

Mehrdad Nasri

Curriculum Vitae

Department of Civil and Environmental Engineering
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EDUCATIONAL HISTORY

UNIVERSITY OF WASHINGTON

Ph.D. in Transportation Engineering

Sept 2023 -
Present

- GPA: 3.98/4.00
- Research Area: AI & ML in Transportation Safety, Smart Traffic Operations
- Supervisor: Dr. Yin Hai Wang, Professor

UNIVERSITY OF TEHRAN

M.Sc. in Highway and Transportation Engineering

Sept 2015 -
June 2018

- GPA: 3.89/4.00
- Thesis Title: Exploring Risk Factors Related to Urban Transit Bus Accidents
- Supervisor: Dr. Kayvan Aghabayk, Assistant Professor

UNIVERSITY OF TEHRAN

B.Sc. in Civil Engineering

Sept 2011 -
Aug 2015

EMPLOYMENT HISTORY

UNIVERSITY OF WASHINGTON

Lecturer, Graduate Research Assistant

Sept 2023 -
Present

- Instructor for Traffic Systems Operations Course for Graduate students
- [NCHRP 17-100: Leveraging Artificial Intelligence and Big Data to Enhance Safety Analysis](#)
Developed machine learning models, conducted data analysis, coding, reporting, user guide development, and stakeholder engagement
- [CDA Research: Developing and Testing of Cooperative Perception Use Case at the Port of Virginia \(FHWA\)](#)
Developed computer vision models, managed data and analysis, conducted field observations, calibrated models, and prepared reports
- [Intersection Safety Challenge \(FHWA\)](#)
Led data collection and management, performed data analysis, and managed meetings and collaborations with other teams
- Additional Projects: “Cooperative multi-camera vehicle tracking and traffic surveillance with edge artificial intelligence and representation learning”, and “Identifying Demographics of Collisions in American Indian and Alaskan Natives Communities”

SHAHRIG CONSULTING ENGINEERS

Transportation Project Manager

June 2020 -
Sept 2023

- [Determining the Optimal Locations for Establishment of Logistic Hubs in the southern part of Mainland](#)
Analyzed freight data, assessed and predicted demand, modeled and analyzed networks, managed access and mode choice, conducted 4-stage modeling, engaged stakeholders, prepared final reports, and managed meetings and workshops
- [Transportation and Logistics Assessment for Persian Gulf Islands Comprehensive Plan](#)
Analyzed passenger and freight data, planned multimodal transportation, assessed and predicted demand, modeled networks, evaluated equity, analyzed mode choice,

engaged stakeholders, prepared final reports, managed meetings and workshops, and collaborated with urban planning, economic, and social assessment teams

- [Qeshm Island Master Plan: Traffic Management, Transportation Infrastructure Development Planning and Multimodal Transportation Planning](#)
Analyzed passenger and freight data, simulated traffic, planned transit, managed traffic safety, developed multimodal transportation plans, assessed and predicted demand, modeled networks, analyzed mode choice, engaged stakeholders, developed the master plan, managed meetings and workshops, and collaborated with the urban planning team
- [Transportation Cost Analysis studies for Parsian Special Economic Zone](#)
Analyzed freight demand and prediction, and assessed the costs of various transportation mode combinations for managing freight demand

BEHRAN TRAFFIC CONSULTING ENGINEERS

Traffic Engineer and Project Manager

April 2018 -
June 2022

- [Collaboration with WHO in developing "Road Safety Strategic Framework" and "Speed Limit Setting Guidance for Rural Roads"](#)
Collected and analyzed data, conducted literature reviews, communicated with international partners (Safety Solution Pty Ltd., Australia), documented and translated technical documents, and managed meetings and workshops
- [Developing Safety Improvement Plans for 180 Black Spots in rural areas](#)
Designed safety improvement plans, analyzed crash factors, investigated roadways and black spots, collected and managed data, analyzed historical data, developed statistical models, documented findings, and managed meetings and workshops
- [Developing Safety Improvement Plans for Black Spots in Tehran city](#)
Designed safety improvement plans, investigated and observed networks, collected and managed data, performed data analysis, developed statistical models
- [Developing Vehicle Occupancy and Trip Generation Models for Neyshabour Comprehensive Traffic Studies](#)
Developed models, collected and managed data, performed data analysis, developed statistical models, and documented the master plan
- [Feasibility Studies and Preliminary Planning for Kamalshahr Ringway Development](#)
Conducted preliminary design using AutoCAD Civil3D, performed data analysis, assessed feasibility, conducted social, economic, and environmental impact assessments, predicted demand, simulated traffic
- [Traffic Impact Assessment for Recreational Complexes, Industrial Zones, etc.](#)
Simulated traffic, collected and managed data, performed data analysis, forecasted demand, modeled networks, and documented findings
- [Feasibility Studies and Preliminary Planning for the Access Road of Port of Lengeh](#)
Conducted preliminary design using AutoCAD Civil3D, performed data analysis, assessed feasibility, conducted social, economic, and environmental impact assessments, predicted demand, simulated traffic, documented and managed meetings
- [Median Openings and U-turns Management in Golestan Province Highways](#)
Conducted preliminary design using AutoCAD, collected and managed data, performed data analysis, assessed traffic safety, predicted demand, documented findings, and managed meetings
- [Feasibility Studies and Corridor Planning for developing a freeway in Golestan Province](#)
Conducted preliminary design using AutoCAD Civil3D, performed data analysis, assessed feasibility, conducted social, economic, and environmental impact assessments, predicted demand, assessed traffic safety, and managed meetings
- [Development of "Inter-Village Roadways Design Manual"](#)
Conducted literature reviews, field investigations, designed surveys, collected and managed data, performed data analysis, engaged local communities, developed the manual, and managed meetings

UNIVERSITY OF Tehran

Lecturer, Graduate Research Assistant

Sep 2015 -
Jun 2018

- Instructor for Highway Geometric Design, and Civil 3D Software Training Courses for undergraduate students
- Investigating the Risk factors Associated with Pedestrian Crash Injury Severity (In collaboration with Dr. Nirajan Shiwakoti, RMIT University, Australia)
Developed models, performed statistical analysis, collected and managed data, conducted literature reviews, and developed papers
- Exploring the Factors Associated with Urban Transit Bus Accidents
Developed binomial and multinomial logit models and classification methods, performed model development, statistical analysis, data collection and management, literature reviews, method development, and thesis and paper development
- Urban Highways' Drainage Systems: Problems and Impacts on Traffic Flow and Safety
Conducted literature reviews, developed technical reports and papers, and presented the findings at conferences

TEACHING EXPERIENCE

UNIVERSITY OF WASHINGTON

Sep 2024 - Present

CET 590: Traffic Systems Operations

- Instructor of the course during Fall 2024 quarter
- Course Design, Homework and Project Development, Grading, Course Management

UNIVERSITY OF TEHRAN

Sep 2016 - Jun 2018

Highway Geometric Design Project

- Instructor of the course and AutoCAD Civil 3d Software
- Course Design, Project Development, Grading, Course Management

UNIVERSITY OF TEHRAN

Sep 2016 - Jun 2018

Highway Geometric Design

- Teaching Assistant during Fall 2016 and Fall 2017
- Homework and Quiz Design, Grader

PUBLICATIONS

1. **Nasri, Mehrdad**; Yin, Shuyi; Shankar, Venky; Wang, Yinhai. 2025, Leveraging Image Semantic Segmentation for Road Infrastructure Localization in Traffic Safety Applications, *Transportation Research Record*, Accepted
2. **Nasri, Mehrdad**; Yin, Shuyi; Wang, Yinhai. 2025, Leveraging AI and Machine Learning for Safety Assessment: Analyzing Connected Vehicle Data for Turning Movement Counts at Intersections, *International Conference on Transportation and Development (ICTD) 2025 Proceedings*, Accepted
3. **Nasri, Mehrdad**; Yin, Shuyi; Wang, Yinhai; Shankar, Venky. 2025, Intersection Road Users Behavior Analysis: AI/ML Based Safety Insights from a Multi-Day Assessment, *International Conference on Transportation and Development (ICTD) 2025 Proceedings*, Accepted
4. Chaikasetin, Sruangsaeng; **Nasri, Mehrdad**; Yang, Hanyi; Liu, Chenxi; Wang, Yinhai. 2025, Zero-shot Learning based Cyclists Detection through Surveillance Systems, *Transportation Research Record*, Accepted
5. **Nasri, Mehrdad**; Wang, Yinhai. 2024, Developing a Vehicle Dynamic Model for Analyzing the Impact of Roadway and Vehicle Characteristics on Speed Profiles, *International Conference on Transportation and Development (ICTD) 2024 Proceedings*, <https://doi.org/10.1061/9780784485521.065>
6. **Nasri, M.**, Aghabayk, K., Esmaili, A., Shiwakoti, N., 2022, Using Ordered and Unordered Logistic Regressions to Investigate Risk Factors Associated with Pedestrian Crash Injury Severity in Victoria, Australia, *Journal of Safety Research* 81, 78-90, <https://doi.org/10.1016/j.jsr.2022.01.008>

7. **Nasri, M.**, Aghabayk, K., 2020. Assessing risk factors associated with urban transit bus involved accident severity: a case study of a Middle East country, *International Journal of Crashworthiness*, 26:4, 413-423, <https://doi.org/10.1080/13588265.2020.1718465>

PRESENTATIONS AND CONFERENCES

TRB 2025

- Poster Presentation: Leveraging Image Semantic Segmentation for Road Infrastructure Localization in Traffic Safety Applications
- Poster Presentation: Zero-shot Learning based Cyclists Detection through Surveillance Systems
- Transportation Research Board Annual Meeting 2025, Washington D.C.

ASCE ICTD 2024

- Poster Presentation: Developing a Vehicle Dynamic Model for Analyzing the Impact of Roadway and Vehicle Characteristics on Speed Profiles
- International Conference on Transportation and Development (ICTD) 2024

2024 NW Tribal Transportation Symposium

- Guest Presenter: Technology Implementations for Rural Road Safety Data Collection, Analysis & Visualization
- Northwest Tribal Technical Assistance Program (TTAP) Center

TRB 2024

- First year PhD student grant, visitor
- Transportation Research Board Annual Meeting 2024, Washington D.C.

PACTRANS 2023

- Poster Presentation: Enhancing the Road Safety through Road Safety Audit (RSA)
- 10th Annual 2023 Region 10 Transportation Conference (Pacific Northwest Transportation Consortium), Seattle

PROFESSIONAL SKILLS

Computer Programming: C, MATLAB, Python

Modeling, Optimization and Simulation: Data Analysis, Logistic Regression, Uncertainty Assessment, Statistical Modelling, Optimization Tools

Statistical Analysis: Python (pandas), R, STATA, SPSS, Excel, NLOGIT

Traffic Simulation: AimSun, Vissim

Road Geometric Design: AutoCAD Civil3D, AutoTURN, AutoCAD

Traffic Related Courses: Black Spot Management, Road Safety Audit, Multimodal Transportation

REFERENCES

Dr. Yinhai Wang: Professor, PhD Supervisor

- Department of Civil and Environmental Engineering, University of Washington
- Email: yinhai@uw.edu

Dr. Kayvan Aghabayk: Assistant Professor, M.Sc. Thesis Supervisor

- School of Engineering, University of Tehran
- Email: kayvan.aghabayk@ut.ac.ir

Dr. Nirajan Shiwakoti: Senior Lecturer, Collaboration in paper

- School of Engineering, RMIT University
- Email: nirajan.shiwakoti@rmit.edu.au

Eng. Kambiz Kavianifar: CEO of Behran Traffic Consulting Engineers

- Behran Traffic Consulting Engineers, Tehran, Iran
- Email: k_kavianifar@yahoo.com