

Farid Hashemian
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Education

University of Arkansas **Fayetteville, AR, USA**
Ph.D. in Industrial Engineering Expected Fall 2025
M.Sc. in Computer Science Expected Spring 2025
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

University of Qom **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, Systems Simulation, Input Modeling, Discrete Event Simulation
- **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

Refereed Journal Articles

1. **Hashemian, F.**, Maleki, N., and Zeinali, Y., “From User Behavior to Subscription Sales: An Insight Into E-Book Platform Leveraging Customer Segmentation and A/B Testing”. *Services Marketing Quarterly*. DOI: <https://doi.org/10.1080/15332969.2024.2313873>.

Articles in Refereed Conference Proceedings

1. Ruiz, C., **Hashemian, F.**, and 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
2. 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
3. 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

Articles Under Review

1. Rossetti, M., **Hashemian, F.**, and Aghamohammadghasem, M., “Automated Input Distribution Fitting based on Multiple Criteria for the Kotlin Simulation Library”, Submitted to the *Simulation Modelling Practice and Theory*.
2. **Hashemian, F.**, Azucena, J.C.H., Liao, H.T., and Pohl, E.A., “A Machine Learning-Based Method for Reliability Improvement of All-Terminal Networks”, Under review on the *Engineering Applications of Artificial Intelligence*.
3. Rossetti, M. D., **Hashemian, F.**, Aghamohammadghasem, M., Phan, D., and Mousavi, N. S., “Input Distribution Modeling using the Kotlin Simulation Library”, Proceedings of the 2023 Winter Simulation Conference. Orlando, FL. December 15-18, 2024

Teaching Experience

- **Mentor, 06/2023-07/2023**
Research Experience for Undergraduates (REU) Program, University of Arkansas. AR, USA.
- **Teaching Assistant, 01/2022-05/2020 and 06/2022-06/2022**
Department of Industrial Engineering, University of Arkansas. AR, USA.
Course: Engineering Economic Analysis

Leadership Experience

- **President**, INFORMS Student Chapter, University of Arkansas, 2024
- **Session Chair**, IISE Annual Conference and Expo 2023. New Orleans, LA. May 20-23, 2023

Presentations and Invited Talks

- **Hashemian, F.**, Ruiz, C., 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
- **Hashemian, F.**, Azucena, J.C.H., Liao, H.T., and Pohl, E. “Machine Learning-based Reliability Improvement of All-terminal Networks”. INFORMS Annual Meeting 2023. Phoenix, AZ. Oct 15-18, 2023
- **Hashemian, F.**, Azucena, J.C.H., Liao, H.T., and Pohl, E. “Machine Learning-based Reliability Improvement of All-terminal Networks”. The 2023 Southeast Symposium on Contemporary Engineering Topics (SSCET). Little Rock, AR. Sep 15, 2023
- **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

- Azucena, J.C.H., **Hashemian, F.**, Liao, H.T. and Pohl, E.A. Reliability and Maintainability Symposium (RAMS) Thomas L. Fagan, Jr., Third Place for Best Student Paper Award for “Applying Machine Learning to Improve All-Terminal Network Reliability”. At the 70th Annual Reliability and Maintainability Symposium. (01/2024) Albuquerque, NM.
- Society of Reliability Engineers (SRE) Hans Reiche RAMS Scholarship. At the 70th Annual Reliability and Maintainability Symposium. (01/2024) Albuquerque, NM.
- Cora E. Sanders Memorial Fund Fellowship (01/2024), University of Arkansas
- Industrial Engineering Department Fellowship (08/2023), University of Arkansas
- **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 Maintainability Symposium. (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
- Application of Deep Learning and Reinforcement Learning
- Data-Driven Modeling
- Statistical Inference

Latest update in 10/2024.