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Curriculum Vitae

EDUCATION

University of British Columbia (UBC), British Columbia, Canada — *Sep 2023 – Present*

- M.Sc. in Sustainability (Major: Statistical Machine Learning) / GPA: 92.3/100
  Thesis: *Assessing Customer Sustainability Behaviors in the Fashion Industry through Data Analytics*
  Adviser: Amir Ardestani-Jaafari

University of Tehran (UT), Tehran, Iran — *Sep 2019 – Aug 2023*

- B.Sc. in Engineering Science (Major: Electrical & Computer Engineering) / GPA: 18.06/20
  Thesis: *Dynamic analysis of information propagation in online social network: SEIR Model*
  Adviser: Ehsan Maani-Miandoab

National Organization for Development of Exceptional Talents, Mashad, Iran — *Sep 2016 – Aug 2019*

- High School, Mathematics and Physics / GPA: 19.73/20

TEST SCORE

- GRE: 319/340 (Q: 167/170, V: 152/170), IELTS: 7.5

RESEARCH INTERESTS

Substantive: Consumer Behaviour, Sustainability, Circular Economy, Innovation Processes.
Methodological: Machine Learning, Operations Management, Game Theory, Econometrics.

HONORS & AWARDS

- Award: Awarded the CORS Diploma by the Canadian Operational Research Society — *CORS, 2024*
- Award: Interdisciplinary Graduate Studies Entrance Award (5,000 CAD/year) — *UBC, 2023 & 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: Global arrival scholarship (2800 CAD) — *Homa Scholarship, 2023*
- Merit-based MBA admission with full scholarship, Sharif University of Technology — *SUT, 2023*
- 2^{nd} place: among 28 Engineering Science bachelor's students — *UT, 2023*

RESEARCH EXPERIENCE

"Made to be Remade Initiatives: Design for Reusability amid Product Innovations in a Circular Economy".

- Submitted to **International Journal of Production Research** / 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.

"Assessing Customer Sustainability Behaviors in the Fashion Industry through Data Analytics".

- To be submitted to **POM Journal** / Guide: Amir Ardestani-Jaafari & Eric li
- Summary: Applied machine learning and robust optimization to classify consumer groups, predict behavior, and evaluate sustainability initiatives using a survey of 300 Millennial and Gen Z participants.

CONFERENCE PAPERS

"Dynamic Analysis of Information Propagation in Online Social Network: SEIR Model", Proceedings of CSANS 2022, Tehran, Iran. / Guide: Ehsan Maani-Miandoab

"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

PRESENTATION

"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.

- Summary: Using ML to analyze consumer preferences and sustainability motivators, categorize brands.

"Applications of Operations Research in Wildfire Management: A Systematic Review", Presented at International Conference on Industrial, Manufacturing, and Process Engineering, 2024, Regina, SK.

- 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

- **Statistics and Machine Learning**

  Deep and Reinforcement Learning *(A+)* | Machine Learning *(A)* | Probability & Statistics *(A)* | Probability and Stochastic Processes *(Registered)* | Advanced Statistical Modelling *(Registered)* |

- **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 *(Registered)* |

Skills

- Programming: Python, C++, MATLAB, R Studio
- Python Libraries: NumPy, Pandas, Matplotlib, Scikit-learn, TensorFlow, PyTorch, Seaborn
- Tools: LINGO, Gurobi, Simulink, Excel, Arduino, LaTeX

Professional Certificates

- The Classical Linear Regression Model — *Queen Mary University of London*
- Deep Learning Specialization — *Deeplearning.AI*
- Econometrics: Methods and Applications — *Erasmus University Rotterdam*
- *Google Project Management* (Course 1 & Course 2) — *Google*

Teaching Experience

Teaching Assistant, UBC

- Marketing Strategy, *Role: Course support and marking* — *Winter 2024 & 2025*
- Introduction to Marketing, *Role: Workshop instructor and marking* — *Winter 2025*
- Negotiations, *Role: Course support & marking* — *Winter 2025*
- Operations Management, *Role: Workshop instructor* — *Fall 2023 & 2024*
- UBC Okanagan Global Summer Program, *Role: Workshop instructor* — *Summer 2024*

Teaching Assistant, UT

- Linear Algebra, *Role: Lab tutorial and solving problems* — *Spring 2022 & 2023*
- Fundamentals of Dynamical Systems, *Role: Final project instructor* — *Spring 2023*
- Discrete Mathematics, *Role: Course support* — *Fall 2022*
- Physics 3, *Role: Course support & marking* — *Fall 2022*
- Fundamentals of Electrical Engineering, *Role: Course support* — *Fall 2022*
- Professional English, *Role: Course support & marking* — *Fall 2022*

Selected Course Projects

- 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

- *President, UBC Student Chapter, Canadian Operational Research Society* — *November 2023 - Present*
- *President, Interdisciplinary Graduate Studies Student Society, UBC* — *April 2024 - Present*
- *Member, Students' Guild Council, University of Tehran* — *June 2022 - June 2023*

References

- **Amir Ardestani-Jaafari**, amir.ardestani@ubc.ca — University of British Columbia
- **Shumail Mazahir**, muhammadshumail.mazahir@skema.edu — SKEMA Business School
- **Ehsan Maani-Miandoab**, e.maani@ut.ac.ir — University of Tehran