

Curriculum Vitae

EDUCATION	<p>University of British Columbia (UBC), British Columbia, Canada Sep 2023 – Present</p> <ul style="list-style-type: none"> M.Sc. in Statistical Machine Learning / GPA: 92.3/100 Thesis: <i>Analytical techniques for understanding and enhancing consumer sustainability behaviour</i> Adviser: Amir Ardestani-Jaafari <p>University of Tehran (UT), Tehran, Iran Sep 2019 – Aug 2023</p> <ul style="list-style-type: none"> B.Sc. in Engineering Science (Electrical & Computer Engineering sub-field) / GPA: 18.06/20 Thesis: <i>Dynamic analysis of information propagation in online social network: SEIR Model</i> Adviser: Ehsan Maani-Miandoab <p>National Organization for Development of Exceptional Talents, Mashad, Iran Sep 2016 – Aug 2019</p> <ul style="list-style-type: none"> High School, Mathematics and Physics / GPA: 19.73/20
TEST SCORE	<ul style="list-style-type: none"> GRE: 319/340 (Q: 167/170, V: 152/170), IELTS: 7.5
INTERESTS	Applied Machine Learning, Empirical Research, Game Theory
HONORS & AWARDS	<ul style="list-style-type: none"> Award: Awarded the CORS Diploma by the Canadian Operational Research Society CORS, 2024 Grant: Travel grant (300 CAD) CORS, 2024 Funds: Research project titled “Future of Clothing” (30,000 CAD) Mitacs & Lululemon, 2024 Funds: Fully funded graduate student (33,000 CAD/year) UBC, 2023 & 2024 Scholarship: Graduate dean’s entrance scholarship (5,000 CAD/year) UBC, 2023 & 2024 Scholarship: Global arrival scholarship (2800 CAD) Homa Scholarship, 2023 Merit-based MBA admission with full scholarship, Sharif University of Technology SUT, 2023 2nd place: among 28 Engineering Science bachelor’s students UT, 2023
RESEARCH EXPERIENCE	<p>“Made to be Remade Initiatives: Design for Reusability amid Product Innovations in a Circular Economy”.</p> <ul style="list-style-type: none"> Submitted to Production and Operations Management / Guide: Amir Ardestani-Jaafari & Shumail Mazahir Summary: Developed a model to explore how a monopolistic firm balances product reusability with innovation, analyzing effects on environmental outcomes and market dynamics. <p>“Analytical Techniques for Understanding and Enhancing Consumer Sustainability Behaviour”.</p> <ul style="list-style-type: none"> To be submitted to Journal of Operations Management/ Guide: Amir Ardestani-Jaafari & Eric li Summary: Applied machine learning (e.g., logistic regression, SVM, decision tree) and robust optimization to classify consumer groups, predict behaviors, and evaluate sustainability initiatives.
CONFERENCE PAPERS	<p>“Dynamic Analysis of Information Propagation in Online Social Network: SEIR Model”, Proceedings of CSANS 2022, Tehran, Iran. / Guide: Ehsan Maani-Miandoab</p> <p>“An Asymmetric Supercapacitor Using PANI as the Positive Electrode and Ti3C2Tx/PANI as the Negative Electrode”, Proceedings of The 11th International Conference on Science and Nanotechnology Development, 2023, Hungary. / Guide: Somayeh Mohammadi</p>
PRESENTATION	<p>“Learning Generation Z and Millennial Preferences in Sustainable Fashion Through Machine Learning”, Presented at The 65th annual Canadian Operational Research Society conference, 2024, London, ON.</p> <ul style="list-style-type: none"> Summary: This research uses machine learning (decision trees, regression, clustering) to analyze consumer behaviors & preferences for sustainability, categorizing brands and identifying key motivators. <p>“Applications of Operations Research in Wildfire Management: A Systematic Review”, Presented at International Conference on Industrial, Manufacturing, and Process Engineering, 2024, Regina, SK.</p> <ul style="list-style-type: none"> Summary: This review highlights the role of Operations Research in improving wildfire management. The analysis of 90 articles (2000-2023) indicates increasing global awareness and urgency.

SELECTED COURSES	<ul style="list-style-type: none"> ▪ Statistics and Machine Learning Deep and Reinforcement Learning (A+) Machine Learning (A) Probability & Statistics (A) Probability and Stochastic Processes (<i>Registered</i>) Advanced Statistical Modelling (<i>Registered</i>) ▪ Mathematics and Economics Linear Algebra (A+) Integer Programming (A+) Operational Research I (A+) Operational Research II (A+) Discrete Mathematics (A) Engineering Mathematics (A) Dynamical Systems (A+) Game Theory (A+) Engineering Economics (A+) Econometrics (<i>Registered</i>) 	
SKILLS	<ul style="list-style-type: none"> ▪ Programming: Python, C++, Matlab, R, ▪ Python Libraries: NumPy, Pandas, Matplotlib, Scikit-learn, TensorFlow, Pytorch, Seaborn 	
PROFESSIONAL CERTIFICATES	<ul style="list-style-type: none"> ▪ The Classical Linear Regression Model ▪ <u>Deep Learning Specialization</u> ▪ <u>Google Project Management (Course 1 & Course 2)</u> 	<p>Queen Mary University of London</p> <p>Deeplearning.AI</p> <p>Google</p>
TEACHING EXPERIENCE	<p>Teaching Assistant, UBC</p> <ul style="list-style-type: none"> ▪ Introduction to Marketing, <i>Role: Workshop instructor and marking</i> ▪ Operations Management, <i>Role: Workshop instructor</i> ▪ UBC Okanagan Global Summer Program, <i>Role: Workshop instructor</i> ▪ Marketing Strategy, <i>Role: Course support and marking</i> ▪ Operations Management, <i>Role: Workshop instructor</i> <p>Teaching Assistant, UT</p> <ul style="list-style-type: none"> ▪ Linear Algebra, <i>Role: Lab tutorial and solving problems</i> ▪ Fundamentals of Dynamical Systems, <i>Role: Final project instructor</i> ▪ Discrete Mathematics, <i>Role: Course support</i> ▪ Physics 3, <i>Role: Course support & marking</i> ▪ Fundamentals of Electrical Engineering, <i>Role: Course support</i> ▪ Professional English, <i>Role: Course support & marking</i> 	
SELECTED COURSE PROJECTS	<ul style="list-style-type: none"> ▪ Deep and Reinforcement Learning: Built an image captioning system integrating CNN for feature extraction, LSTM for generating captions, and attention mechanism for improved accuracy (Github). ▪ Machine Learning: Developed Logistic Regression, K-Nearest Neighbor, and Fully connected Neural Network to predict whether a patient needs to be intubated or not based on clinical data (Github). ▪ Integer Programming: Linearization of the Binary Quadratic Assignment Problem, Branch and Bound algorithm, Simulated Annealing, and flow optimization problems were included. (Github). ▪ Data Structures: Implemented dynamic memory allocation, matrix operations, binary search trees, depth-first traversal, and optimized algorithms using recursion and operator overloading. (Github). ▪ Advanced Programming: Developed a polymorphic messaging system in C++ managing various message types with operations like add, delete, replace, and print for message handling (Github). 	
VOLUNTEERING ACTIVITIES	<ul style="list-style-type: none"> ▪ <i>President, UBC Student Chapter, Canadian Operational Research Society</i> ▪ <i>President, Interdisciplinary Graduate Studies Student Society, UBC</i> ▪ <i>Member, Students' Guild Council, University of Tehran</i> 	<p>November 2023 - Present</p> <p>April 2024 - Present</p> <p>June 2022 - June 2023</p>
REFERENCES	<ul style="list-style-type: none"> ▪ Amir Ardestani-Jaafari, amir.ardestani@ubc.ca ▪ Eric Li, eric.li@ubc.ca ▪ Shumail Mazahir, muhammadshumail.mazahir@skema.edu ▪ Ehsan Maani-Miandoab, e.maani@ut.ac.ir 	<p>University of British Columbia</p> <p>University of British Columbia</p> <p>SKEMA Business School</p> <p>University of Tehran</p>