

Sijan Shrestha

4608 Windstone Dr, Arlington, TX 76018

Email: sxs2512@mavs.uta.edu Phone number: (682)-446-5599

EDUCATION AND PROFESSIONAL CERTIFICATION:

Ph.D. in Civil Engineering (Transportation)

University of Texas at Arlington, Arlington

August 2023-Present

Bachelor in Civil Engineering

Himalaya College of Engineering, TU, Kathmandu

Aug 2016-Dec 2019

RELEVANT COURSES:

Traffic Engineering and Operations, Urban Transportation Planning, Characteristics of Traffic, Highway Design, Traffic Control Operations, Machine Learning, Applied Regression Analysis, Advance GIS/Hydrology and Hydraulic Modeling,

SKILLS:

Technical Skills: MySQL, Python, PTV VISSIM, PTV VISTRO, ArcGIS Pro, Open Roads Designer, MS Office, SAS, Visio, Adobe Premier Pro, AutoCAD, ETABS.

Soft Skills: Communication, Networking, Problem-Solving, Analytical Thinking, Teamwork, and Intercultural Competence.

EXPERIENCES:

Graduate Teaching Assistant:

August 2024- Present

- Supported faculty in teaching traffic engineering and operations, while grading tests and papers.
- Taught PTV Vissim to a group of 19 students.

Graduate Research Assistant (Action Lab Research Team at UTA):

August 2023- Present

Traffic Signal Change and Clearance Interval Pooled Fund Study (FHWA)

- Evaluating Kinematic Equations using sub-second driving behavioral data collected via LiDAR sensors.

Improving traffic signal system planning, design, and management with a big-data-enhanced ATSPM system (TXDOT and FHWA):

- Managed deployment of data-driven traffic signal systems (UDOT-ATSPM & UTAIM) using SQL Server, IIS, and MySQL for real-time monitoring and traffic optimization.
- Developed a tutorial to transform an established VISSIM model with traffic signals into an ATSPM and big data generation engine.
- Conducted two case studies for a 16-intersection corridor Vissim model to improve traffic flow by optimizing signal timing.

AI-empowered video analytics for the Smart Transportation (AVAST) system:

- Implemented object tracking and detection functionalities using Python and YOLOv5, on counting traffic, identifying near misses, and detecting abnormal events.

Shriaan Builders and Consultant Pvt. Ltd (Civil Engineer)

Jan 2021- July 2023

- Surveyed sites, managed data, analyzed, estimated, and drafted complete reports of roads.

Prasad And Son Builders Pvt. Ltd (Civil Engineer)

Oct 2019 – Dec 2020

- Architectural drawing, structural analysis, and site supervision of residential buildings per Municipality of Nepal.

ACADEMIC PROJECTS:

Highway Design:

Jan 2024- May 2024

- Designed the extension of the road integrating lane transition to meet highway standards.
- Managed route planning, alignment design, and earthwork calculations, optimizing material use and improving safety.

Design of Matlock Rd. and Sublet Rd:

Aug 2023 - Dec 2023

- Built a VISSIM model of intersection and conducted traffic count during peak hours to analyze the real-world scenario.
- Evaluated the results and optimized using the RBC controller to improve LOS.

Role of Future Transportation in Arlington City:

Aug 2023 - Dec 2023

- Identified public transportation, traffic congestion caused by trains & freights, and bike usage as the three main challenges in Arlington.
- Recommended future innovative solutions such as hyperloop, AI, and autonomous vehicles as a probable solution.

ACHIEVEMENTS/ MEMBERSHIPS:

- Dallas ITE Texas scholarship 2024-25**
- Transportation Technology Tournament finalists-2024**
- ITS Texas Scholarship 2024**
- Institute of Transportation Engineers (ITE):** Fall 2023-2025 (UTA Chapter Treasurer)
- Intelligent Transportation Society (ITS):** Fall 2023-2025 (UTA Chapter Treasurer)