# MD. MEHEDI HASAN

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# EDUCATION

## **Dhaka International University**

Sep 2023 - Dec 2027

Bachelor of Science in Computer Science and Engineering CGPA 3.75

# **BAF** Shaheen College Jashore

Sep 2020 - Dec 2022

Higher Secondary Certificate GPA 4.75

#### Research Interest

My research interests lie at the intersection of Artificial Intelligence and Data Science, focusing on machine learning for socio-economic analysis, predictive modeling, and sustainable smart systems. I am particularly interested in developing interpretable AI frameworks that combine IoT data, behavioral analytics, and deep learning to address real-world challenges in urban development and social impact.

#### **PROJECTS**

#### MeteorShield - Team Polaris

- Created a planetary defense platform using NASA Near-Earth Object (NEO) data.
- Developed a real-time 3D visualization tool (Orrery Web App) for tracking NEO trajectories.
- Aimed to make complex space data accessible for education and disaster awareness.

#### Quick Witt

- Built with Java.
- For Teachers and Students.
- Quiz Application.

### AgroHub – IoT & AI-Powered Smart Agriculture Platform

- Developed an intelligent farm management system using IoT and ML.
- Enabled real-time monitoring and decision-making support for farmers.

## SciGenie

- One-click EDA.
- One-click AutoML (Random Forest, XGBoost, Auto-Sklearn).

## Real-Time AQI Monitoring with Python WAQI API.

- Dynamic city-input via CLI.
- AQI interpretation using conditional logic.
- Scalable for automation or dashboard integration using IoT and ML.

## Savefood

• AI-Powered Food Tracking - Automatically tracks and updates the expiry status of stored food.

- Spoilage Prediction Predicts when food is likely to go bad using trained ML models, alerting you beforehand.
- Waste Analytics Dashboard Visualizes how much food (and money) you've saved over time.
- Personalized Suggestions Offers recipe ideas based on your stored ingredients to minimize food waste.

#### SafeRoads

- Urban planners in designing safer roads.
- Authorities in targeting high-risk areas.
- Navigation systems in delivering risk-aware routing

# ACHIEVEMENTS & PARTICIPATION

NASA International Space Apps Challenge 2025 – Champion – Barisal Division, Team Polaris Eastern Bank PLC. Technovation'25 National Hackathon – St. Joseph Higher Secondary School National Data Analytics Competition (NDAC) 2025 - Daffodil International University

### Professional Membership

IEEE - Student Member (valid through Dec 2026)

IEEE Computer Society - Member (valid through Dec 2026)

# COMMUNITY INVOLVEMENT

DIU CSE Speakers Club - DCSC General Secretary	May 2025 – Present
DIU Career Development Club - DIU CDC  Head Research and Training Wing	Aug 2025 – Present
DIU Computer Programming Club - DIU CPC Event Coordinator	Mar 2025 – Present
BASIS Students' Forum DIU Chapter Executive Member	Sep 2024 – Oct 2025
DIU Computer Programming Club - DIU CPC Executive Member	Aug 2024 – Dec 2024

# TECHNICAL SKILLS

Languages: Python, C, Java, SQL (MYSQL Postgresql).

Ml-Frameworks: Scikit-learn, TensorFlow, PyTorch, Auto-sklearn.

Data Tools: Pandas, NumPy, Matplotlib, Seaborn.

Dev-Tools: Git, GitHub, VS Code, Google Colab, Kaggle NoteBook.

Productivity: MS Office 365, Google SpreadSheet, Google Docs, Google Slides, Canva.

# **PUBLICATIONS**

1. Hasan, M. M., Rakib, R., Molla, M. A., Borhan, R., Based, M. A.: A Socio-Economic Machine Learning Framework for Predicting Programmer Retention. Taylor and Francis.

- In: Proceedings of the 3rd International Conference on Big Data, IoT and Machine Learning (BIM 2025). [Accepted Waiting for Publication]
- 2. Hasan, M. M., Mahin, A. A., Chakraborty, S., Afrose, M., Mia, M. A., Based, M. A.: A Socio-Economic Machine Learning Framework for Predicting Programmer Retention. Taylor and Francis. In: *Proceedings of the 3rd International Conference on Big Data, IoT and Machine Learning (BIM 2025).* [Accepted Waiting for Publication]
- 3. Molla, M. A., Rakib, R., Hasan, M. M., Rion, A. M., Based, M. A.: Machine Learning based Regression and Classification of Earthquake Magnitude using USGS Seismic Records. In: Proceedings of the 2025 International Conference on Intelligent Data Analysis and Applications (IDAA 2025). [Under Review]
- Mahin, A. A., Hasan, M. M., Rakib, R., Molla, M. A., Mia, M. A., Based, M. A.: A Modular Framework for Continual Reinforcement Learning in Dynamic Robotic Environments. In: Proceedings of the 2025 International Conference on Intelligent Data Analysis and Applications (IDAA 2025). [Under Review]

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