

Niloufar Shirani-bidabadi, Ph.D.

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RESEARCH AND TEACHING INTERESTS

My research interests cover **transportation safety, transportation equity, shared micro mobility, driving simulator studies and intelligent transportation systems (ITS)**. I have also experience in **teaching** subjects such as probability and statistics in civil engineering and surveying lab in undergraduate classes and **mentoring** graduate students.

CURRENT POSITION

Assistant Research Professor, The Connecticut Safety Research Center (CTSRC), University of Connecticut Present

EDUCATION

PhD, Civil Engineering 2020

University of Alabama in Huntsville, Huntsville, Alabama, Advisor: Dr. Michael Anderson

Dissertation Title: Analyzing and Modeling Non-Motorized Related Crashes Using Different Techniques

MS, Civil Engineering, Transportation Engineering 2018

University of Alabama in Huntsville, Huntsville, Alabama, Advisor: Dr. Michael Anderson

MS, Environmental Planning, Management & Education 2014

University of Tehran, Tehran, Iran

BS, Environmental Science 2009

Isfahan University of Technology, Esfahan, Iran,

Research Experience

Assistant Research Professor, The Connecticut Safety Research Center (CTSRC), University of Connecticut.

2021-Present

- **P.I.**, the CTfastrak Automated Bus Survey project; Connecticut Department of Transportation; Budget: \$90,750

2021-2022

- **Co.P.I.**, Implementation and Evaluation of Aira Access Pilot Run in Connecticut; Connecticut Department of Transportation, Bureau of Policy and Planning; *Budget: \$394,288, 2021-2023*

- **Co.P.I.**, Development of a Truck Parking Information Management System for Real-time Dissemination of Commercial Vehicle Parking Information; FMCSA/ CT-DMV; Budget: \$1,726,538, 2022-2025

- **Lead Researcher.**, NCHRP 03-142- Evaluating the Impacts of Real-Time Warnings and Variable Speed Limits on Safety and Travel Reliability during Weather Events; *Budget: \$400,000, 2022-2025*

- **Lead Researcher.**, Evaluating the Effectiveness of Different Warning Systems on Driver Reaction Time; Budget: \$20,000
2020-2022

Post-Doctoral Research Associate, The Connecticut Safety Research Center, University of Connecticut

- **Safety Researcher**, Further Advancing the Transportation Safety Analysis Capabilities of the Connecticut Department of Transportation; Connecticut Department of Transportation; *Budget: \$7,258,813, 2020-2025*

- **Lead Researcher**, Advancing the Behavioral Safety Analytic Tools Capabilities of the Connecticut Department of Transportation; United States Department of Transportation: Office of the Secretary of Transportation; *Budget: \$453,000, 2020- 2021*

Graduate Research Assistant, University of Alabama in Huntsville 2017-Oct.2020

- **Key Researcher.**, Comprehensive Investigation of Bike Crash Causes, Patterns, and Countermeasures in Alabama,

- **Key Researcher.**, In-Service Performance Evaluation (ISPE) for G4 (1S) Type of Strong-Post W-Beam Guardrail System and Median Cable Barrier: Volumes I & II (PI: Albert Gan). Sponsored by Florida Department of Transportation Research Center. Budget: \$280,000 2019-2020

PUBLICATIONS and Coferences

Peer Reviewed Journal Articles (A Selected List)

1. Shirani,N., Song Y., Wang K., Jackson E., (2023) Evaluation of Driver Reaction to Disengagement of Advanced Driver Assistance System with Different Warning Systems While Driving Under Various Distractions. Journal of Transportation Research Record (TRR) (under review)
2. Wang, K., Shirani-Bidabadi, N., Shaon M., Zhao, S., Jackson E., (2021), Correlated mixed logit modeling with heterogeneity in means for crash severity and surrogate measure with temporal instability, *Accident Analysis & Prevention*.
3. Shirani-bidabadi, N., Ma, R., Anderson, M., (2021), Within-day travel speed pattern unsupervised classification - A data driven case study of the State of Alabama during the COVID-19 pandemic, *Journal of Traffic and Transportation Engineering (English Edition)*.
4. Shirani-bidabadi, N., Mallipaddi, N., Haleem, K., Anderson, M., (2020), Developing Safety Performance Functions for Bicycle-Vehicle Crashes in Alabama using Different Techniques, *Accident Analysis and Prevention Journal*.
5. Liugo Kuzy, L.D., Shirani-bidabadi, N., Haleem, K., Anderson, M., (2021) In-Service Performance Evaluation of Median Cable Barriers and Strong-Post W-Beam Guardrails on I-85 in Alabama, *International Conference on Transportation and Development 2021*.
6. Preetha, P.P., Shirani-bidabadi, N., Al-Hamdan, A., Anderson, (2021). A Methodical Assessment of Floodplains in Mixed Land Covers Encompassing Bridges in Alabama State: Implications of Spatial Land Cover Characteristics on Flood Vulnerability(2021). *Water Resources Management*.
7. Shirani-bidabadi, N., Anderson, M., (2019), Exploring the potential of detailed land use variables in modelling external-internal trips, *International Journal for Traffic and Transport Engineering*.
8. Doustmohamadi, M., Shirani-bidabadi, N., Anderson, M., (2018). The Impact of Sidewalks on Vehicle-Pedestrian Crash Severity

Peer-reviewed Conference Proceedings

1. Anshu, B., Shirani, N., Song, Y., Jackson, E. Analyzing the Factors Affecting Injury Severity of Motorcyclists in Connecticut: A Multinomial Logit Approach for Single-Vehicle and Multi-Vehicle Crashes. Accepted for Presentation at Transportation Research Board Conference. Washington DC., USA.
2. Wang, K., Zhao, S., Shirani, N., Jackson, E Data Driven Analytics on AADT Calibration and Estimation for Town Maintained Highways - A Case Study for Connecticut. Accepted for Presentation at Transportation Research Board Conference. Washington DC., USA.
3. Islam, M., Shirani, N., (2024). The Impact of Cell Phone on Distracted Driver's Injury Severity: An Empirical Assessment of Distracted Driving Crashes Comparing States with and without Cell Phone Ban. Accepted for Presentation at Transportation Research Board Conference. Washington DC., USA.
4. Shirani, N., Song Y., Wang K., Jackson E., (2023) Investigating the Effectiveness of Different Warning Systems on driver reaction time. Presented at **Life Savers Conference. 2023** Seattle., USA.
5. Shirani, N., Song Y., Wang K., Jackson E., (2022) Investigating the Effectiveness of Different Warning Systems on driver reaction time. Presented at **Transportation Research Board Conference**. Washington DC., USA.

6. Preetha, P.P., Shirani-bidabadi, N., Al-Hamdan, A., Anderson, M., Applying NBI, HEC-RAS and GIS for Assessment of Flood Zonation and Land Cover Exposures to Floods: Case Studies of Bridges in Alabama, Presented at the 99th Annual Meeting of the **Transportation Research Board**, Washington, DC.
7. Shirani-bidabadi, N., Doustmohamadi, M., Anderson, M., (2018). Safety investigation of nonmotorized crashes in the City of Huntsville, Alabama, using count regression models, Presented at the 99th Annual Meeting of the **Transportation Research Board**, Washington, DC.

Project Reports

1. Wang, K., Shaon, M., Shirani, N., Tucker, A., Russell, D., Jackson, E., (2021) "Advancing the Behavioral Safety Analytic Tools Capabilities of the Connecticut Department of Transportation, Connecticut Department of Transportation".
2. Haleem, K., Fiocca, S., Mallipaddi, N., Shirani, N., Wood, B., Anderson, M. (2019). Comprehensive Investigation of Bike Crash Causes, Patterns, and Countermeasures in Alabama". Contract No. 930-936

TEACHING AND MENTORING EXPERIENCE

Teaching, University of Connecticut

- CE2251: Statistics for Engineers *Spring 2024*
Type: Undergraduate level (over 65 students)

Guest Lecturer, University of Connecticut *Spring 2022*

- Seminar course, Instructor:
Type: Graduate Level
Instructor: Prof. John Ivan (john.ivan@uconn.edu)

Teaching Assistant, University of Alabama in Huntsville *Aug. 2020 - May 2021*

- CE284L: Surveying LAB *Fall 2020*
Type: Undergraduate level
Instructor: Dr. Mike Anderson (andersmd@uah.edu)

Mentoring one Graduate Students, for two studies of FHWA and NCHRP project, University of Connecticut *2021 -2023*

Mentoring one Undergraduate Student, for driving simulator study, University of Connecticut *2021*

Services

- Professional Reviewing Papers for Different Journals and Conferences
 - Transportation Research Record
 - Accident Analysis and Prevention
 - Remote sending applications: Society and Environment
 - Journal of Urban Planning and Planning

Selected Technical Skills

- Programming: Python, R
- Statistics: SPSS, NLOGIT
- GIS: TransCAD, ArcGIS
- General: Tableau, Microsoft Office (Word, PowerPoint, Excel), Microsoft Visio, AutoCAD, etc

