Farid Hashemian

Department of Industrial Engineering
University of Arkansas
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Education

University of Arkansas — Fayetteville, AR, USA
Ph.D. in Industrial Engineering — Expected Summer 2025
M.Sc. in Computer Science — Expected Fall 2024
Advisors: Dr. Haitao Liao - Dr. Thi Hoang Ngan Le
GPA: 4.0/4.0

Sharif University of Technology — Tehran, Iran
M.Sc. in Industrial Engineering, Systems Optimization — 10/2020
Thesis Title: Analysis and Prediction of Cryptocurrency Prices Using Time Series Analysis and Machine Learning
Advisor: Dr. Seyed Taghi Akhavan Niaki
GPA: 3.65/4.0

Qom University — Qom, Iran
B.Sc. Industrial Engineering — 09/2018
GPA: 3.41/4.0

Professional Experience

- **Senior Graduate Research Assistant, 05/2022-present**
  Department of Industrial Engineering, University of Arkansas. AR, USA.

  Research focused on data-driven decision-making using data analytics, machine learning, and optimization. Worked on research projects related to Deep Learning, Machine Learning, and Data Analytics. Relevant courses include Deep Learning, Machine Learning, Data Mining, Database Management Systems, Graph and Combinatorial Algorithms, Graph Theory, Stochastic Programming. The current research includes Machine Learning, Deep Learning, and Statistical Analysis. Applications in Reliability Network Engineering, and Improving the Network Resiliency. (https://www.aisustein.com/)

- **Business Intelligence Analyst, 05/2020-11/2021**
  Fidibo, Tehran, Iran.

  Conducted data acquisition through web scraping techniques to collect pricing-related information. Employed K-Means clustering methodology for customer segmentation, utilizing RFM analysis in conjunction with other pertinent features. Create a user-friendly data visualization tool for non-technical personnel. The goal of this technology was to improve interaction and engagement within services. Proficiently executed SQL queries to extract and manipulate database data. Pioneered the integration of innovative analytical approaches, resulting in enhanced business performance metrics and heightened retention rates.

Programming and Data Analytics Expertise

- **Applications Explored** - Data Analytics and Machine Learning. Systems Reliability, Graph Convolutional Network, Deep Reinforcement Learning, Supervised Learning, Unsupervised Learning, Bayesian Optimization, Operations Analytics (Descriptive Analysis, Predictive Analysis, Prescriptive Analysis), Statistical Inference

- **Machine Learning** - SciKit Learn

- **Deep Learning** - PyTorch, Tensorflow, Keras, OpenAi-Gym

- **Coding** - Python, R, Kotlin, Visual Basic

- **Database Management** - Oracle PL/SQL, SQL Server, MySQL, PostgreSQL

- **Visualization** - MS Power BI, Tableau, Matplotlib, Seaborn

- **Optimization** - Gurobi, NLOpt

- **Simulation** - Kotlin Simulation Library (KSL)

- **Systems Reliability** - ReliaSoft: BlockSim, Weibull++

Publications

Articles in Refereed Conference Proceedings

1. Aghamohammadghasem, M., Azucena, J.C.H., **Hashemian, F.**, Liao, H.T., Zhang, S., and Nachtmann, H.L., "System Simulation and Machine Learning-Based Maintenance Optimization for an Inland Waterway Transportation System", Proceedings of the 2023 Winter Simulation Conference. San Antonio, TX. December 10-13, 2023

2. Azucena, J.C.H., **Hashemian, F.**, Liao, H.T. and Pohl, E.A., "Applying Machine Learning to Improve All-Terminal Network Reliability", Proceedings of the 69th Annual Reliability and Maintainability Symposium. Orlando, FL. January 23-26, 2023

Submitted in Refereed Conference Proceedings

1. Ruiz, C., **Hashemian, F.**, Liao, H.T., "Reliability Prediction via Accelerated Testing with Imperfectly Controlled Conditions", Proceedings of the 70th Annual Reliability and Maintainability Symposium. Albuquerque, NM. January 22-25, 2024

Teaching Experience

- **Mentor, 06/2023-07/2023**
  Research Experience for Undergraduates (REU) Program, University of Arkansas. AR, USA.
  Posters: Using Computer Vision and UAVs to map rooftop utilities (Armon Afrasiabi), Rooftop Anomaly Detection using UAV Infrared Imaging and Artificial Intelligence (Omar Qedan), Utilizing UAV Images for Infrastructure Crack Detection (Jade Easter)

- **Teaching Assistant, 01/2022-05/2020 and 06/2022-06/2022**
  Department of Industrial Engineering, University of Arkansas. AR, USA.
  Course: Engineering Economic Analysis

Presentations and Invited Talks

- **Hashemian, F.** and Liao, H.T. "An Agent-Based Diffusion Model for Solar Panel Adoption". IISE Annual Conference and Expo 2023. New Orleans, LA. May 20-23, 2023
- **Hashemian, F.**, Kheirandish, M., and Azucena, J.C.H. "Causal Inference for Predicting Treatment Outcome in Breast Cancer - DAIS Data Challenge". IISE Annual Conference and Expo 2023. New Orleans, LA. May 20-23, 2023

Awards and Honors

- **Hashemian, F.**, Kheirandish, M., and Azucena, J.C.H.(05/2023) Finalist of IISE DAIS Data Challenge: Causal Inference for Predicting Treatment Outcome in Breast Cancer. New Orleans, LA
- Azucena, J.C.H., **Hashemian, F.**, Liao, H.T. and Pohl, E.A. Society of Reliability Engineers (SRE) Stan Ofsthun Best Student Paper Award for "Applying Machine Learning to Improve All-Terminal Network Reliability". At the 69th Annual Reliability and Mantainability Symposyum. (01/2023) Orlando, FL.
- Industrial Engineering Department Scholarship (01/2023), University of Arkansas
- Margaret Gerig Martin Graduate Fellowship (08/2022), University of Arkansas
- Industrial Engineering Department Scholarship (01/2022), University of Arkansas

Research Interests

- Data Analytics
- Machine Learning
- Deep Learning and Reinforcement Learning
- Data-Driven Models
- Statistical Inference

Latest update in 08/2023.