

# 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

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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

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### 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

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- 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

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

## Technical Skills

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**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