

Mohiuddin Bilwal

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Education

Military Institute of Science and Technology (MIST)
B.Sc in Computer Science and Engineering (CSE)

Feb 2020 – Jul 2024
CGPA: 3.41/4.00

Professional Experience

Junior Software Engineer (R&D)
TechnoNext Software Limited

Saied Nagar, Notun Bazar, Dhaka
Jul 2025 – Present

- Implemented and maintained core features of the project management system, ensuring scalability and maintainability.
- Identified and resolved bugs, improved existing code structure, and followed best practices to enhance application stability.
- Collaborated with senior engineers to design and implement new features, following Agile development practices and the MVC patterns.
- Supporting team members to generate efficient algorithms and logic to implement complex features.
- **Tech Stack:** Ruby on Rails, PostgreSQL, Docker, Redis, Tailwind CSS

Software Engineer Intern
BariKoi Maps

Pallabi, Mirpur-11, Dhaka
May 2025 – Jul 2025

- Converted 360° videos into 360° images using Python, enabling efficient image processing for mapping applications.
- Built a desktop application with PyQt, PostgreSQL, and FastAPI to process, transfer, and visualize 360° images in real time for a customized Street View platform.
- Integrated HTTP protocols and JSON-based communication to ensure smooth client-server interaction and data synchronization.
- Collaborated with senior engineers and participated in code reviews.
- **Tech Stack:** Python, JavaScript, Image Processing, PostgreSQL, FAST API

Programming Competitions

- Ranked in the **top 20** out of **50+** teams in the **Independence Day Programming Contest (IDPC)**, MIST, 2022. [ref] [🔗](#)
- Achieved **24th position** out of **70** teams in the **ML Olympiad - CO2 Emissions Prediction Challenge**, Kaggle, 2024. [ref] [🔗](#)
- Achieved **34th position** out of **100+** teams in **LEETCON (Cybersecurity Competition)**, MIST, 2023.
- Achieved **44th position** out of **148** participants in the **AlgoBangla29 Winter Programming Contest** 2024. [ref] [🔗](#)
- Achieved **85th position** out of **240** teams in the **Robi Datathon 3.0 Qualifier**, Kaggle, 2024.
- Participated in the **International Collegiate Programming Contest (ICPC)**, Asia Dhaka Regional, BUBT, 2023. [ref] [🔗](#)
- Participated in the **National Collegiate Programming Contest (NCPC)**, JU, 2024.
- Participated in the **Inter University Programming Contest (IUPC)**, SUST, 2023.
- Selected for the **Therap Javafest 2025**, organized by **Therap (BD) Ltd.**
- Solved over **1,500** problems from different online judges.
- Participated in over **20** onsite programming contests and more than **200** online programming contests.

Publications

Conference:

June 2025

“A Multi-Modal Assistive Robot Navigation System for Physically Impaired Users” IEEE International Conference on Quantum Photonics, Artificial Intelligence, and Networking (QPAIN 2025), BAUST, Saidpur, Nilphamari, Rangpur, Bangladesh (Accepted)

Notable Projects

1. ThirdEye360

- Developed desktop and web applications to streamline workflows for BariKoi Map’s custom Street View platform.
- **Tools Used:** Python, JavaScript, FastAPI, PostgreSQL, Image Processing

2. Simulating User Behavior to Evaluate the Navigability of Websites Through Artificial Intelligence (Thesis)

[Video] [↗](#)

- Developed an AI agent that takes user input to automatically navigate websites, create reports on navigation evaluations, and compare the report with manual navigation performed by human testers.
- **Tools Used:** Machine Learning, Deep Learning, Natural Language Processing, HTML, CSS, Bootstrap, JavaScript, Python

3. NextGen Wheelchair: A Semi-Autonomous Solution for Disable People Using Head Motion (Capstone)

[Code] [↗](#)

- Developed and manufactured a cutting-edge wheelchair prototype for individuals with mobility issues to drive independently.
- **Tools Used:** OpenCV, Machine Learning, Arduino, Bootstrap, JavaScript, JSON

Extracurricular Activities and Achievements

- Worked in the **Software and Communication** team of **MIST Mongol Barota** in the **University Rover Challenge (URC)**, 2021. Also, achieved **1st** position out of **36** universities globally.
- Graduated from the prestigious **Aspire Leaders Program 2025**, funded by the Aspire Institute founded at Harvard University. [ref] [↗](#)
- Worked on **Time Series** projects of the **Applied Data Science Lab**, WorldQuant University (Online).
- **Mentor and Assistant Treasurer** at MIST Computer Club (Jan 2021 - Mar 2023).
- **Team Coordinator** of App and Web Development team at MIST Innovation Club (Apr 2022 - Mar 2023).
- Two of my extended abstracts got accepted in the IEEE CS BDC Summer Symposium 2023. [ref1] [↗](#) [ref2] [↗](#)
- Volunteered in the National Collegiate Programming Contest (NCPG) 2020.
- Worked as an **Open Source Contributor** in Girlsript Summer of Code 2023.

Certifications

- **Microsoft Certified: Azure AI Fundamentals** [ref] [↗](#)
- **HackerRank: Problem Solving (Basic)** [ref] [↗](#)
- **DataCamp: Data Analysis in Excel** [ref] [↗](#)

Technical Skills

Languages: C, C++, Python, Java, Ruby

Frontend: HTML, CSS, Bootstrap, Javascript, JQuery, Rails

Backend: Oracle, PHP, SQL, Firebase, PostgreSQL, Redis

Cloud System: Docker

Version Control: Git, GitHub