Md. Zehadul Islam

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Summary

Computer Science and Engineering undergraduate with hands-on experience in **Machine Learning, Artificial Intelligence, Computer Vision, and Full-Stack Web Development**. Skilled in deep learning frameworks (PyTorch, YOLOv8), real-time object detection, data preprocessing, supervised and unsupervised model training, and building database-driven systems. Seeking an AI/ML internship to contribute to real-world development tasks while strengthening practical industry problem-solving skills.

Education

Green University of Bangladesh 2022 – Present
B.Sc. in CSE • CGPA: 3.08 / 4.00

Hajigonj Model Govt. College 2018 – 2020
HSC (Science) • GPA: 4.90 / 5.00

Ragoi High School 2013 – 2017
SSC (Science) • GPA: 4.67 / 5.00

Technical Skills

Programming:	Python, C/C++, Java, JavaScript (Node.js), PHP, HTML5, Tailwind CSS
Databases:	MySQL, PostgreSQL
Data Science & ML:	Pandas, NumPy, Matplotlib, Seaborn, Plotly, Scikit-learn, PyTorch, SMOTE, SHAP (XAI), NLTK; Feature Engineering, Preprocessing, Normalization
Competitive Prog.:	Codeforces, AtCoder, CodeChef; solved diverse problems focusing on Data Structures and Algorithms
Tools:	Git, VS Code, PyCharm, Jupyter, Google Colab, Streamlit, LaTeX, MS Office
Professional Skills:	Technical Communication, Analytical Problem Solving, Team Collaboration, Project Coordination
Languages:	Bangla (Native), English (Fluent)

Experience

Academic & ICT Support Assistant Oct 2021 – Jun 2022
- Assisted 40+ students with ICT fundamentals, including MS Office tools, academic documentation, and basic technical workflows.
- Supported beginner-level programming and data-related academic tasks in a structured learning environment.
- Helped improve student task completion and technical understanding through hands-on academic support.

Peer Technical Assistant (Programming Support) Apr 2023 – Feb 2024
- Supported 60+ students across multiple college and university batches in learning programming fundamentals using Python, C, and Java.
- Resolved 200+ academic programming issues by systematically identifying syntax, runtime, and logical errors.
- Guided students in step-by-step problem solving and logic building.

Projects

- **Lifeline Charity Platform – Medical Crowdfunding System** (GitHub)
  - Designed and developed a verified medical crowdfunding platform to prevent fraud through document verification and role-based access control.
  - Ensured transparency and trust through strict medical document verification, fraud prevention mechanisms, and real-time donation tracking.
  - ***Technologies:*** *Node.js, Express.js, MySQL, JWT, Bcrypt, JavaScript, HTML5, CSS3*

- **Neonatal ADR Prediction – Machine Learning XAI** (GitHub)
  - Developed an ML-based decision support system using FAERS data to predict adverse drug reactions in neonates with high precision.
  - Integrated Explainable AI (SHAP/LIME) to provide interpretable clinical insights, enhancing model transparency for healthcare providers.
  - Optimized model performance by implementing advanced data preprocessing and SMOTE techniques to handle highly imbalanced clinical datasets.
  - ***Technologies:*** *Python, Scikit-learn, Pandas, SHAP, LIME, Matplotlib*

- **Rickshaw Detection System - End-to-End Computer Vision Pipeline** (GitHub)
  - Developed a real-time YOLOv8-based object detection system trained on 201 custom-annotated images, achieving 95% accuracy with 35-50ms GPU inference.
  - Engineered interactive Streamlit web application with multi-modal detection (Image, Webcam, Video) featuring frame-by-frame analysis and automated MP4 output generation.
  - ***Technologies:*** *Python, YOLOv8, PyTorch, OpenCV, Streamlit, Roboflow*

- **ARFF Tree Explorer – AI Data Visualization Tool** (GitHub)
  - Engineered an interactive Tkinter GUI for real-time ARFF parsing and dynamic tree visualization, automating performance metric comparisons and preprocessing.
  - Integrated modular workflows to enhance model interpretability and streamline machine learning analysis for classification tasks.
  - ***Technologies:*** *Python, Scikit-learn, Tkinter, Pandas, Matplotlib, NumPy*

- **Networked Applications: Weather API Multiplayer Game** (GitHub)
  - Developed a real-time weather app and a networked multiplayer game using Java Sockets, REST APIs, and multi-threading for low-latency communication.
  - ***Technologies:*** *Java, Socket Programming, REST API, JSON, Multi-threading, Java Swing*

Thesis

- **Predicting the Effect of Drugs on Neonates using ML and XAI (Ongoing):** Researching neonatal clinical data to predict drug effects with model transparency using SHAP-based interpretation.

Certifications

- **AI/ML/IoT Bootcamp** - Bondstein Technologies Ltd. & ICT Division (Govt. of Bangladesh)

Interests

Machine Learning, Artificial Intelligence, Deep Learning, Computer Vision, Large Language Models (LLMs), Multimodal AI Systems

References

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