Bahar D Viniche

BaharViniche.com | bahardv@yorku.ca | Linkedin.com/bahardv |+1 647-213-4474

Summary

I am a PhD candidate in Transportation Engineering and Management at York University and a researcher in the Interactive-OR Lab. I work under the supervision of Mehdi Nourinejad at the Lassonde School of Engineering, York University and Opher Baron and Oded Berman at the Rotman School of Management, University of Toronto. My research focuses on advancing data-driven decision-making in supply chain management and logistics, developing sustainable multi-echelon last-mile delivery solutions. I explore the integration of novel delivery technologies to improve delivery efficiency. This work combines methodologies from operations research and transportation engineering to address real-world challenges in urban logistics.

Education

Phd in Transportation Engineering — Toronto, Canada
York University and Rotman School of Management, University of Toronto — *Jan 2021 – Current*

Thesis: Design of multi-echelon last-mile delivery systems. Supervisors: Dr. Mehdi Nourinejad, Dr. Opher Baron, Dr. Oded Berman

Researcer at Interactive-OR lab: Focusing on interactive last-mile logistics platforms using data analysis, ML, and Operations Research.

Courses: Intelligent Transportation System, Information Networks, Transportation Network Modelling, Supply Chain Logistics, Supply Chain Operations, Supply Chain Planning.

MSc in Air Transportation — Tehran, Iran
Sharif University of Technology — *Sep 2016 – Dec 2018*

Thesis: Airline Development Model based on Sub-Systems Dependencies. Graduated with Distinction. (Thesis Grade: Excellent)

Courses: Game Theory, System Dynamics, Optimal Control, Advanced Math, Advanced Concepts of Design, Advanced Auto Control.

B.S.c in Aerospace Enginering — Tehran, Iran
Sharif University of Technology — *Sep 2011 – Dec 2015*

Graduated with Distinction (Thesis Grade: Excellent)

Courses: Probability and Statistics, Computational Mathematics, Engineering Math, Differential Equations and Dynamical Systems, Automatic Control, Control System Lab, Electrical Systems, Structural Analysis, CAD, Programming (C++).

Publications and Presentations

Journal Publications

Recipient-Dependent Last-Mile Delivery Routing With Autonomous Vehicle Applications.
Bahar D Viniche, Mehdi Nourinejad, Opher Baron, Oded Berman. *Major Revision at Transportation Science Journal*

Parametric Design of Time-Sensitive Routing With Recipient-Dependent Contributions.
Bahar D Viniche, Mehdi Nourinejad, Opher Baron, Oded Berman. *Major Revision at Transportation Research: Part C Journal*

Tactical Routing and Fleet Planning in Drone-Assisted Last-Mile Delivery.
Bahar D Viniche, Mehdi Nourinejad, Opher Baron, Oded Berman. *Under Review at Manufacturing & Service Operations Management Journal and M&SOM Supply Chain Management SIG*

Evaluating Drone-Delivery Efficiency in Different Urban Settings Using GNNs.
Bahar D Viniche, Mehdi Nourinejad, Opher Baron. *Working Paper*

Equitable Territory Planning for Last-Mile Routing with Temporal Flexibility
Bahar D Viniche, Ahana Malhorta, Elkafi Hassini, Mehdi Nourinejad. *Working Paper*

Conference Presentations

Strategic Fleet Composition and Efficiency Prediction for Drone-Enabled Last-Mile Delivery.
INFORMS Annual Meeting, 2024, Seattle, US

Tactical Fleet Planning in Drone Enabled Deliveries and Predicting Drone Delivery Efficiency in Urban Areas using GNNs.
Purdue Operations Conference, 2024, West Lafayette, US

Autonomous Vehicle Applications in Recipient-Dependent Deliveries.
Canadian Operational Research Society (CORS), 2023, Montreal, Canada

Tactical Fleet Planning in Drone-Enabled Deliveries.
INFORMS Annual Meeting, 2023, Pheonix, US

Fleet Composition Optimization in Drone Enabled Deliveries.
102nd Annual meeting of Transportation Research Board (TRB), 2023, Washington D.C., US

Fleet Composition Optimization in Drone Enabled Deliveries.
Canadian Operational Research Society (CORS), 2022, Vancouver, Canada

Airline Dynamic Modeling for Uniform Development Based on Sub-Systems Dependencies.
Third Annual Workshop on System Dynamics in Transportation Modelling, 2020, Palermo, Italy

Honors and Awards

Women in Transportation Graduate Student Award — Toronto, Canada
WTS (Women in Transportation)-Toronto Area Chapter — *2023*

Graduate Representative - *The Learning Curriculum and Students (LCS) Committee* — Toronto, Canada
Lassonde School of Engineering, York Unviersiry — *2023 – 2024*

Graduate Representative - Equity, Diversity, and Inclusion (EDI) Subcommittee — Toronto, Canada
York University — *2021 – 2022*

Academic Excellent Award — Toronto, Canada
York University Faculty of Graduate Studies — *2021 - 2024*

Ranked 23rd among more than 5,000 participants — Tehran, Iran
Aerospace Engineering Graduate University Entrance Exam — *2016*

Ranked top 0.1% among more than 400,000 participants — Tehran, Iran
National University Entrance Exam — *2011*

Teaching Experience

Teaching Assistant at York University, Lassonde School of Engineering — 2021 – 2024
Capstone Design Project, Project Management, Civil Engineering Design Project, Material and Design, Mysteries of Everyday Materials, Space Weather and Life on Earth, Traffic Simulation Modelling. — *Toronto, Canada*

Teaching Assistant at Graduate School of Business and Management, Sharif University of Technology — 2017 – 2018
System Dynamics (Graduate Course). — *Tehran, Iran*

Teaching Assistant at Sharif University of Technology, Mechanics and Aerospace Engineering — 2015 – 2018
CAD, Aircraft Performance (Graduate Course), Mechanics of Material. — *Tehran, Iran*

Volunteer Tutor at Yarigaran Group — 2011 – 2013
Providing free education to students from underserved families. — *Tehran, Iran*

Industry Experience

Research and Development Engineer — Aug 2019 – Jul 2020
Sepehran Airline (FlySepehran) — *Tehran, Iran*

•Conducted research on airline cost management, focusing on optimizing maintenance department expenses. •Using Matlab for cost analysis and statistical modeling. •Contributed to a major project on airline reliability, utilizing data-driven approaches to identify cost-saving opportunities. •Analyzed airline operations through statistical modeling and optimization techniques, developing insights for sustainable growth and long-term operational improvements.

Aviation Intern — Jun 2014 – Aug 2014
Isfahan International Airport — *Isfahan, Iran*

•Analyzed operational workflows to understand the logistical challenges and decision-making processes in time-sensitive transportation environments. •Gained firsthand experience in the high-speed operations of the control tower.

Technical Skills

Programming Languages and Softeares: Python, Gurobi, Matlab, Wolfram Mathematica, JavaScript, HTML, CPLEX, Stata, LATEX, AnyLogic, PowerBI, Vensim, Vissim, ArcGIS.

Service Records

Session Chair — Oct 2023
2023 INFORMS Annual Meeting — *Pheonix, US*

Moderator and Presenter in CLUE Symposium — Jan 2022 – Current
City Logistics and Urban Economics (CLUE) — *Toronto, Canada*

Session Chair — Jun 2023
2023 Canadian Operation Research Conference (CORS) — *Montreal, Canada*

Mentor in the Hack ITE York University — Feb 2022
Institute of Transportation Engineers - York University Student Chapter — *Toronto, Canada*

CLUE Research-in-Progress Monthly Cafe — Jan 2022 – Jan 2024
City Logistics and Urban Economics (CLUE) — *Toronto, Canada*

SFC Graduate Research Assistance — Jan 2021 – Current
Smart Freight Center — *Toronto, Canada*

Central Council Member of Sharif University Mountaineering Group — Sep 2011 – Aug 2016
Sharif University of Technology — *Tehran, Iran*

Extracurricular Interests

Reading: Avid reader. INFORMS book club and WORMS book club member.

Climing and Hiking: Certified mountaineer and rock climber (top-rope).

Music: Playing Piano and Harmonica.