

Opu AFM Nurun Nabi, PE

28/4B Sonatongor, Jigatola, Dhaka, Bangladesh • (880) 176-779-6056 • boxofnabi@gmail.com

Website: <https://threeonair.github.io/site/>

Github: <https://github.com/threeonair>

EDUCATION

Louisiana State University

MSCE, Civil Engineering

Research: *Development of a Performance Based Specification for Louisiana Asphalt Concrete*

Baton Rouge, LA

December 2012

Bangladesh University of Engineering and Technology

B.Sc in Engineering, Civil Engineering

Dhaka, Bangladesh

March 2009

RESEARCH EXPERIENCE

University of Alabama

Research Collaboration with Dr Mizanur Rahman

Tuscaloosa, AL

(January 2024 – Present)

- Conducted comprehensive literature reviews on quantum computing, Connected Automated Vehicle systems, and cybersecurity, synthesizing current research and identifying key trends and gaps.
- Investigated cybersecurity frameworks relevant to quantum computing and Connected Automated Vehicle environments, assessing potential threats and mitigation strategies for secure information transfer.
- Explored applications of quantum machine learning and quantum cryptography to enhance data security, communication efficiency, and intelligent decision-making in connected vehicle systems.

This a collaborative research effort. I worked with Dr. Mizanur Rahman and his PhD student Kazi Hassan Shakib. I am not a graduate student at University of Alabama.

Louisiana State University

Graduate Research Assistant, Civil Engineering

Baton Rouge, LA

(January 2011 – December 2012)

- Developed a performance-based specification framework for Hot Mix Asphalt Concrete (HMAC) for the Louisiana Department of Transportation and Development (LaDOTD), enhancing evaluation methods for pavement materials.
- Conducted comparative analyses of physical and mechanical properties of asphalt concrete, informing improvements in material selection and mix design.
- Performed laboratory testing including Indirect Tensile Strength (ITS), Semi-Circular Bending (SCB), Loaded Wheel Deflection (LWD), and additional standard asphalt tests to assess performance characteristics.
- Proposed a comprehensive framework for performance-based specifications, integrating lab test results and material behavior to support durable and cost-effective pavement design.
- Prepared technical reports, presentations, and recommendations to communicate findings and support future pavement performance evaluation strategies.

LICENSE

Texas Board of Professional Engineers and Land Surveyors

PE # 138645

Michigan State Board of Professional Engineers

PE # 2601070007

SKILLS

Traffic Impact Analysis, Traffic Simulations, Traffic Safety, Connected Vehicle, Cybersecurity, ITS, Roadway Design, GIS, Machine Learning, Cybersecurity

MACHINE LEARNING PROJECTS

The projects mentioned below can be found from my personal website (<https://threeonair.github.io/site/>) along with the links provided below.

Traffic Volume Prediction from Metro Traffic Dataset by multiple linear regression
https://colab.research.google.com/drive/1VE8pPECW-WBJfQLVLQ9nblLyZzB08_2N

Traffic Classification from Metro Traffic Dataset by logistic, random forest and xgboost
<https://colab.research.google.com/drive/1ZpOt-z0VpPokN7x3INM7N7II1MUwpGf-#scrollTo=7iRjNra-OP6w>

SKILLS

Traffic Impact Analysis, Traffic Simulations, Traffic Safety, Roadway Design, GIS, Machine Learning

SOFTWARE SKILLS

Synchro Studio, AutoCAD Civil 3D, MicroStation, OpenRoads Designer, ArcGIS

PROFESSIONAL AFFILIATIONS

Member, Institute of Transportation Engineers
Member, Deep South Institute of Transportation Engineers

PROFESSIONAL EXPERIENCE

Midstream and Terminal Services
COO & Traffic and Roadway Engineer

Dhaka, Bangladesh
December 2023 – Present

As COO

- Led a team of 46 employees and aligned cross-functional operations with company goals, which improved collaboration and efficiency and built a high-performing organization.
- Partnered with the CEO to define and execute long-term strategy, translating vision into actionable KPIs and metrics that delivered consistent business growth.
- Drove revenue expansion by scaling operations and strengthening market execution, increasing profit from \$1.5 million to approximately \$5 million in two years, which significantly enhanced financial stability and market position.
- Oversaw daily operations across Production, Finance, HR, and IT, streamlining workflows and resource utilization to enhance company-wide efficiency.
- Monitored budgets, forecasts, and financial performance, implementing corrective actions on variances to ensure sustainable financial outcomes.
- Introduced process improvements and systems that reduced cycle times and improved output quality, resulting in faster and more reliable results.
- Structured hiring and talent development processes, including assessments and onboarding practices, which secured top talent and strengthened retention.
- Updated company policies to prioritize employee well-being while optimizing operations, fostering stronger employee engagement and reducing turnover.

As Traffic and Roadway Engineer

- Conduct traffic impact studies, traffic operations analyses, and safety assessments.
- Analyze traffic flow patterns using software such as **Synchro**.
- Design traffic control devices, including traffic signals, signing, striping, and intelligent transportation systems (ITS).
- Review and apply MUTCD, AASHTO, FHWA guidelines, and local/state traffic engineering standards.
- Develop and prepare roadway and highway design plan and profile, horizontal and vertical alignment, cross-sections, sidewalk, pavement marking using software such as MicroStation, AutoCAD Civil 3D, or OpenRoads.
- Traffic Safety and crash data collection and traffic safety data analysis and recommend relevant mitigation
- Prepare technical reports, memos, and presentation materials for clients.
- Coordinate with municipal agencies, DOTs, and other consultants.

IEA World

Project Engineer - Roadway

Houston, TX

February 2021 – September 2021

- Developed roadway design plans using MicroStation, AutoCAD Civil 3D, and OpenRoads to deliver accurate and efficient project designs for TxDOT and Harris County projects.
- Executed horizontal and vertical alignments, corridor modeling, and cross-section development to ensure optimal roadway geometry.
- Designed roadway elements including intersections, ramps, shoulders, curbs, drainage, pavement markings, and signage to meet safety and functionality standards.
- Prepared construction documents such as plan and profile sheets, typical sections, and detail sheets to support project delivery.
- Performed engineering calculations for earthwork, quantities, and cost estimates to provide precise project planning and budgeting.
- Coordinated with multidisciplinary teams—including traffic, structural, geotechnical, and environmental engineers—to ensure integrated project solutions.
- Assisted in preparing technical reports, design criteria, and feasibility studies to support decision-making and project approvals.
- Ensured compliance with local, state, and federal transportation standards as well as client requirements to maintain quality and regulatory adherence.
- Participated in QA/QC reviews of roadway design deliverables to validate accuracy and consistency.

IMS Engineers

Project Engineer

Houston, TX

July 2017 – January 2021

- Developed traffic impact studies, signal warrant analyses, and intersection capacity evaluations, which improved mobility, enhanced roadway safety.
- Designed traffic control plans, pavement marking layouts, and signage schemes that optimized traffic flow and ensured compliance with MUTCD and TxDOT standards.
- Develop and prepare roadway design plans using software such as MicroStation, AutoCAD Civil 3D, or OpenRoads for City of Houston, Harris County and TxDOT projects.
- Perform horizontal and vertical alignments, corridor modeling, and cross-section development.
- Design roadway elements such as intersections, shoulders, curbs, drainage, pavement markings, and signage.
- Prepare construction documents including plan and profile sheets, typical sections, and detail sheets.
- Conduct engineering calculations including earthwork, quantities, and cost estimates.
- Designed CMU buildings with steel beams, joists, and roof decks, providing durable and cost-effective structural solutions.
- Engineered retaining walls, vertical walls for detention ponds, and steel platforms, which improved site stability and supported long-term infrastructure resilience.

- Performed load calculations and structural analysis, ensuring safety, code compliance, and constructability of all structural components.
- Collaborated with architects, contractors, and project managers to integrate structural systems seamlessly into overall project designs, resulting in efficient construction execution.
- Delivered detailed structural drawings and specifications that reduced construction delays and ensured alignment between design intent and field implementation.

IMS Engineers

Engineer Intern

Jackson, Mississippi
January 2014 – June 2017

- Supported design efforts across roadway, drainage, airport, and building structural projects.
- Assisted in preparing construction drawings and specifications in accordance with local, state (MDOT), and FAA standards.
- Developed horizontal/vertical alignments, typical sections, and cross-sections using AutoCAD Civil 3D.
- Contributed to drainage system design, including culverts, stormwater layout, and runoff calculations.
- Provided support on building-focused structural design, including foundation plans, framing layouts, and load calculations.
- Collaborated with senior engineers to review plans for compliance with local codes and design standards.
- Participated in site visits and field inspections to verify existing conditions and document construction progress.
- Engaged in design and documentation for general aviation airport improvements, including taxiways and runway safety areas.
- Assisted in preparing permit applications, reports, and submittals for review by county and city agencies.

NOTABLE PROJECTS

Traffic Engineering Projects

- Connected Automated Vehicle Cybersecurity in respect to Quantum Computing
- Traffic Impact Analysis for Proposed Development near Spring Stuebner and W Hardy, Spring, Texas
- Traffic Impact Analysis for Proposed Development near SH 6 and County Road 48, Manvel, Texas
- Traffic Impact Analysis for Proposed Development near SH 149 N of Heritage Road, Magnolia, Texas
- Traffic Impact Analysis for Proposed Development near SH 6 and Branch Forest, Houston, Texas
- Traffic Technical Memorandum for near Wilcrest Drive and Brandon Drive
- Traffic Impact Analysis for Proposed C Store Development (Pause & Go) in Baytown, Texas
- Traffic Impact Analysis for Proposed C-Store Development near US 59 & Old Cold Spring Road, Cleveland, Texas
- Traffic Impact Analysis for Proposed C-store Development near FM 2090 & Westgate Road, Splendora, Texas
- Traffic Impact Analysis for Huffman Cleveland Road and Meyer Road, Huffman, Texas
- Traffic Impact Analysis for Alexander Drive and Cedar Bayou Road, Baytown, Texas
- Traffic Impact Analysis Technical Memorandum for West Little York Dr at Alabonson Road, Houston, Texas
- Traffic Impact Analysis Technical Memorandum for West Orem Drive at Ambrose Road, Houston, Texas
- Traffic Impact Analysis for FM 1485
- Traffic Impact Analysis for Development near Loop 494 at Farris Green Road, Porter, Texas
- Traffic Impact Analysis for Development near US 59 BUS and Etta Road, Splendora, Texas
- Traffic Impact Analysis for Development at 884 FM 2090 Road Trac 30, Splendora, Texas
- Traffic Impact Analysis for Development at 24489 FM 2090, Splendora, Texas
- Traffic Impact Analysis for Development near Plum Grove Rd and Magnolia Boulevard, New Caney, Texas
- Traffic Impact Analysis for Proposed C-Store Development Near US 290 & Badtke Road

Roadway and Airport Projects

- Bammel Road Roadway widening
- Gray and Taft Street Paving and Drainage
- I-10 Millhaven Roadway Improvement, Monroe, Louisiana
- Ellington Field Airport
- Shreveport Regional Airport Taxiway “B” Pavement Design
- Gus Wortham and Mulford Area Sidewalk
- Camp Street Improvement project
- NorthPointe Blvd Street Improvement
- SH 95 Highway Bridge Approach Road Improvement
- Brazoria County Road 190 Bridge Approach Road Improvement
- Dale Dell Street Sidewalk from Woodforest Road to Wallisville Street

Structural Engineering Projects

- Northeast Water Purification Plant
- Shreveport Regional Bus Station
- Fannie Lou Hammer Church

CERTIFICATIONS

Machine Learning A-Z™ : Python & R in Data Science [2022]

Instructors: Kirill Eremenko, Hadelin de Ponteves

TRAINING

- Safety Data and Analysis Fundamentals Training for Data Analysts
Provider: FHWA NHI. Course no - 380122A
- Highway Safety Manual Online Overview
Provider: FHWA National Highway Institute. Course No – 380106
- Improving Highway Safety with Intelligent Transportation Systems
Provider: FHWA National Highway Institute.
- ITS: what, why and how?
Provider: FHWA National Highway Institute
- Unmanned Aircraft Systems (UAS) Construction Inspection Series: Work Zone Traffic Monitoring
Provider: FHWA NHI Course No: 134218E
- The Basics of Traffic Signal Timing
Provider: Florida LTAP
- Traffic Signal Timing 101
Provider: Florida LTAP
- Traffic Signal Timing 201
Provider: Florida LTAP

- Transportation Cybersecurity - NHI Course 137055
Provider: FHWA National Highway Institute
- Introduction to Financial Planning for Transportation Asset Management
Provider: FHWA National Highway Institute
- Temporary Traffic Control – Planning and Design
Provider: Florida LTAP
- Signing, Pavment Markings and the MUTCD
Florida Department of Transportation
- Americans with Disability Act (ADA) - Design of roadways, buildings, and facilities for accessibility for Americans with disabilities
Provider: Mississippi Department of Transportation
- MicroStation
Provider: Bentley