Maryam Aghamohammadghasem

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Education

University of Arkansas   **Fayetteville, AR, USA**
Ph.D. in Industrial Engineering   Aug. 2021 - Present
Cumulative GPA: 3.90

Sharif University of Technology   **Tehran, Iran**
(Sharif University is the top University in Iran)   Sep. 2014 - Oct. 2016
M.Sc. in Industrial Engineering
Thesis title: Multi-echelon multiple-vehicle location-routing the problem for optimization of the supply chain network of perishable food under uncertainty
Cumulative GPA: 3.44

Shahed University   **Tehran, Iran**
B.Sc. in Mathematics   Sep. 2009 - Oct. 2013
Cumulative GPA: 3.56

Professional Experience

- **Senior Graduate Research Assistant, Aug. 2021 - present**
  Department of Industrial Engineering, University of Arkansas. AR, USA.

  Worked on research project" A Digital Twin for Visualizing, Evaluating and Maintaining Multimodal Transportation Infrastructure", The research focused on using Data Analytics, Simulation, and Machine Learning methods to provide an open-source software tool and machine learning-based decision-making approaches that assist the relevant stakeholders in improving their information collection and tracking capabilities and enhancing the resilience of multimodal transportation infrastructure.

- **Product manager, Sep. 2015 - July 2021**
  Solico Group, Tehran, Iran
  Solico Group is the biggest FMCG company in Iran, having almost 12 factories, 35 brands, and 15000 employees. Marketing Strategist at Solico group, adept at developing and executing quarterly and annual marketing plans for multiple products, driving brand visibility and revenue growth. Utilized data-driven approaches to coordinate trade and consumer marketing activities. Demonstrated expertise in sales forecasting, strategic planning, and market trend analysis to ensure consistent product sales and profitability. Implemented successful 360-degree marketing campaigns across various channels and skillfully determined product pricing through market research data analysis.

Teaching Experience

- **Teaching Assistant, 08/2023-12/2023**
  Department of Industrial Engineering, University of Arkansas. AR, USA.
  Course: Statistics and Intro to Operation Research

Programming and Data Analytics Expertise

- **Machine Learning** - SciKit Learn, XGBoost, H2O
- **Deep Learning** - PyTorch, Tensorflow, OpenAi-Gym
- **Coding/simulation** - Python, R, Kotlin, L^{A}T$_E$X, Gurobi, C++, NetLogo, JSL, AMPL
- **Database Management** - Oracle PL/SQL
- **Systems Reliability** - ReliaSoft: BlockSim, Weibull++

Publications

Submitted 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., 2023

2. **Aghamohammadghasem, M.**, Azucena, J.C.H., Liao, H.T., Zhang, S., and Nachtmann, H.L., "Preventive Maintenance Planning for an Inland Waterway Transportation System Using Deep Reinforcement Learning," Proceedings of the IISE Annual Conference and Expo 2023. New Orleans, LA., May 2023

Presentations and Invited Talks

1. **Aghamohammadghasem, M.**, Azucena, J.C.H., 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 Winter Simulation. San Antonio, TX. Dec 2023

2. **Aghamohammadghasem, M.**, Azucena, J.C.H., Liao, H.T., Zhang, S., and Nachtmann, H.L., "Maintenance Optimization of Inland Waterway Transportation System via Simulation and Machine Learning", Proceedings of the INFORMS. Phoenix, AZ. Oct 2023 (Please see the abstract here)

3. **Aghamohammadghasem, M.**, Azucena, J.C.H., Liao, H.T., Zhang, S., and Nachtmann, H.L., "Preventive Maintenance Planning for an Inland Waterway Transportation System Using Deep Reinforcement Learning," Proceedings of the IISE Annual Conference and Expo 2023. New Orleans, LA. May 2023 (Please see the paper here)

4. **Aghamohammadghasem, M.**, Azucena, J.C.H., Liao, H.T., Zhang, S., and Nachtmann, H.L., "Mixed-integer programming for improving the resilience of an inland waterway transportation system," Proceedings of the IISE Annual Conference and Expo 2022. Seattle, WA., May 2022

Leadership and Professional Services

- **Chapter Representative**, Society of Women Engineer (SWE), University of Arkansas, 2023
- **Mentor**, NSF REU program on campus focused on the use of drone and artificial intelligence for risk assessment of facilities (especially inspection of roofs with pipelines, AC, cables, etc.), University of Arkansas, summer 2023
- **Session Chair**, IISE annual meeting, May 2023

Selected Coursework

Machine Learning, Deep Learning, Introduction to Optimization, Engineering Statistics, Advanced Stochastic Processes, Computational Statistics, Reliability, System Simulation, Database Management System Design, Algorithms

Awards and Honors

- Industrial Engineering Department Scholarship, University of Arkansas, 2022 and 2023
- College of Engineering Scholarship, Sharif University of Technology
- Ranked 21st in the national entrance exam for the MSc program (among 15,000 participants), 2014
- Ranked 1st in the BSc program, 2013

The latest update is in 12/2023.