

Bahar D Viniche

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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

York University and Rotman School of Management, University of Toronto

Toronto, Canada

Jan 2021 – Current

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

Researcher 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

Sharif University of Technology

Tehran, Iran

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 Engineering

Sharif University of Technology

Tehran, Iran

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. *Submitted to Transportation Research: Part C*

Tactical Fleet Planning in Drone-Enabled Deliveries.

Bahar D Viniche, Mehdi Nourinejad, Opher Baron, Oded Berman. *Ready for Submission to Production and Operation Management*

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 <i>WTS (Women in Transportation)-Toronto Area Chapter</i>	Toronto, Canada 2023
Graduate Representative - The Learning Curriculum and Students (LCS) Committee <i>Lassonde School of Engineering, York Unviersiry</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 - 2024
Ranked 23rd among more than 5,000 participants <i>Aerospace Engineering Graduate University Entrance Exam</i>	Tehran, Iran 2016
Ranked top 0.1% among more than 400,000 participants <i>National University Entrance Exam</i>	Tehran, Iran 2011

TEACHING EXPERIENCE

Teaching Assistant at York University, Lassonde School of Engineering <i>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.</i>	2021 – 2024 Toronto, Canada
Teaching Assistant at Graduate School of Business and Management, Sharif University of Technology <i>System Dynamics (Graduate Course).</i>	2017 – 2018 Tehran, Iran
Teaching Assistant at Sharif University of Technology, Mechanics and Aerospace Engineering <i>CAD, Aircraft Performance (Graduate Course), Mechanics of Material.</i>	2015 – 2018 Tehran, Iran
Volunteer Tutor at Yarigaran Group <i>Providing free education to students from underserved families.</i>	2011 – 2013 Tehran, Iran

INDUSTRY EXPERIENCE

Research and Development Engineer <i>Sepehran Airline (FlySepehran)</i>	Aug 2019 – Jul 2020 Tehran, Iran
<ul style="list-style-type: none">•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 <i>Isfahan International Airport</i>	Jun 2014 – Aug 2014 Isfahan, Iran
<ul style="list-style-type: none">•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 Softwares: Python, Gurobi, Matlab, Wolfram Mathematica, JavaScript, HTML, CPLEX, Stata, LATEX, AnyLogic, PowerBI, Vensim, Vissim, ArcGIS.

SERVICE RECORDS

Session Chair <i>2023 INFORMS Annual Meeting</i>	Oct 2023 Phoenix, US
Moderator and Presenter in CLUE Symposium <i>City Logistics and Urban Economics (CLUE)</i>	Jan 2022 – Current Toronto, Canada
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
CLUE Research-in-Progress Monthly Cafe <i>City Logistics and Urban Economics (CLUE)</i>	Jan 2022 – Jan 2024 Toronto, Canada
SFC Graduate Research Assistance <i>Smart Freight Center</i>	Jan 2021 – Current Toronto, Canada
Central Council Member of Sharif University Mountaineering Group <i>Sharif University of Technology</i>	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.