Danial Ramezani

Email · LinkedIn · Website · GitHub · Google Scholar

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)

Research Interests

- **Operations Research**
- **Optimization**
- **Decision Making Under Uncertainty**
- **Artificial Intelligence**
- **Data-Driven Decision Making**
- **Supply Chain and Logistics**
- **Scheduling**
- **Heuristics and Soft Computing**

Publications

- ***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*.
- ***Ramezani, Danial****; Abouei Ardakan Mostafa.* "Large-Scale Portfolio Optimization Problem Under Cardinality Constraint With Enhanced Multi-Objective Evolutionary Algorithms." *Under Review*.
- ***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." *Under Review*.
- ***Ramezani, Danial***. "Data-Driven Team Selection in Fantasy Premier League Using Integer Programming and Predictive Modeling Approach." https://doi.org/10.48550/arXiv.2505.02170. *Under Review*.

Professional and Teaching Experiences

Research Assistant — **Iran-Tehran 2023-2025**
- Assistant to *Dr. M. Abouei Ardakan:* 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**
- Assistant to *Dr. H. Izadbakhsh*, 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**
- ZAM-ZAM corporations.

Selected Certificates

- **IELTS: 7.5** (Listening=8, Reading=7, Writing=7, Speaking= 7.5)—Date: JAN 2025
- Sequences, Time Series, and Prediction—DeepLearning.AI
- Natural Language Processing in TensorFlow—DeepLearning.AI
- Generative AI Engineering and Fine-Tuning Transformers—IBM
- Fundamentals of Reinforcement Learning—University of Alberta
- Supply Chain Logistics—Rutgers the State University of New Jersey
- Renewable Power and Electricity Systems—University of Colorado Boulder

- Game Theory—Stanford University, The University of British Columbia
- Advanced Topics in Derivative Pricing—Columbia University

Honors and Professional Service

- Peer Reviewer, Computational Economics, 2025
- Ranked in the top 1% in the national entrance exam among 162,000 candidates

Skills

Programming Skills

- Python, JavaScript, Julia, GAMS

Software and Libraries

- Pyomo, CVXPY, CPLEX, TensorFlow, PyTorch, Transformers, LaTeX, SciPy, Scikit-learn, Statsmodels, XGBoost, Numba, NumPy, Pandas, 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)

Selected Academic Projects and Theses

- **Master's Thesis.** Fast-converging, generic mechanisms are proposed for enhancing evolutionary algorithms in portfolio optimization. Also, a new mathematical formulation and a hybrid algorithm are introduced for tracking indices. The model achieves a lower tracking error than state-of-the-art models, and the algorithm outperforms exact commercial solvers. *Master's Thesis, Dr. M. Abouei Ardakan, M. Dehghani Ahmadabad; 2024.*
- **Blockchain in Agri-Food Supply Chains: Adoption, Opportunities, and Challenges.** *Supply Chain and Logistics Course, Dr. A. H. Gholam Saryazdi; 2023.*
- **Application of Clustering in Multi-Objective Pareto Fronts Using K-Means and Fuzzy C-Means.** *Data Mining: Applications and Algorithms Course, Dr. M. V. Sebt; 2023.*
- **Analyzing and Improving the Optimization Model of "Vehicle Routing Problems with Drones Considering Time Windows" (GAMS)**. *Integer Programming Course, Dr. A. Mozdgir; 2023.*
- **Reliability Optimization with the Water Cycle Algorithm and Simulated Annealing.** *Combinatorial Optimization Course, Dr. M. Abouei Ardakan; 2022.*
- **Reviewing Bitcoin Queuing System.** *Queueing Theory Course, Dr. A. Mirzazadeh; 2022*
- **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*.
- **Reviewing Phone Use Effects on the Human Body**. *Ergonomics Course, Dr. R. Ghousi; 2020.*
- **Comparison of Common BPMS.** *System Analysis Course, Dr. M. S. Pishvaee; 2020.*

Selected Self-Motivated Projects and Research

- **Fine-Tuned RoBERTa for Sentiment Analysis, Available at** HuggingFace; 2025.
- **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; 2024.
- **Ranking Web Development Programming Languages Using MADM Methods;** 2021.