

S. S. M Jahir Jahan Khan Miru

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PROFESSIONAL SUMMARY

Dynamic researcher and Urban Planning graduate with robust programming skills (Python, MATLAB, C) and hands-on experience applying Machine Learning and Computer Vision to civil and transportation engineering. Adept at processing and integrating multi-modal data—ranging from video-based sensor analytics to photogrammetry and RTK GNSS—for predictive modeling and microsimulation. Demonstrated success in developing AI-driven tools for infrastructure assessment and traffic impact analysis. Seeking to leverage my background in AI/ML data extraction and statistical modeling for the PhD position in Civil & Environmental Engineering at the University of New Hampshire, with a specific focus on sensor fusion and predictive modeling.

EDUCATION

Bachelor of Urban and Regional Planning

November 2024

Bangladesh University of Engineering and Technology (BUET)

CGPA: 2.83

Higher Secondary School Certificate (Science)

June 2018

Notre Dame College

GPA: 5.00 (Awarded Scholarship)

TECHNICAL SKILLS

AI & Machine Learning: Ultralytics YOLO (Custom Models), PyTorch, OpenCV, Deep Learning, AI Agents, Automated Vehicle/Object Counting, Computer Vision.

Programming & Stats: Python, MATLAB, C, R, Bash.

Sensor Technologies: Photogrammetry, Drone Piloting, RTK GNSS, LiDAR/Spatial Data Processing, Computer Vision as Video Sensors.

Simulation & Modeling: PTV Vissim, SUMO, Sidra Intersection, Synchro plus SimTraffic.

GIS & Infrastructure: ArcGIS (Desktop/Online), QGIS, AutoCAD, Autodesk ReCap Pro, OpenDroneMap.

RESEARCH & ACADEMIC PROJECTS

Predictive Modeling of Traffic Impacts using AI Agents

Development Project

- Engineered an AI-agent-based simulation framework to accurately predict and evaluate the impact of newly generated traffic on existing urban infrastructure.
- Calibrated the predictive algorithms to comply strictly with the Traffic Impact Assessment Guidelines 2025 established by the Dhaka Transport Coordination Authority (DTCA).
- Integrated diverse datasets to simulate mixed-traffic operations, providing actionable, data-driven mitigation strategies.

Assessing Highway Condition during Festivals in Bangladesh

Class Project

- Conducted multi-modal data integration to evaluate highway infrastructure stress and performance degradation during peak festival periods.
- Analyzed massive traffic volume anomalies and queue lengths using statistical tools to propose scalable predictive interventions.

Accessibility and Safety Audit in BUET Campus

Class Project

- Captured and synthesized spatial and observational field data to assess structural safety and pedestrian accessibility across the campus.
- Mapped high-risk zones and formulated civil engineering modifications based on quantitative safety metrics.

PROFESSIONAL EXPERIENCE

Urban Planner & CEO

Nov 2023 – Present

Plansculpt Private Consultants

- Completed 20+ comprehensive Traffic Impact Assessments (TIAs) utilizing computer vision and predictive modeling for major civil development projects.
- Developed custom AI pipelines (Ultralytics YOLO, OpenCV) to extract vehicle classifications and movement data from video sensors, ensuring rigorous data quality control.
- Conducted 16-hour multi-modal traffic data surveys and translated empirical sensor evidence into actionable Level of Service (LOS), delay, and queue length analyses via microsimulation (PTV Vissim, SUMO).

Assistant Urban Planner - Photogrammetry

Nov 2024 – Apr 2025

Sheltech Consultants (Pvt.) Ltd.

- Managed sensor data collection and GIS integration for the feasibility study and master planning of 25 towns and 16 Paurashavas (IUGIP Project).
- Processed complex photogrammetric data and integrated drone-based imagery with spatial databases to model urban infrastructure accurately.

Urban Planner

Mar 2024 – Oct 2024

Topbright (Pvt.) Ltd

- Directed the spatial data gathering and Master Plan development for the Central Human Resource Development Center.

GIS Analyst

Apr 2021 – Apr 2023

TORK INC

- Executed large-scale spatial data integration, mapping, and geospatial analysis to support urban infrastructure projects.

**Prior Experience: Intern Urban Planner at RAJUK (Oct 2023 - Nov 2023).*

CERTIFICATIONS

- **Deep Learning Onramp** - Mathworks (2025)
- **Matlab Onramp** - Mathworks (2025)
- **Foundations of Project Management** - Coursera (2024)
- **Google Cybersecurity Certification** - Coursera (2023)
- **Fundamental of GIS** - Coursera (2022)

INVOLVEMENT

BUET Rover Scout Group

Mar 2019 - Aug 2024

Senior Rover Mate & President

Shamsul Hoque Khan School Scout Group

President's Scout Award & Community Development Award

REFERENCES

1. Dr. Md. Musleh Uddin Hasan

Professor, Dept. of Urban and Regional Planning, BUET

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2. Niaz Mahmud Zafri

Assistant Professor, Dept. of Urban and Regional Planning, BUET

(PhD Student, DUSP, MIT)

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3. Dr. Meher Nigar Neema

Professor, Dept. of Urban and Regional Planning, BUET

(Undergraduate Thesis Supervisor)

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4. Dr. Mohammad Khurshed Alam

Associate Professor, Dept. of Physics, BUET

(Rover Scout Moderator)

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