

Danial Ramezani

Contact Information

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Rasht, Iran

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Education

M.Sc. in Industrial Engineering – Systems Optimization

Iran-Tehran
2022-2024

Kharazmi University

- **Thesis:** Novel Approaches for Portfolio Optimization and Index Tracking Problems Under Cardinality Constraints.
- **GPA:** (18.91/20) – (4/4)

B.Sc. in Industrial Engineering

Iran-Tehran
2016-2021

Iran University of Science and Technology

- **Thesis:** A New User-Friendly Decision-Making Website for Multi-Criteria Decision-Making for Experts and Regular Users.
 - **GPA:** (15.97/20) – (3.28/4) Last Two Years: (17.41) – (3.65)
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Research Interests

- Operations Research
 - Optimization
 - Decision Making Under Uncertainty
 - Data Mining and Machine Learning
 - Data-Driven Decision Making
 - Supply Chain and Logistics
 - Healthcare
 - Heuristics and Soft Computing
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Publications

- **Ramezani, Danial;** Abouei Ardakan, Mostafa; Dehghani Ahmadabad, Mohammadreza. "A Novel Robust Mixed Integer Linear Programming Model for Index Tracking Problem Under No Rebalancing: Heuristic Optimization Approach." *Soft Computing* – Under Review.
 - **Ramezani, Danial;** Abouei Ardakan Mostafa. "Fast-Converging and Extensive Search Strategies for Evolutionary Algorithms in Large-Scale Portfolio Optimization Under Cardinality Constraint." *Optimization and Engineering* – Under Review.
 - **Ramezani, Danial.** "Data-Driven Team Selection in Fantasy Premier League Using Integer Programming and Predictive Modeling Approach." *Operational Research* – Under Review. <https://doi.org/10.48550/arXiv.2505.02170>
 - **Ramezani, Danial;** Abouei Ardakan, Mostafa; Dehghani Ahmadabad, Mohammadreza. "Stable and Cost-Effective Tracking of the Tehran Stock Exchange Index Using Robust Optimization and a Heuristic Algorithm" *Financial Research Journal* – Under Review.
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Professional and Teaching Experiences

Research Assistant	Iran-Tehran 2023-2025
<ul style="list-style-type: none"> Assistant to <i>Dr. M. Abouei Ardakan</i>: preparing drafts and cover letters, managing submissions and editor contact, and co-reviewing research papers under supervision. 	
Teaching Assistant – Simulation and Modeling Course	Iran-Tehran 2023
<ul style="list-style-type: none"> Assistant to <i>Dr. H. Izadbakhsh</i>, coding examples, teaching Python, and organizing projects. GitHub repository related to the course: https://github.com/danialramezani/Simulation-via-python 	
Quality Control Engineer–Internship	Iran-Rasht 2021
<ul style="list-style-type: none"> ZAM-ZAM corporations. 	
<hr/> Languages	
<ul style="list-style-type: none"> English: Fluent (IELTS 7.5: Listening=8, Reading=7, Writing=7, Speaking= 7.5) 	2025
<hr/> Skills	
<ul style="list-style-type: none"> Programming Skills Python, JavaScript, Julia, GAMS Software and Libraries Pyomo, CXVPY, TensorFlow, PyTorch, LaTeX, SciPy, Scikit-learn, Statsmodels, SHAP, Microsoft Office, Weka, Minitab, React, Node.js Other skills Academic Writing, Predictive Modeling, Critical Thinking, Independent Research, Problem-Solving, Feature Engineering, Analyzing Stock (Fundamental, Technical) 	
<hr/> Related Certificates	
<ul style="list-style-type: none"> Game Theory-Stanford University 	2022
<hr/> Academic Projects and Theses	
<ul style="list-style-type: none"> Master’s Thesis. Novel fast-converging approaches for evolutionary algorithms are proposed and implemented on a Non-Dominated Sorting Genetic Algorithm (NSGA-II) for the portfolio optimization problem that can approximate better results compared to regular NSGA-II in a shorter time. In the second part, a novel, robust mixed-integer programming model and a new hybrid algorithm are proposed. This approach achieves a lower tracking error during the out-of-sample period compared to state-of-the-art formulations and outperforms commercial solvers. <i>Master’s Thesis, Dr. M. Abouei Ardakan, M. Dehghani Ahmadabad; 2024.</i> Blockchain in Agri-Food Supply Chains: Adoption, Opportunities, and Challenges. <i>Supply Chain and Logistics Course, Dr. A. H. Gholam Saryazdi; 2023.</i> Application of Clustering in Multi-Objective Pareto Fronts Using K-Means and Fuzzy C-Means. <i>Data Mining: Applications and Algorithms Course, Dr. M. V. Sebt; 2023.</i> Analyzing and Improving the Optimization Model of “Vehicle Routing Problems with Drones Considering Time Windows” (GAMS). <i>Integer Programming Course, Dr. A. Mozdgir; 2023.</i> Reliability Optimization with the Water Cycle Algorithm and Simulated Annealing. <i>Combinatorial Optimization Course, Dr. M. Abouei Ardakan; 2022.</i> Reviewing Bitcoin Queuing System. <i>Queueing Theory Course, Dr. A. Mirzazadeh; 2022</i> 	

- **A New User-Friendly Decision-Making Website for Experts and Regular Users.** Currently deployed at “[de-decision](#)” (React JS, JavaScript). *Bachelor’s Thesis, Dr. A. Makui; 2021.*
- **Jet Fan Production Design.** *Planning Industrial Units Course, Dr. M. S. Jabalameli; 2020.*
- **Reviewing Phone Use Effects on the Human Body.** *Ergonomics Course, Dr. R. Ghousi; 2020.*
- **Comparison of Common BPMS.** *System Analysis Course, Dr. M. S. Pishvaei; 2020.*
- **Analysis of Iran’s Economy.** *Macroeconomics Course, Dr. S. Mirzamohammadi; 2019.*

Self-Motivated Projects and Research

- **Generating Data for Drug Response Dataset Using Variational Autoencoder.** PyTorch; 2025.
- **Decoding Risk Factors in Heart Failure: An Explainable Approach.** PyTorch; 2025.
- **Investigating Optimizers' Impact on Deep Learning Models.** UCI Heart Disease Dataset; 2025.
- **Explaining CNN Decisions in Classifying Fashion Clothing.** FashionMNIST dataset; 2025.
- **Predicting Diabetes Using Neural Networks.** Pima Indians Diabetes dataset; 2025.
- **Application of Autoencoders in Image Processing.** Exploring autoencoder variants (denoising, compressing, generating, convolution) for MNIST digit recognition, Tensorflow; 2024.
- **A Mathematical Formulation for Pairs Trading.** Assigning optimal long-short portfolios; 2024.
- **Reinforcement Learning for Cryptocurrency Trading.** TensorFlow and Open AI gym; 2024.
- **A Machine Learning Framework for Technical Trading.** A Random Forest model predicts long/short trade success using custom features, achieving ~75% accuracy; 2024.
- **Ranking Web Development Programming Languages Using MADM Methods;** 2021.

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