

# 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 - <b>GPA - 3.86/4.00</b>           | Dhaka, Bangladesh      |
| Chittagong University of Engineering & Technology (CUET).                  | Mar 2017 – Aug 2022    |
| B.Sc. in Electrical and Electronics Engineering. - <b>CGPA - 2.99/4.00</b> | Chattogram, Bangladesh |

## PUBLICATIONS

- 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.
- 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.
- 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
- 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         |

## 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

Sept 2023 - July 2024

### Classification of Bimanual Clench Force fNIRS Data

- 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
- Hindi - Intermediate (Conversational)
- Bangla - Native
- 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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