Mostafa Abdolahi Moghadam Salkoye

Financial Mathematician | Quantitative Analyst | Machine Learning Engineer

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CORE COMPETENCIES

Technical Skills: Python, SQL, MATLAB, R, GAMS | Financial Modeling | Machine Learning & Deep Learning | Natural Language Processing (NLP) | Sentiment Analysis

Financial Expertise: Quantitative Portfolio Management | Robust Optimization | Risk Modeling | Derivative Pricing | Financial Modeling | Behavioral Finance

Methodologies: Time Series Analysis | Regression Analysis | Stochastic Processes Modeling | Optimization | Goal Programming | Prospect Theory

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PROFESSIONAL EXPERIENCE

Course Instructor | Wilfrid Laurier University

May 2025 – Aug 2025

- Designed and delivered *MA207 Introduction to Mathematical Software* course; developed curriculum integrating Python, MATLAB, and R for mathematical problem-solving

Jan 2024 – Apr 2024

- Taught *BU425 Business Analytics*, covering predictive modeling and data-driven decision-making for business applications

Coding Club Director | Lazaridis Business School, Wilfrid Laurier

Jan 2024 – Present

- Founded and lead coding club for Master of Management Analytics students; 30+ members
- Developed workshops on Python, SQL, and machine learning applications in finance

Research & Teaching Assistant | Wilfrid Laurier University

Jan 2022 – Present

- Conduct research on financial modeling with sentiment analysis in quantitative frameworks (PhD thesis)
- Support graduate-level courses in statistical learning, mathematical modeling, and quantitative methods
- Mentor students on machine learning applications in financial prediction and portfolio optimization

Academic Tutor | Accessible Learning Center, Wilfrid Laurier

Sep 2022 – Present

- Support 40+ students across mathematics, statistics, and quantitative courses; 95% satisfaction rating

Research Assistant | K. N. Toosi University of Technology, Tehran

Sep 2016 – Aug 2019

- Led research on two-stage and multi-period robust portfolio models incorporating behavioral finance factors
- Developed quantitative diversity index for multi-objective portfolio optimization
- Built predictive models for Pars Oil Company stock price using advanced time series methods (TAR, SETAR, STAR)

Teaching Assistant | K. N. Toosi University of Technology

Oct 2017 – Sep 2018

- Taught GAMS and MATLAB software workshops; instructed 50+ students on optimization techniques
- Delivered courses in Portfolio Management and Risk Management with focus on practical applications

Independent Equity Trader | Tehran Stock Exchange

Oct 2016 – 2021

- Managed personal portfolio; executed 500+ trades using technical and fundamental analysis
- Developed trading algorithms for market entry/exit signals

EDUCATION

Ph.D., Mathematical and Statistical Modeling | Wilfrid Laurier University, Ontario, Canada (2022–Present)

- Thesis: "Financial Modeling with News Sentiment Analysis in a Quantitative Framework"
- Advanced research in machine learning applications to financial markets

M.Sc., Industrial Engineering – Financial Systems | K. N. Toosi University of Technology, Tehran (2016–2018)

- GPA: 18.41/20 | Rank 1 in program (Top Student)
- Thesis: "Robust Dynamic Model for Optimal Portfolio Selection with Mean-Semi Absolute Deviations and Prospect Theory" (Score: 20/20)

B.Sc., Industrial Management | University of Guilan, Iran (2012–2016)

- GPA: 17.31/20

PUBLICATIONS & RESEARCH CONTRIBUTIONS

Published Articles

- Mostafa Abdolahi Moghadam et al. (2020). "A Constrained Multi-Period Robust Portfolio Model with Behavioral Factors and Interval Semi-Absolute Deviation." *Journal of Computational and Applied Mathematics*. https://doi.org/10.1016/j.cam.2020.112742

- Mostafa Abdolahi Moghadam et al. "A Two-Stage Robust Model for Portfolio Selection by Using Goal Programming." *Journal of Industrial and Systems Engineering*. http://www.jise.ir/article_76604.html

- Seyed Babak Ebrahimi & Mostafa Abdolahi Moghadam (2021). "Quantitative Diversity Index in Multi-Objective Portfolio Model." *Iranian Journal of Finance*. https://doi.org/10.30699/ijf.2021.125101

Peer Review Expertise

- International Journal of Machine Learning and Cybernetics (2024) – Portfolio selection models
- Artificial Intelligence Review (2024) – ML-based portfolio strategies

- RAIRO-Operations Research (2022) – Robust optimization methods
- Iranian Journal of Management Studies (2020) – Market segmentation techniques

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SELECTED PROJECTS & ACHIEVEMENTS

- **Machine Learning for Price Prediction:** Developed deep learning models for stock price forecasting; evaluated TAR, SETAR, STAR models for comparative accuracy
- **Robust Portfolio Optimization:** Designed multi-period portfolio models incorporating prospect theory and behavioral factors; improved risk-adjusted returns by 18%
- **Sentiment Analysis Application:** Built NLP pipeline for extracting financial sentiment from news; integrated into quantitative trading framework
- **Breast Cancer Prediction:** Applied machine learning and deep learning to medical data; achieved 96%+ classification accuracy (2022)

LANGUAGES & CERTIFICATIONS

- **English:** TOEFL IBT Score 96/120 (June 2019) – Reading: 26, Listening: 21, Speaking: 22, Writing: 27
- **Quality Management:** ISO 9001:2015 Certification (Sharif University of Technology, 2017)
- **Professional Development:** International Commercial Management Workshop (K. N. Toosi University, 2017)

ADDITIONAL INFORMATION

- **Technical Proficiency:** Advanced Python (scikit-learn, TensorFlow, PyTorch, pandas, NumPy); SQL database management; MATLAB optimization toolbox; R statistical computing; GAMS modeling; Eviews econometric analysis; Statistical packages (SPSS, Minitab, Excel)
- **Leadership:** Founded coding club, mentored 100+ students, presented at academic conferences
- **Community Engagement:** Volunteer at Classification Society annual meeting (2022); Participant, Loblaw's pitch challenge competition (Fall 2022)