Maliha Taslima Chowdhury

📍 West Nakhalpara, Tejgaon, Dhaka   📞 016-8122-5640   ⌂ snowflakes640

Education

University of Dhaka *January 2020 – 2025*
B.Sc in Robotics & Mechatronics Engineering
- GPA: 3.7/4.0 (Till 7th semester)

Ideal School & College, Motijheel, Dhaka - 1000 *January 2017 – 2019*
Higher Secondary Certificate
- GPA: 5.0/5.0

Experience

Research Assistant *August 2023 - Present*
University of Dhaka
- Developing a system to map **Mechanomyographic signals** and create heatmaps of muscle responsiveness for optimizing sensor placement and muscle monitoring.
- Application of **machine learning models** and **neural network**to establish correlations between MMG signals and muscle structure, contributing to neuromuscular research.
- Conducting **signal processing and analysis** using Python libraries to extract meaningful features from MMG data.

Academic Team Member *Bangladesh Robot Olympiad (BDRO)* *March 2021 - Dec 2023*
- Managed academic content and strategy for BdRO.
- Mentored and guided International Robot Olympiad (IRO) participants in several projects.
- Assisting in organizing and monitoring the National Robot Olympiad.

On-call Emotional Support Volunteer *March 2021 - April 2022*
KPR Mental Health & Suicide Prevention Center
- Provided real-time emotional support to individuals in distress via phone.
- Trained in active listening, crisis communication, and empathy under pressure.
- Strengthened verbal communication and emotional intelligence.

Research Work

Developing a mapping system of MMG signal from forehand muscle compartments.
- Developed a complete DAQ system using ESP32 and custom firmware for high-resolution MMG signal acquisition.
- Applied digital signal processing and Python-based libraries (NumPy, SciPy, TSFEL) for gesture segmentation and feature extraction.
- Built gesture classification pipeline using machine learning models (LDA, Random Forest, Ridge Classifier) and neural networks.
- Designed a 3D MMG heatmap visualization tool in Unity with real-time communication via Socket.IO.

Projects

ChefsBuddy - A kitchen assistant app *Github link for the app* ↗
Django, RESTful api, my SQL, React, Materials UI
- Developed a backend using Django and REST api.
- Created database using external API and prepopulated database with MY SQL

○ Developed a frontend using React to fetch any recipe information and metadata from the previously developed backend
  Live demo of the project. 🔗

Goal Tracker App   *Github link for the app* 🔗
MERN, JWT, Passport

  ○ Developed a task tracker application with a gamified spin on goal achievement.
  ○ Practiced best practices for implementing RESTful API and proper UX

Django Blog Engine   *Github link for the app* 🔗
Python, Django, SQL

  ○ Built a blog engine using Django and SQLite.
  ○ Employed best coding practices to ensure better readability.
  ○ Implemented custom search tools (using fuzzy search), SEO optimization, and efficient database queries.

Book Shelf App   *Github link for the app* 🔗
React, Google Books API

  ○ Developed a frontend using React to fetch any book information and metadata from Google Books.
  ○ Implemented caching and preview features for improved user experience.

Achievements

  ○ Recipient of a 4-year undergraduate scholarship at the University of Dhaka for overall excellence.

  ○ Recipient of Govt. funded scholarship in secondary level.

Skillset

Computer Languages	Python, Javascript, C, HTML, CSS, SQL
Tools and Frameworks	React, NodeJS, Django, MongoDB, MySQL
Softskills	Team player, Presentation, Cross-functional Coordination, Crisis Communication, Team Collaboration

References

  ○ **Dr. Abhishek Kumar Ghosh**
    Assistant Professor
    Dept. of Robotics and Mechatronics Engineering
    University of Dhaka
    abhishek.rme@du.ac.bd

  ○ **Md Ariful Islam**
    Assistant Professor
    Dept. of Robotics and Mechatronics Engineering
    University of Dhaka
    arif.rme@du.ac.bd