Niloufar Shirani-bidabadi, Ph.D.

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Connecticut Transportation Safety Research Center, University of Connecticut

EDUCATION

2017-2020   **Ph.D. in Civil engineering**, University of Alabama in Huntsville, Huntsville, AL.
2017-2018   **M.Sc. in Civil engineering**, University of Alabama in Huntsville, Huntsville, AL.
2011–2014   **M.Sc. in Environmental Planning, Management& Education**, University of Tehran, Tehran, Iran
2005–2009   **B.Sc. in Environmental Science**, Isfahan University of Technology, Isfahan, Iran

WORK EXPERICNE

October 2020- August 2022
Post-Doctoral Research Associate at The Connecticut Safety Research Center (CTSRC), University of Connecticut
Contributing to the Projects Funded by CTDOT
Post-Doctoral Research Associate @ Connecticut Safety Research Center, Projects Funded by CTDOT (Oct 2020 - Present)
I'm responsible for conducting advanced research to further develop the Transportation System Safety Analysis capabilities of Connecticut Department of Transportation as well as improving the DOT's Behavioral Safety Analytic Tools.

- Leading the CTfastrak Automated Bus Survey project as the Principal Investigator, preparing to launch, for the first time, three full-sized, automated and electric buses on a 9.4-mile limited-access busway, in early 2023.
- Investigated the implementation of Aira Virtual Mobility Pilot, a mobility assistance program for Blind/Low Vision Persons in collaboration with Federal Highway Administration and Department of Aging & Disability Services.
- A leading member in implementing and analyzing the data for the Consumer Reports Pilot project. The team used a full-scale RTI driving simulator for this project to evaluate how effective the engagement methods are at keeping drivers focused, and documenting driver reactions to the situations that automated driving systems can't manage.
- Contributing to the development of a proposal for National Cooperative Highway Research Program (NCHRP)), which focuses on installing variable message signs in vehicles, to provide weather info and traffic news to the drivers and document their behavior, in order to evaluate the impact of real-time warnings on travel safety.
- Contributing as a Co-Principal Investigator to the development of a proposal to the Connecticut Department of Motor Vehicles (CTDMV) and Federal Motor Carrier Safety Administration (FMCSA) for the development of a Truck Parking Information Management System for real-time distribution of commercial vehicle parking information.
- A key member of the project with the title of "*Advancing the Behavioral Safety Analytic Tools Capabilities of the Connecticut Department of Transportation*", to develop crash prediction models for driver behavior related crashes and to develop a web application tool to be used by practitioners for performing hot spot identification and selecting effective countermeasures to mitigate crashes related to different types of driver behaviors.

Spring 2017-2020
Graduate Research Assistant and Graduate Teaching assistant at The University of Alabama in Huntsville
Collaborated with the Alabama Department of Transportation (DOT) to conduct crash analysis, modeling and providing regular progress report for two different projects:
- In-Service Performance Evaluation (ISPE) of Guardrails and Cable Barriers in -Alabama funded by ALDOT ($285,000)

- (2018-2019) Investigation of Bike Crash Causes, Patterns, and Countermeasures in Alabama" funded by ALDOT"
- ➢ Applying crash frequency models related to pedestrian-vehicle and bicycle-vehicle crashes to predict the factors associated with the number of collisions.
- ➢ Analyzing the vehicle-vehicle crash severity using statistical models to improve the road safety.
- ➢ Working in an urban and transportation planning project to investigate the factors influencing external trip distribution in Alabama.

Fall 2017 & fall 2018
Graduate Teaching Assistant at the University of Alabama in Huntsville
- ➢ Taught over 100 students on topics related to instrumentation for road alignments, measurement of verticals and elevations and vehicle speeds.
- ➢ Prepared lectures engaged each class and evaluated the quality of each student's work.

2014 – Fall 2016   **Environmental Planning Analyst at KAAJ Consulting Co.,** Iran

- ➢ Worked as an environmental planning analyst for several environmentally friendly projects including land use planning and waste management.

2011 – 2014   **Graduate Research Assistant,** University of Tehran, Iran
- ➢ Urban and regional planning
- ➢ Land use planning for land management
- ➢ Monitoring land use / cover changes in three decades

RELEVANT COURSES/ TRAINING

- Traffic Engineering Design
- Non-Motorized Transportation
- Geographic Information System
- Advanced Geographic Information System
- Urban Transportation Planning
- Traffic Simulation
- and Corridor Analysis
- Statistical Method for Engineers
- Intelligent Transportation Systems
- Introduction to Systems Simulation
- Land use planning
- Understanding the Pollutions
- Inorganic and Organic pollutant Hazards

PUBLICATIONS AND CONFERANCES (A SELECTED LIST)

Published Wang, K., Shaon, MR., Shirani, N., Tucker A., Russell D., Jackson E., **Advancing the Behavioral Safety Analytic Tools Capabilities of the Connecticut Department of Transportation.** *Connecticut. Dept. of Transportation*

Published Wang, K, Shirani-Bidabadi, N., Shaon M., Zhao, S., Jackson E., **Correlated mixed logit modeling with heterogeneity in means for crash severity and surrogate measure with temporal instability.** *Accident Analysis & Prevention*

Published Shirani-bidabadi, N., Ma, R., Anderson, M. **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)*

Published 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*

Liugo Kuzy, L.D., Shirani-bidabadi, N., Haleem, K., Anderson, M. **"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.*

A Methodical Assessment of Floodplains in Mixed Land Covers Encompassing Bridges in Alabama State: Implications of Spatial Land Cover Characteristics on Flood Vulnerability. *Water Resources Management*

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 Transportation Research Board (TRB)

Published 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.

Published Shirani-bidabadi N., Nasrabadi T., Faryadi S., Larijani N., Shadman M., (2019), **"Evaluating the Spatial Distribution and the Intensity of Urban Heat Island Using Remote Sensing, Case study of Isfahan, Iran".** Sustainable cities and Societies.

Shirani-bidabadi N., Doustmohammadi M., Haleem K, Anderson M. (2018). "**Safety Investigation of Non-motorized Crashes in the City of Huntsville, Alabama, Using Count Regression Models**", Presented at 97th Annual Meeting of the Transportation Research Board Washington DC, USA