Tanzeem Tahmeed Reza

BSc. in Electronics and Telecommunication Engineering
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ResearchGate LinkedIn GitHub

I am Tanzeem Tahmeed Reza, a final-year Electronics and Telecommunication Engineering (ETE) student at Chittagong University of Engineering and Technology (CUET), passionate about advancing my expertise through intensive research and innovation. My academic and research interests lie at the intersection of AI applications for human and brain-computer interfaces (BCI), with a strong focus on deep learning and signal processing. I am particularly driven to explore cutting-edge technologies that bridge engineering and artificial intelligence to develop solutions for complex human challenges.

Education

Bachelor of Science in Electronics and Telecommunication Engineering *March 2020–June 2025*
Chittagong University of Engineering and Technology

- CGPA: 3.62/4.0

Higher Secondary Certificate *2019*
Chittagong Engineering University School and College, Bangladesh

- GPA: 5.00/5.00

Secondary School Certificate *2017*
Chittagong Engineering University School and College, Bangladesh

- GPA: 5.00/5.00

Research Experience

Undergraduate Thesis *CUET*
Thesis Title-"Electroencephalogram (EEG) Signal Generation for Visual Stimuli Using Conditional Generative Adversarial Networks" *Dec 2024 – June 2025*

- Developing a synthetic EEG signal database while viewing and thinking the MNIST digit images.
- Implementing Generative Adversarial Networks (GAN) to generate synthetic data from the real data.

Conference Papers

- Md. Taisirul Muktadi, **Tanzeem Tahmeed Reza**, Mohammed Tawshif Hossain, Eshat Jahan Arifa, Md. Fazlul Karim Khondakar. Spectrogram-driven Emotion Detection from Electroencephalogram. In: *2025 4th International Conference on Electrical, Computer and Communication Engineering (ECCE), 13–15 February 2025, CUET, Chattogram, Bangladesh.* IEEE; 2025. *(In Press)*
- **Tanzeem Tahmeed Reza**, Muhammad Junayed, Md. Saiful Islam. Enhancing Defect Recognition: Convolutional Neural Networks for Silicon Wafer Map Analysis. In: *2024 3rd International Conference on Advancement in Electrical and Electronic Engineering (ICAEEE), Gazipur, Bangladesh.* IEEE; 2024. *(Published)*
- S.M. Shahriar, Muhammad Junayed, **Tanzeem Tahmeed Reza**, Md. Ryhan Uddin, Md. Sadikur Rahman Khan. Classification of Cancer from Breast Ultrasound Images using Vision Transformer. In: *Undergraduate Conference on Intelligent Computing and Systems (UCICS 2025), Varendra University, Rajshahi, Bangladesh.* 2025. *(In Press)*
- Md. Ryhan Uddin, Md. Sadikur Rahman Khan, **Tanzeem Tahmeed Reza**, Sakib Ahmed, Mohammad Sohel, Md. Abdullah. A Deep Learning Approach to Recognize Bengali Handwritten Digits Using Transfer Learning. In: *Undergraduate Conference on Intelligent Computing and Systems (UCICS 2025), Varendra University, Rajshahi, Bangladesh.* 2025. *(In Press)*
- S.M. Shahriar, Muhammad Junayed, **Tanzeem Tahmeed Reza**, Md. Taisirul Muktadi, Mohammed Taw-

shif Hossain. Utilizing Time-Frequency Representations of EEG Signals for Alcoholism Detection via Deep Learning. In: *2nd International Conference on Next-Generation Computing, IoT and Machine Learning (NCIM-2025), Gazipur, Bangladesh.* 2025. *(Submitted)*

Projects

Design and Implementation of a Digital Capacitance Meter

- The digital capacitance meter precisely determines the capacitance of an unknown capacitor. Utilizing parallel plate conductors and a dielectric, it measures electric charge stored relative to a potential difference. This project showcases an ATmega328P-based capacitance measurement system, exploring its design, components, and performance evaluation.
- Tools Used: ATmega328P microcontroller

Electroencephalogram Signal Analysis by Python(DEAP Dataset)

- This project showcases the filtering, windowing and creating spectrograms out of EEG signals which are adapted from DEAP dataset.
- Tools Used: Python MNE library

Fire Fighter Robot

- An autonomous robot made to eliminate fire with flexible water spraying method as soon as it senses with its fire sensor.
- Tools Used: Arduino Uno, servo motor (SG90), L298 Motor Driver, 12V DC, BMS, temparature sensor.

Skills

Computer Skills:

Programming Languages: C++, Python, HTML, CSS, SQL.

Libraries & frameworks: Numpy, Pandas, Matplotlib, Scikit learn, TensorFlow, Keras.

Softwares: MATLAB, Cadence, Quartus, CISCO Packet Tracer, CST Studio, Visual Studio Code.

Typography: LaTeX, MS Word, MS PowerPoint.

Commmunication Skills:

- Oral Presentation at UCICS 2025, Varendra University, Rajshahi, Bangladesh - February 2025 **(Won Best Paper Award)**
- Oral Presentation at IEEE ICAEEE 2024, DUET, Gazipur, Bangladesh - June 2024
- Poster Presentation at ICPSDT 2023, CUET, Chattogram, Bangladesh - August 2023
- Poster Presentation at Research Fair, Directorate of Research and Extension, CUET, Chattogram, Bangladesh - May 2023
- Oral Presentation at ICMERE 2022, CUET, Chattogram, Bangladesh - May 2022
- Guest Speaker, Topic: Basic Signal Processing, IEEE CUET Student Branch, CUET - December 2024

Industrial Experience

Industrial Trainee, Intelligent Machines Ltd., Dhaka, Bangladesh. (2024)

- DEXTER: Flagship project of bKash Ltd. Developed UML diagrams and documentation. Supported the monitoring and analysis of merchant activity, including transaction volumes, performance metrics, and target completion.
- BIPONON: Another flagship project of bKash Ltd. Developed UML documentation for system workflows and campaign management.

Creative Designer, Frontech Ltd., Dhaka, Bangladesh. (2023-2024)

- Designed the manual book for the JRC Board
- Designed all the banners and posters for both offline/online events

Teaching Experience

Instructor of Machine Learning, Robo Mechatronics Association, CUET, Chattogram, Bangladesh. (2025)

- Conducted classes on basic Machine Learning algorithms and provided hands-on experience with ML projects.

Instructor of Deep Learning, Andromeda Space and Robotic Research Organization, CUET, Chattogram, Bangladesh. (2024)

- Conducted classes on Deep Learning algorithms and provided hands-on experience with projects.

Extracurricular Activities

- **Chair**, IEEE CUET Signal Processing Society, Chattogram, Bangladesh. (Sep 2024-Present)
- **Research Secretary**, Andromeda Space & Robotics Research Organization, Chattogram, Bangladesh. (Apr 2024 - Present)
- **Vice-President**, CUET Model United Nations Club, Chattogram, Bangladesh. (Aug 2024-Present)
- **Vice President**, Robo Mechatronics Association(RMA), Chattogram, Bangladesh.(Sep 2024-Present)

Awards and Certifications

- **13th at Datathon**, (out of 108 teams), BitFest, Dept. of CSE, KUET, Bangladesh (2025)
- **112th at Robi Datathon 2.0**, (out of 342 teams), Robi Axiata Ltd., Bangladesh. (2022)
- **4th Merit Award**, International Blockchain Olympiad, Amsterdam, Netherlands (2023)
- **Finalist**, National Blockchain Olympiad 4.0, Dhaka, Bangladesh (2023)
- **Second Runner-up**, National BDSTEM Competition, Dhaka, Bangladesh (2021)
- **Local Champion**, NASA Space Apps Challenge, Chattogram, Bangladesh (2021)
- **Global Nominee**, NASA Space Apps Challenge, Bangladesh (2021)
- **60% Scholarship**, ISCEA PTAK Prize, Bangladesh (2021)

References

Dr. Md. Saiful Islam
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