Tasnova Haque Mazumder

Computer Science & Engineering Graduate

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Education

Bachelor of Science in Computer Science and Engineering
East West University, Dhaka *2021 – 2025*
CGPA: 3.81 / 4.00
Relevant Coursework: Machine Learning, Deep Learning, Data Structures & Algorithms, Web Development, Database Systems, Network Design, Software Engineering, Artificial Intelligence

Professional Experience

Teaching Assistant — East West University *Sep 2023 – Present*

- **Graduate Teaching Assistant (June 2025 – Present):** Conduct advanced laboratory sessions for graduate-level courses, provide guidance on complex CSE topics.
- **Undergraduate Teaching Assistant (Sep 2023 – Jan 2025):** Delivered comprehensive tutoring in mathematics and statistics, supervised practical lab sessions.

Key Projects

Explainable Deep Learning for Tuberculosis Classification
Developed a CNN-based diagnostic system using ShuffleNet v2 architecture for tuberculosis detection from chest X-rays. Integrated Grad-CAM visualization techniques for model interpretability and deployed XDetech, an interactive web application for clinical use.

Smart CO_2 Emission Forecasting using Machine Learning
Built a comprehensive predictive model for vehicle CO_2 emissions using ensemble methods. Implemented Random Forest algorithm achieving optimal prediction accuracy, integrated SHAP and LIME.

Acoustic Environment Classification System
Engineered an intelligent sound recognition system using the TUT Acoustic Scenes 2016 dataset. Applied MFCC feature extraction techniques and machine learning algorithms to classify real-world acoustic environments.

Enterprise University Portal System
Developed a full-stack web application using Laravel framework with JWT authentication, role-based access control, and MySQL database integration. Implemented secure user management with scalable architecture.

Multi-Campus Network Infrastructure Design
Designed a network architecture for university campuses using OSPF routing protocol in Cisco Packet Tracer. Integrated centralized DHCP and DNS servers for efficient dynamic IP management.

Anemia Diagnosis via CBC-Based Predictive Modeling
Conducted comprehensive statistical analysis using ANOVA and t-tests on Complete Blood Count data for optimal feature selection. Developed machine learning models for anemia prediction with SHAP integration for clinical interpretability.

Honors & Awards

100% Tuition-Free Merit Scholarship — East West University

- **2024:** Maintained CGPA 3.94 for three consecutive semesters, recognized for academic excellence
- **2023:** Achieved perfect CGPA 4.00 for three consecutive semesters, awarded for outstanding performance

Technical Skills

Programming Languages: Python, C, C++, PHP, HTML/CSS, MATLAB, SQL
Machine Learning & AI: Deep Learning, Computer Vision, Explainable AI, YOLO, Random Forest, XGBoost, CNN, SHAP, LIME
Frameworks & Technologies: TensorFlow, PyTorch, Laravel, Scikit-learn, OpenCV, Web Development, Network Design, Data Analysis
Tools & Software: Git, MySQL, XAMPP, Google Colab, Kaggle, Docker, Linux, MS Office Suite, Figma, Jupyter Notebook