Tasnova Haque Mazumder

Computer Science and 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, Data Mining, Data Structures & Algorithms, Cyber Security, Database Systems, Network Design, Software Engineering, Artificial Intelligence, Statistics for Data Science.

Professional Experience

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

- **Graduate Teaching Assistant (June 2025 – Present):** Leading ongoing advanced lab sessions and supporting over 100 students through hands-on guidance, problem solving, and academic mentoring.
- **Undergraduate Teaching Assistant (Sep 2023 – Jan 2025):** Provided tutoring to more than 100 undergraduate students, supervised 20+ lab sessions, and simplified grade reporting workflows, reducing processing time by 30% using Excel automation.

Key Projects

Explainable Deep Learning for Tuberculosis Classification
Developed a CNN-based diagnostic system using ShuffleNet v2, achieving 99% precision for the detection of tuberculosis from chest radiographs. Incorporated 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
Explored the 2016 TUT Acoustic Scenes dataset using MFCC feature analysis to detect environmental sound patterns.

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

Multi-Campus Network Infrastructure Design
Designed a network architecture for university campuses using the OSPF routing protocol in Cisco Packet Tracer. Configured 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 using machine learning models for prediction of anemia with SHAP integration.

Honors & Awards

100% Tuition-Free Merit Scholarship - East West University

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

Technical Skills

Programming Languages: Python, C, C++, JavaScript, HTML/CSS, MATLAB, SQL
Machine Learning & AI: Deep Learning, Computer Vision, Explainable AI (SHAP, LIME), YOLO, Random Forest, XGBoost, CNN
Frameworks & Technologies: TensorFlow, PyTorch, React.js, Web Development, Network Design, Data Analysis
Tools & Software: Git, MySQL, XAMPP, Google Colab, Kaggle, Linux, MS Office Suite (Word, Excel, PowerPoint), Figma, VS Code