MD. ASRAFUL MOLLA

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Objective

Passionate Computer Science student with strong skills in full-stack development, IoT, and machine learning. Committed to solving real-world problems through innovation and technology. Seeking opportunities to enhance expertise and contribute to impactful software or research projects.

Education

Bachelor of Science in Computer Science and Engineering *Study Period: 2022-2026*
Dhaka International University | Dhaka, Bangladesh *CGPA: 3.97 out of 4.00*

Higher Secondary Certificate in Science *Study Period: 2019-2021*
Matlab Government College | Chandpur, Bangladesh *GPA: 5.00 out of 5.00*

Professional Experience

Junior Developer | Tech & Software Solutions Team *Working Period: Oct 2024 – Present*
Al-Barr Engineering Ltd.*, Banani, Dhaka, Bangladesh* | *Part-Time*
Responsibility: Developed and maintained full-stack web applications using Django, REST APIs, and modern front-end technologies.

Executive | IT Team *Working Period: May 2023 – Sep 2024*
Borak Engineering Solution, *Bashundhara R/A, Dhaka, Bangladesh* | *Part-Time*
Responsibility: Managed IT infrastructure and technical support while ensuring accurate and efficient digital documentation.

Skills

Languages: Python, C++, C, JavaScript
Frameworks & Libraries: Django, Django REST Framework (DRF), Pandas, NumPy, Matplotlib
Front-End: HTML5, CSS3, Tailwind CSS, Bootstrap
Databases: PostgreSQL, MySQL, SQLite
Tools & Platforms: VS Code, Git, GitHub Actions, Hostinger, cPanel, Google Colab, Kaggle Notebook, Linux (Ubuntu), MS Office 2021, Canva.
Hardware & Networking: TinkerCad (Circuit Design), Proteus (Simulation), Cisco Packet Tracer, 8086 Emulator (x86 Assembly - emu8086)
Concepts: REST APIs, CI/CD, Real-Time Systems, Data Structures, Algorithms, OOP, Operating Systems, SDLC, Software Engineering, Networking, Compiler Design
Soft Skills: Communication, Team Collaboration, Client Interaction, Critical Thinking

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Projects

1. LearnCycle - Full-Stack Django Web Application *GitHub*
Overview: A unified platform connecting book buyers, sellers, donors, and readers with e-commerce, donation, and library management features.
Key Features:

- Smart user system with social login, dashboard, and real-time chat support
- E-commerce, donation, digital library, and book request post system with AI recommendations
- Reward leaderboard, delivery tracking, wishlist, and alert system

Technology: Python, Django, SQLite, HTML, CSS, JavaScript

2. AgroHub - AI-Powered Smart Agriculture Management Platform *GitHub*

Overview: AI- and IoT-based platform that helps farmers monitor crops, analyze soil and weather data, and optimize irrigation and fertilizer use through predictive analytics.

Key Features:

- Real-time IoT monitoring and AI-based predictive insights
- Smart water and resource optimization
- Custom crop and fertilizer recommendations with a sustainability focus

Technology: Python, Django, TensorFlow, IoT, REST API, SQLite, HTML, CSS, JavaScript

3. **Earthquake Early Warning System (IoT)** *GitHub*

Overview: Developed an IoT-based earthquake detection system using ESP8266, SW-420 vibration sensor, buzzer, LED, and Telegram Bot API. Provides real-time local alerts and remote notifications to enhance community-level disaster preparedness.

Key Features:

- Real-time earthquake detection with buzzer and LED alerts
- Instant Telegram notifications via Wi-Fi (no SIM/GSM required)
- Efficient, low-cost design with potential for GPS integration, data logging, and smart home alerts

Technology: ESP8266, Arduino IDE, SW-420 Vibration Sensor, Buzzer, LED, Wi-Fi, Telegram Bot API

Problem Solving & Competitive Programming

Codeforces: 450+ problems solved | Max contest rating: 768
CodeChef: 100+ problems solved | Max contest rating: 891
LeetCode: 100+ problems solved
Additional Platforms: Experience solving problems on HackerRank, AtCoder, Sphere Online Judge, vJudge, HackerEarth, Coding Ninjas, beecrowd, and other online judges
Highlights: Strong algorithmic and data structure skills with extensive practice across multiple competitive programming platforms.

Achievements & Competitions

NASA Space Apps Challenge 2025 - *Champion, Barisal Division, Team Polaris*
NASA Space Apps Challenge 2024 - *Participant, Cumilla Region, Team AstroAlgo*
ICPC 2024 - *Honorable Mention, DIU_ThreeHead Team*
2nd Place - *Learn Problem Solving with C++ Competition (2023), DIU CPC, DIU*
5th Place - *Olympiad, 43rd National Science and Technology Week, District Level (2022)*
3rd Place - *Olympiad, 6th National Science Olympiad, Upazila Level (2021)*
Technovation'25 Hackathon - *Josephite IT Club, Sep 2025*
NEOFETCH Hackathon (INVENTIOUS 4.1) - *MIST Innovation Club, Mar 2025*
Programming Hero National Hackathon - *East West University, Nov 2024*

Leadership & Community Involvement

Assistant General Secretary - *DIU CSE Volunteer Club, Oct 2024 - Oct 2025, Dhaka, Bangladesh*
Publicity Secretary - *DIU Computer Programming Club, Sep 2024 - Feb 2025, Dhaka, Bangladesh*
Executive Member - *BASIS Students' Forum, DIU Chapter, Sep 2024 - Oct 2025, Dhaka, Bangladesh*
Executive Member - *DIU Computer Programming Club, Oct 2023 - Oct 2024, Dhaka, Bangladesh*

Publications

1. Hasan, M. M., Rakib, R., Molla, M. A., Borhan, R., Based, M. A. (2025). *A Socio-Economic Machine Learning Framework for Predicting Programmer Retention.* Taylor & Francis. In: Proceedings of the 3rd International Conference on Big Data, IoT and Machine Learning (BIM 2025). **[Accepted]**
2. Molla, M. A., Rakib, R., Hasan, M. M., Rion, A. M., Based, M. A. (2025). *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]**
3. Mahin, A. A., Hasan, M. M., Rakib, R., Molla, M. A., Mia, M. A., Based, M. A. (2025). *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]**