# Naosher Mustakim

Chattogram, Bangladesh
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Dedicated and curious researcher with a passion for advancing knowledge and making meaningful contributions. Eager to drive impactful discoveries through rigorous experimentation, data analysis, and critical thinking.

## ACADEMIC CREDENTIALS

**University of Dhaka (DU).** **May 2023 – Oct 2024**
*M.S. in Biomedical Physics & Technology* - ***GPA - 3.86/4.00*** *Dhaka, Bangladesh*

**Chittagong University of Engineering & Technology (CUET).** **Mar 2017 – Aug 2022**
*B.Sc. in Electrical and Electronics Engineering.* - ***CGPA - 2.99/4.00*** *Chattogram, Bangladesh*

## PUBLICATIONS

**1. Mustakim, N.**, Muntashir, N., Muntaha, S., Azad, M.S and Mahdy, M.R.C. (2025) '**Explainable prediction of problematic internet use (PIU) resulting from loniness, low self-esteem and psychological distress among Bangladeshi university students using a machine learning approach**', Public Library of Science, PLOS One. Submission ongoing.
**2.** Rahman, M.A., Farhan, T., **Mustakim, N.**, Dhar, N., Bhuiyan, B.I., and Hossain, M.A. (2025) '**Design and analysis of a low cost polyester-based wearable antenna for broadband on-body communication**', Wiley, The Journal of Engineering. Accepted. In review.
**3.** Sayed, M.A., **Mustakim, N.**, Hossain, M.J., Alam, M.S., Hasan, K.N., Hossain, S. and Kadir, M.A.(2025) '**Advanced image analysis for liver tumor detection and visualization in CT images using automated segmentation**', Elsevier, Computerized medical imaging and graphics. Accepted. In review
**4.** Muntaha, S., Salam, S.S. and **Mustakim, N.**(2024) '**An Explainable AI-based Deep Learning Model for Classification of Diabetic Retinopathy Stages Using Retinal Fundus Images**', 27th International Conference on Computer and Information Technology (ICCIT 2024). Accepted.

## STANDARDIZED TEST SCORES

**International English Language Testing System (IELTS)** **May 2025**

| Overall | Reading | Writing | Speaking | Listening |
|---|---|---|---|---|
| 7.5 | 7.5 | 6.5 | 7 | 8 |

**Graduate Record Examination (GRE)** **Sept 2024**

| Total | Quantitative | Verbal | Analytical |
|---|---|---|---|
| 335 | 170 | 165 | 4.5 |

## RESEARCH EXPERIENCE

**Collaborative Research Work - Mahdy's Research Academy** **May 2024 - Present**
**Area - Statistical Machine Learning, & Deep Learning for Medical Imaging**

- Participated in a private thesis course at Mahdy Research Academy on AI, Machine Learning, and Deep Learning under the supervision of Dr. Mahdy Rahman Chowdhury.
- Completed over 20 sessions of live and recorded lectures, covering foundational and advanced topics in AI research, achieving 100% marks
- Engaged in hands-on coding-based experiments, simulations, and discussions on diverse topics, including medical image analysis, computer vision, explainable AI, and AI safety.
- Gained expertise in ML and DL tools, including TensorFlow, PyTorch, RapidMiner, and WEKA, while contributing to journal article reproduction and simulation tasks.
- Participated in group projects and journal article presentations, focusing on replicating experimental results from peer-reviewed research.

**Graduate Research Work: Utilizing Deep Learning for Multi-Label Classification of Bimanual Clench Force fNIRS Data** **Sept 2023 - July 2024**

- Designed a custom force sensing device using FSR and Arduino Mega.
- Designed a custom graphical user interface for visual feedback to participants using python and tkinter.
- Collected fnirs cognitive data correlated to five levels of hand clench force for both hands.
- Constructed, trained and evaluated a custom multi-label deep learning classifier model using CNN layer, spectral attention layer and LSTM layer.
- Applied explainable AI (SHAP) to interpret the deep learning model.
- Applicable in robotic arm control, stroke rehabilitation, determining Parkinson's disease, etc.

**Undergraduate Research Work: Design & fabrication of a wideband slot-loaded textile antenna.** **Jan 2022 - July 2022**

- Designed a wideband textile antenna using ADS & CST simulation software.
- Fabricated the antenna using 100% polyester (as substrate) and copper tape (as radiating patch & ground plane).
- Achieved high bandwidth of 20.73% in simulation and 12% in real world. Peak gain of the design antenna is 7.8 dBi.
- Achieved Specific Absorption Rate (SAR) of 0.316 W/Kg for 100 mW input power within FCC Guidelines of 1.6 W/Kg.
- Applicable in patient monitoring, protective suits of rescue worker & military personals vast, etc.

## PROFESSIONAL EXPERIENCE

**Engineer Electrical**– Bangladesh Steel Re-Rolling Mills Ltd (BSRM) **Mar 2024 – Present**

∗ Electrical maintenance of induction furnace and utilities

## TECHNICAL SKILLS

**Programming Languages:** Python, PyTorch, Tensorflow, SciKit-Learn, Numpy, Pandas, Matplotlib, Plotly, Seaborn, MATLAB, C, LaTeX
**Software:** Microsoft Office, Overleaf, Draw.io, RapidMinor, WEKA, COMSOL, ADS simulation software, CST, Origin plots

## VOLUNTEERING EXPERIENCE

**Omdena** **Jul 2021 – Aug 2021**
*Junior Machine Learning Engineer* *Chattogram, Bangladesh*

- Web scraped road accident data from newspaper
- Cleaned and preprocessed the data
- Visualized and analyzed the data
- Built a Time-series model using LSTM

## AWARDS

**1.** Government Technical Scholarship awarded based on merit in the undergraduate entrance exam.

## LANGUAGE PROFICIENCY

- English - Proficient
- Bangla - Native
- Hindi - Intermediate (Conversational)
- German - Beginner

## REFERENCES

**Dr. Muhammad Abdul Kadir, Professor and Chairman**
*Department of Biomedical Physics & Technology*
University of Dhaka
Dhaka – 1000, Bangladesh
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