

ANDALIB SHAMS

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EDUCATION

Ph.D. in Civil Engineering (On-going)

Expected: December 2022

Iowa State University, Ames, Iowa

Relevant Courses: Traffic Signal Control, Computational Optimization, Deep Learning, Multi-variate Analysis

M.S. in Civil Engineering

August 2018

University of Wyoming

Relevant Courses: Traffic operations, Traffic Simulation, Regression Analysis, Traffic Safety

Bachelor of Urban and Regional Planning

September 2015

Bangladesh University of Engineering and Technology, (BUET)

TECHNICAL SKILLS

Programming Skills	Python, C++
Simulation Software	PTV VISSIM, PTV VISTRO, synchro, PTV VISUM
Data Analysis/ Statistics Tools	Python library (Panda, Matplotlib), R, SQL, MS Excel
Optimization Tool	IBM CPLEX

EXPERIENCE

Graduate Research Assistant at Iowa State University

January 2019-Present

- Developed a VISSIM signal controller framework using Component Object Model (COM) and Application Programming Interface (API) to integrate vehicle trajectory data in adaptive signal control
- Developed a COM framework to evaluate potential benefits of Advanced Infrastructure Sensing (AIS) on vehicle trajectory based adaptive signal control. (In cooperation with National Renewable Energy Lab (NREL) and U.S. Department of Energy sponsored this project)
- Working on developing a taxonomy for adaptive traffic signal control
- Working on evaluating the performance benefits of arrival profile based offset optimization over bandwidth based traffic signal offset optimization

Graduate Research Assistant at University of Wyoming

December 2015- June 2016

- Evaluated performances of innovative intersections and transit priority over traffic operations in Redwood Road Corridor at Salt lake City, Utah. (This project was sponsored by Avenue Consultant)
- Developed a simple framework to model Connected and Automated Vehicles driver behavior and evaluated the performance

Short Term Consultant at The World Bank Group

December 2015- June 2016

Intern at Dhaka Transport Corporation Authority (DTCA)

January 2015- February 2015

RELEVANT PUBLICATIONS

Shams, A., Zlatkovic, M., (2020). Effects of Capacity and Transit Improvements on Traffic and Transit Operations *Transportation Planning and Technology*, 43:6, 602-619, DOI: 10.1080/03081060.2020.1780710 [Journal]

Shams, A., Zlatkovic, M., (2019). Platoon Signal Priority in Connected-Autonomous Vehicle Environments: Algorithm Development and Testing *Put I Saobraćaj*, 65(4), 1-9. <https://doi.org/10.31075/PIS.65.04.01> [Journal]

Shams, A., and Day, C.M. (2021) Impact of Sensing Range on Real-Time Adaptive Control of Signalized Intersections Using Vehicle Trajectory Information *Proceedings of the 100th Transportation Research Board Annual Meeting* 2021.