

Position of Research Assistant in EEG LAB in SEecs NUST

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Last Date of Apply: 7th April 2022

Thesis-based MS Student Required for full time work on the following HEC funded project:

Project title: A Thought-to-Text (T2T) system for physically disabled persons
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Duration: 24 months

Eligibility Criteria:

- Passionate about working on the EEG-based biomedical solutions
- Must be an MS student who is seeking a thesis title
- Good in interpersonal and must be a team player
- Must have good Python Programming and Deep Learning skills

Brief Project Description:

This research project proposes a Thought-to-Text (T2T) system aiming to develop an Electro-encephalogram (EEG)-based brain computer interface (BCI). The T2T system aims to assist paralyzed patients to easily communicate with the hospital staff while typing without using their hands and just by thinking. The T2T system could become an assistive technology to integrate physically disabled individuals back into the society. The system helps to improve quality-of-life for the physically disabled people and enhance their contribution in the socio-economic development of the country.

The project aims to improve the robustness of the proposed T2T system when compared with existing solutions. The research team believes that the robustness of the proposed system can be improved by adopting two separate approaches. First, by improving the signal-to-noise ratio (SNR) of the EEG data (improving the system efficiency). Second, by improving the proposed deep learning architecture (improving system accuracy).

In this light, this project targets to achieve two main objectives:

1. Developing an efficient and accurate T2T system, trained, and validated with the pre-existing, open-sourced motor imagery (MI)-EEG data sets.
2. Testing and deploying the T2T system based on the indigenously curated and collected EEG data.