

Bahar Viniche

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ACADEMIC APPOINTMENT

Postdoctoral Fellow in Operations Management

Rotman School of Management, University of Toronto

Research: Mobile Automated External Defibrillators (AED) Network Design Using Ride-Hailing Platforms.

Working with Prof. Sheng Liu and Prof. Nooshin Salari.

Toronto, Canada

September 2025 - Current

EDUCATION

PhD in Transportation Engineering and Management

York University and Rotman School of Management, University of Toronto

Thesis: Parametric Design of Multi-Echelon Last-Mile Delivery Systems Using Emerging Technologies.

Nominated for the Best Thesis Award in Transportation Engineering and Management.

Supervisors: Prof. Mehdi Nourinejad, Prof. Opher Baron, Prof. Oded Berman.

Researcher at Interactive-OR lab: Interactive last-mile logistics platforms using data analysis, ML, and Operations Research.

Toronto, Canada

2021 – 2025

MSc in Air Transportation

Sharif University of Technology

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

Tehran, Iran

2016 – 2018

B.S.c in Aerospace Engineering

Sharif University of Technology

Graduated with Distinction (Thesis Grade: Excellent)

Tehran, Iran

2011 – 2015

PUBLICATIONS AND PRESENTATIONS

Journal Publications

Let AEDs Move: Urban Mobility Enhanced Defibrillator Deployment with Evidence from New York City and Toronto

Bahar D Viniche, Sheng Liu, Nooshin Salari. *Working Paper*

Tactical Routing and Fleet Planning in Drone-Assisted Last-Mile Delivery.

Bahar D Viniche, Mehdi Nourinejad, Opher Baron, Oded Berman. *Under Review at Operations Research Journal*

Parametric Design of Time-Sensitive Routing With Recipient-Dependent Contributions.

Bahar D Viniche, Mehdi Nourinejad, Opher Baron, Oded Berman. *Published at Transportation Research: Part C Journal*

Recipient-Dependent Last-Mile Delivery Routing With Autonomous Vehicle Applications.

Bahar D Viniche, Mehdi Nourinejad, Opher Baron, Oded Berman. *Under Review at Transportation Research: Part E Journal*

Equitable Territory Planning for Last-Mile Routing with Temporal Flexibility

Bahar D Viniche, Ahana Malhorta, Elkaifi Hassini, Mehdi Nourinejad. *Working Paper*

Evaluating Drone-Delivery Efficiency in Different Urban Settings Using GNNs.

Bahar D Viniche, Mehdi Nourinejad, Opher Baron. *Working Paper*

Conference Presentations

Mobile Automated External Defibrillators (AED) Network Design Using Ride-Hailing Platforms

Canadian Operational Research Society (CORS) Conference, 2026, Kingston, Canada

Tactical Routing and Fleet Planning in Drone-Assisted Last-Mile Delivery

MSOM Conference, 2025, London, UK

Evaluating Drone-Delivery Efficiency in Different Urban Settings Using Graph Neural Networks (GNNs)

18th INFORMS Computing Society (ICS) Conference, 2025, Toronto, Canada

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) Conference, 2023, Montreal, Canada

Tactical Fleet Planning in Drone-Enabled Deliveries.

INFORMS Annual Meeting, 2023, Phoenix, 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) Conference, 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

TEACHING EXPERIENCE

Instructor at Rotman School of Management

Scheduled Instructor, Operations Management, Rotman Commerce

Fall 2026

University of Toronto

Teaching Assistant at Rotman School of Management

*Statistics for Management, Tools for Probabilistic Models and Prescriptive Analytics (MMA),
Business Operations Executive MBA (EMBA) Program*

2025 – 2026

University of Toronto

Teaching Assistant at Lassonde School of Engineering

Teaching Assistant Excellence Award in Civil Engineering

*Capstone Design Project, Project Management, Civil Engineering Design Project, Material and Design,
Mysteries of Everyday Materials, Traffic Simulation Modelling.*

2021 – 2025

York University

Teaching Assistant at Graduate School of Business and Management

System Dynamics (Graduate Course).

2017 – 2018

Sharif University of Technology

Teaching Assistant at Mechanics and Aerospace Engineering Departments

CAD, Aircraft Performance (Graduate Course), Mechanics of Materials.

2015 – 2018

Sharif University of Technology

Volunteer Tutor at Yarigaran Group

Providing free education to students from underserved families.

2011 – 2013

Sharif University of Technology

INDUSTRY EXPERIENCE

Research and Development Engineer

Sepehran Airline (FlySepehran)

Aug 2019 – Jul 2020

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

Isfahan International Airport

Jun 2014 – Aug 2014

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.

HONORS AND AWARDS

MDAL Research Grant <i>Rotman School of Management, University of Toronto</i>	Toronto, Canada 2026
Best Dissertation Prize Nomination <i>Lassonde School of Engineering, York University</i>	Toronto, Canada 2025
Teaching Assistant Excellence Award in Civil Engineering <i>Lassonde School of Engineering, York University</i>	Toronto, Canada 2025
Women in Transportation Graduate Student Award <i>WTS Women in Transportation Society</i>	Toronto, Canada 2023
Graduate Representative - <i>The Learning Curriculum and Students (LCS) Committee</i> <i>Lassonde School of Engineering, York University</i>	Toronto, Canada 2023 – 2024
Graduate Representative - Equity, Diversity, and Inclusion (EDI) Subcommittee <i>York University</i>	Toronto, Canada 2021 – 2022
Academic Excellent Award <i>York University Faculty of Graduate Studies</i>	Toronto, Canada 2021 - 2025

SELECTED PROJECTS

Equitable Territory Planning for Last-Mile Routing <i>Project Lead in Academic–Industry Collaboration with Purolator</i> Developed a strategic territory-planning framework balancing delivery efficiency, driver workload equity, and route familiarity using Purolator operational data. Conducted in collaboration with Smart Freight Centre (SFC) and DeGroote School of Business at McMaster University; results presented at the Purolator Innovation Showcase and SFC Symposium.	Toronto, Canada 2024
Drone Sidekick – Drone-Assisted Routing and Fleet Planning Tool <i>Interactive Decision-Support Tool</i> Designed analytical models for optimal truck-and-drone fleet composition and co-developed an interactive web-based platform enabling scenario analysis on real urban networks, bridging theoretical optimization with deployable logistics planning.	Toronto, Canada 2023
Multimodal Transit Improvement <i>Teaching Assistant and Project Lead</i> Advised and led a two-semester capstone design project with a 10-student team focused on improving multimodal transit in Southeast Toronto. Guided traffic simulation using VISSIM and ensured technically rigorous, practice-oriented final deliverables.	Toronto, Canada 2022
ET3 – Estimated Travel Time Tool (Vision Zero) <i>Project Manager in Academic–Industry Collaboration for Public-Sector Deployment</i> Led the development and deployment of the ET3 tool for travel-time estimation under varying speed limits, supporting road-safety analysis and public engagement for the City of Waterloo. Coordinated analytics and software teams in a joint project between York University and TraffMobility Engineering Inc.	Waterloo, Canada 2022

TECHNICAL SKILLS

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

Session Chair <i>2023 INFORMS Annual Meeting</i>	Oct 2023 Pheonix, US
Session Chair <i>2023 Canadian Operation Research Conference (CORS)</i>	Jun 2023 Montreal, Canada
Mentor in the Hack ITE York University <i>Institute of Transportation Engineers - York University Student Chapter</i>	Feb 2022 Toronto, Canada

Moderator in CLUE Symposium*City Logistics and Urban Economics (CLUE)*

Jan 2022

Toronto, Canada

CLUE Research-in-Progress Monthly Cafe*City Logistics and Urban Economics (CLUE)*

Jan 2022 – Jan 2024

Toronto, Canada

SFC Graduate Research Assistance*Smart Freight Center*

Jan 2021 – 2025

Toronto, Canada

Central Council Member of Sharif University Mountaineering Group*Sharif University of Technology*

Sep 2011 – Aug 2016

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.