbalance with SMOTE and feature engineering techniques. ◦ Evaluated performance using classification metrics (accuracy, precision, recall, F1-score, ROC-AUC) and optimized hyperparameters to improve

### Gunshot Localization

◦ Developed a gunshot direction detection system using a Raspberry Pi and Python ◦ Utilized an array of microphones to capture and process sound waves ◦ Enabled real-time localization of gunshot origins. ◦ Utilized Python for coding and data processing.

### 100V to 600V Boost Converter

◦ Implemented voltage varying options by adjusting the duty cycle. ◦ Integrated a PI controller for overcurrent protection and managing voltage spikes during switching ◦ Utilized DSP techniques for filtering and noise reduction. ◦ Enhanced system reliability through optimized control strategies.



# Zartashia Israr

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Chakwal, Pakistan

## Technical Skills

- Arm, avr, arduino, atmel
- Cisco packet tracer, uml
- Canva
- Cad
- Python, tensorflow/keras
- Proteus
- Autocad
- Ms office

## Soft Skills

- Cisco packet tracing, wireshark
- Human resource management
- Ms office
- Project and team management
- Problem solving and innovation
- Curiosity
- Strategic communications
- Teamwork & collaboration

## Reference

To be furnished upon request.

## Professional Profile

I'm a final-year Electrical Engineering student at the National University of Sciences and Technology (NUST). With a strong foundation in both theoretical knowledge and practical experience, I am deeply passionate about tackling real-world engineering challenges.

## Education

### BE Electrical Engineering

School of Electrical Engineering and Computer Science, 3.24

, (2018)

### Intermediate / A levels

, (2020)

### Bachelor's in Electrical Engineering

National University of Science and Technology, 3.24 (2025)

## Internship Experience

### INTERN AT MACVIS LAB(NUST) ( 05-Jun-2024 - 27-Aug-2024 )

Worked with machine learning and deep learning frameworks such as fastai, PyTorch, Keras, and TensorFlow. Contributed to a significant project using the German Traffic Sign Recognition Benchmark (GTSRB) dataset, applying deep learning techniques to preprocess the data, build and optimize the model. Used m

### ELECTRONIC AND EMBEDDED SYSTEMS LAB(HORIZON COLLEGE) ( 20-Jun-2023 - 15-Aug-2023 )

Developed a system to acquire, process, and communicate temperature data from an LM35 sensor using an 8-bit AVR microcontroller. Applied noise filtering through a moving average filter and implemented linear regression to calibrate the sensor readings for accurate temperature values. The machine learning

## Projects

### Early Detection of Respiratory Diseases in Poultry

A DSP system was developed in MATLAB for early detection of respiratory diseases in poultry using audio analysis. Techniques like pre-emphasis filtering, framing, windowing, and Fourier Transform were applied to enhance the sound recordings. The system classified the audio to detect disease presence, help

### Noninvasive Optical Diagnostic Techniques Blood Glucose

A noninvasive system for monitoring blood glucose and bilirubin levels was developed using near-infrared spectroscopy and optical sensors. Appropriate wavelengths for measurement were selected, and a circuit with an ESP32 microcontroller, sensors, filters, and amplifiers for signal processing was designed

### Machine Learning Eye Cataract Detection using CNN

A deep learning model using Convolutional Neural Networks (CNN) was developed for automated cataract detection from eye images. Transfer learning was applied with the pre-trained InceptionV3 model, which was fine-tuned on a dataset of eye images. Grad-CAM was used for visualizing attention areas, ensuring

### Digital Hearing Aid Simulator

A MATLAB-based Digital Hearing Aid Simulator was developed to improve hearing aid settings for individuals with hearing impairments. The system involved preprocessing audio data, implementing algorithms for gain adjustment, compression, noise reduction, and amplification, and creating a user-friendly GUI.



# Humayun Kamal Rashid Siddiqui

## Details

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HOMES, CLIFTON 2  
Sharjah , Pakistan

## Professional Profile

Final-year Electrical Engineering student with hands-on experience in signal processing, computervision, machine learning, and AI. Passionate about applying innovative solutions to real-world problems through system design and data-driven technologies. Successfully developed diverse projects that demonstrate technical proficiency, problem-solving skills, and adaptability. Eager to further enhance my expertise, gain industry experience.

## Technical Skills

- Ethereum blockchain
- Atmel studio
- Python/java/c++/octave
- Convolutional neural networks
- Computer vision
- Nodejs
- Pic microcontroller
- Raspberry pi, tinker board

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 2.84  
, (2019)  
, (2021)  
**Bachelors of Electrical Engineering**  
SEECs , 2.84 (2025)

## Soft Skills

- Brazillian jiu jitsu/ judo
- Database design (sql,mongodb)
- Team workshop
- Cad
- Self-management skills
- Human resource management
- Leadership and communication
- Atmel studio, keil, labview

## Internship Experience

**Cognet Research Lab ( 01-May-2024 - 22-Aug-2025 )**  
Did research work on different various different blockchain systems and worked on a research project called "Peer-to-Peer Energy Auctioneering system using blockchain and IOT devices under the supervision of Dr. Taha Ali.

## Projects

## Reference

To be furnished upon request.



# Abdurrahim Muhammad Ghani



# Omar Siddique

## Details

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 abdurrahimghani2003@gmail.com  
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 22, SECTOR B, ASKARI  
 14, RAWALPINDI CANTT  
 Rawalpindi, Pakistan

## Technical Skills

- Game designing on unity
- Animations
- Raspberry pi, tinker board
- Micro-controllers(pic, arduino)
- Gitflow
- Modelsim, xilinx ise, fpga
- C++,python, linux(in progress)
- Proteus

## Soft Skills

- Matlab, c++, python
- Teamwork & collaboration

## Reference

To be furnished upon request.

## Professional Profile

Please update objective section.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science, 3.33  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)

## Internship Experience

### NUST(ROMI LAB) ( 02-Jun-2023 - 01-Sep-2023 )

• Worked as a lab assistant on FreeRTOS, implementing mutex on STM32 and sensor fusion. • Hands-on experience with STM32, ESP32, and Jetson Nano. • Developed and optimized algorithms on Jetson Nano and ESP32

## Projects

### RISC FPGA

Designed and implemented a RISC-V processor core on an FPGA, focusing on efficient instruction execution and hardware resource optimization for custom applications

### Parameterized Circle Drawing with Varying Radius and Color on FPGA

To draw circles of different radii and colors on an FPGA, use parameterized values for radius and colour in the hardware design. The algorithm iterates over pixels using Bresenham's or the Midpoint Circle Algorithm, modifying pixel positions dynamically based on the given radius, while a colour lookup table

### 4-bit microcontroller (Logisim)

A 4-bit microcontroller in Logisim can be designed with two 4-bit registers, an ALU for basic arithmetic and logical operations, and a control unit to manage data flow. It uses multiplexers for input selection and a clock to synchronize operations.

### Mealy Vending Machine IC chip

Mealy Vending Machine IC Chip (Logic Gates): Designed a Mealy machine-based vending machine IC chip using logic gates (AND, OR, NAND, etc.) to implement state transitions and control logic for automated product dispensing.

## Details

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## Technical Skills

- Cuda
- Microcontrollers avr, pic, stm
- Convolutional neural networks
- Recurrent neural networks
- FreeRTOS & mbed rtos
- Computer architecture
- Tensorflow, scikit-learn
- Stm32/arm

## Soft Skills

## Reference

To be furnished upon request.

## Professional Profile

Passionate and driven electrical engineering student specializing in **chip design, embedded systems, robotics, and LLMs!**

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science, 3.52  
**Matric / O levels**  
 , (2019)  
**Intermediate / A levels**  
 , (2021)

## Internship Experience

### Skylabs-AI ( 01-Oct-2024 - 13-Mar-2025 )

As a GenAI intern, I have developed AI-driven solutions for the Abstract Reasoning Corpus (ARC) challenge using LLMs, program synthesis, and pattern recognition. More specifically, I designed and optimized DSL-based approaches for grid-based reasoning.

### Advanced AI Bootcamp on LLMs, SEECS & Skylabs-AI ( 08-Jul-2024 - 30-Aug-2024 )

- Week 1: Deep Learning Overview (RNNs, LSTMs, Transformer Foundations), Prompt Engineering, and NLP basics - Week 2: Advanced Transformer Model Architectures (BERT, T5, GPT) - Week 3: Crafting and Training Large Language Models - Week 4: Scaling LLMs: Training Techniques and Performance Boosts (Quantization)

### SEECS ( 10-Jul-2023 - 02-Sep-2023 )

As a lab assistant for embedded systems at SEECS, NUST, I managed a concise, week-long training camp for STM32 microcontroller programming for international students and local industry personnel. While preparing for this, I gained knowledge on how to work with STM32 microcontrollers using STM32 CubeIDE

## Projects

### 2-Axis Platform Stabilization Gimbal

A stabilization system designed to maintain a steady platform by compensating for unwanted motion across two axes (pitch and roll). Utilizes sensor data acquisition and control algorithms to dynamically adjust orientation, ensuring stability for applications like cameras, sensors, or robotic platforms.

### Self-Balancing Two-Wheeled Robot

I developed a self-balancing two-wheeled robot that uses an IMU sensor to detect tilt and a PID control system to maintain stability. By continuously adjusting stepper motor speeds based on real-time feedback, the robot stays upright and responds to external disturbances. Cool project for a control systems course

### Fine-tuning an LLM for Code Generation

As a capstone project for the 2 months rigorous BootCamp on LLMs, I worked on training an LLM to convert LaTeX expressions into valid Python code. This involved fine-tuning the model on mathematical expressions, ensuring accurate syntax generation, and optimizing for correctness and efficiency. The importance



# Rana Shahzaib Ur Rehman



# Hassan Usman

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## Professional Profile

Please update objective section.

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.94  
**Matric / O levels**  
, (2019)  
**Intermediate / A levels**  
, (2021)  
**EE**  
SEecs , 3.94 (2025)

## Internship Experience

### Photonics & RF Research Lab ( 01-Sep-2023 - 13-Mar-2025 )

Design of spectrally tailored optical filters in silicon photonics chips. • Designed and simulated fundamental passive photonics components like couplers, tapers, MMIs, and SWGs using MATLAB, building a strong understanding of photonic structures. • Developed an end-to-end workflow for designing and simu

### TUKL Research & Development Lab ( 01-Jul-2023 - 13-Mar-2025 )

Quickformer: A Simplified Transformer Architecture with Linear Time Complexity | PyTorch, HuggingFace • Collaboratively worked on a research paper introducing a novel attention mechanism to improve the time complexity. • Introduced boosters and feebles as intermediate steps to make sure the time complexity

## Projects

### Apollo – Machine Learning Framework

Built a C++-based machine learning framework with minimal dependencies and a modular code structure. Framework provides necessary classes to train and use a neural network. • Modular nature allows users to create their custom layers, loss functions, and models. • Implemented Logistic Regression (Binary Cla

### Pedestrian EarlyWarning

An end-to-end model pipeline to detect if any pedestrian is about to cross the road in ADAS system. • Detected and tracked the pedestrians using feed from the car dashboard using YOLOv8 with BoT-SORT. • Segmented the road using a pre-trained segmentation model using onnxruntime. • Predicted the future traj

### Ball Balancing Robot

3D printed the robot body with a balancing plate and 3 legs. • Used raspberry pi for PID integration and camera for feedback mechanism. • Robot was able to move the ball in a specified path.

### Visual Question Answering

Built and trained an encoder-decoder transformer architecture on VQA v2.0 dataset. • Used BERT-uncased for text embedding and experimented with ResNet and ViT-base-224 for image embedding. After passing them through a fusion layer, GPT decoder head was used to generate the sequence.

## Details

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Islamabad , Pakistan

## Technical Skills

- Atmel studio
- Microcontrollers avr, pic, stm
- Embedded c
- Freertos & mbed rtos
- Vivado
- Proficient in c & c++
- Computer architecture
- Auto cad

## Soft Skills

- English speaking and writing
- Strategic communications
- Teamwork & collaboration
- Leadership qualities
- Punctual and responsible

## Reference

To be furnished upon request.

## Professional Profile

To build a career as an **RTL Design Engineer** or **Design Verification Engineer** in the semiconductor / defense industries.

## Education

**BE Electrical Engineering**  
School of Electrical Engineering and Computer Science , 3.09  
, (2018)  
, (2020)  
**A Levels**  
Supernova School , 4.0 (2020)  
**O Levels**  
Fazaia Education System School , 4.0 (2018)

## Internship Experience

### National Instruments ( 02-Jul-2018 - 13-Aug-2018 )

### AKSA-SDS ( 05-Jun-2023 - 17-Jul-2023 )

### RWR (Re-engineering With Research) ( 24-Jul-2023 - 14-Aug-2023 )

### ChipXPRT ( 30-May-2024 - 18-Aug-2024 )

## Projects

### Reprogrammable SoC

Design of a reprogrammable SoC using Verilog based on a RISC-V core, OpenFPGA fabric peripheral and a wishbone interface.

### Line follower robot

Designed and implemented a line follower robot using AVR assembly for the Atmega 16A microcontroller, winner of the inter class competition.

### RISC-V Core Design

Design and testing of a single cycle RV-32i RISC-V processor in verilog.

### Wireless Charger

Designed a wireless charger utilising electromagnetic induction for efficient power transfer.



# Muhammad Hibbaan Abdullah



# Zoha Ahmed

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Islamabad , Pakistan

## Technical Skills

## Soft Skills

## Reference

To be furnished upon request.

## Professional Profile

Results-driven and highly motivated Operations Manager with a proven track record in organizational management, human resources, and administrative operations. Seeking a challenging role to leverage my expertise in streamlining processes, optimizing efficiency, and driving business success while contributing to the growth and strategic objectives of a dynamic organization

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 2.01  
**Matric / O levels**  
 , (2018)  
**Intermediate / A levels**  
 , (2020)

## Internship Experience

### Growth Guild ( 03-Jun-2024 - 06-Sep-2024 )

Administration Intern • Managed logistical and procurement operations while helping the HR team with administrative duties at Growth G

### Gearup Store ( 06-May-2022 - 05-Jun-2025 )

Operations and Logistics Head • Currently manage an online and retail clothing store in F10 Markaz, Islamabad, successfully transitioning from e-commerce to a physical presence with in 2 years. • Experienced in B2B logistics and supply chain management, optimizing operations and fostering strong business pa

## Projects

### TEDx NUST '25 Team Lead Management

• Managing four teams—Admin Coordination, Event Management, Decor, and Logistics—for TEDxNUST under the theme "Against All Odds". • Ensured alignment with NUST and TED guidelines while seamlessly managing operations for TEDxNUST

## Details

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## Technical Skills

- Embedded c
- Freertos & mbed rtos
- Raspberry pi, tinker board
- C++, python, assembly
- Stm32/arm
- Matlab

## Soft Skills

- Strong work ethics
- Problem solving and innovation
- Creativity
- Teamwork & collaboration
- Leadership qualities

## Reference

To be furnished upon request.

## Professional Profile

Dedicated electrical engineer one can often find tinkering on one project or the other. Interested in deep learning and embedded systems to develop novel solutions.

## Education

**BE Electrical Engineering**  
 School of Electrical Engineering and Computer Science , 3.29  
 , (2019)  
 , (2021)

## Internship Experience

### Pak-Thai Digital Innovation Center ( 03-Feb-2025 - 25-Apr-2025 )

Bare-metal programming in STM32

## Projects

### ReachAble

An object retrieval assistive care robot for individuals with limited mobility. Controlled by a wearable glove equipped with sensors that could be easily used by people with low technical abilities. Currently working on ML-based obstacle avoidance camera navigation functionality. <https://github.com/zoha-a/Glo>

### Displacement Prediction in Self-Mixing Interferometric Signals

Displacement prediction in self mixing interferometric signals using deep learning models such as LSTMs, Transformer Networks and TFTs.

### UGRAD Fall 2023

Fully-funded exchange semester at the University of Tulsa in Oklahoma, United States.

### Keyboard On Any Surface

A Raspberry Pi 4 and a paper printout of a keyboard to enable one to carry a keyboard with them everywhere without actually requiring any of the chunky hardware. Utilized computer vision techniques. <https://github.com/zoha-a/Keyboard-On-Any-Surface>



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