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 Data Scientist-Intern, Jun. 2024 - Aug. 2024**
  Walmart, Bentonville, AR, USA
  Job Description: Build Spark Driver Pricing Reinforcement Learning Production System to recommendthe optimal base price, surge price, and incentive to achieve cost savings without impacting the customer experience.
- **Senior Graduate Research Assistant, Aug. 2021 - present**
  Department of Industrial Engineering, University of Arkansas. AR, USA.
  Research project: "A Digital Twin for Visualizing, Evaluating and Maintaining Multi-modal 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

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, LaTeX, Gurobi, C++,NetLogo, JSL, AMPL
- **Database Management** - Oracle PL/SQL
- **Systems Reliability** - ReliaSoft: BlockSim, Weibull++

Publications

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
3. Rossetti, M., Hashmian, F., **Aghamohammadghasem, M.**, Phan, Danh, and Mousavi, N. "1input distribution modeling using the Kotlin simulation library", Proceedings of the 2024 Winter Simulation Conference. Orlando, Florida, 2024. (submitted)

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

- **Reviewer** , Winter simulation conference, May 2024

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

- 2024 IISE John L Imhoff Scholarship
- AAIE Martha Wolf Scholarship, 2024
- AAIE Kim and William Needy Scholarship, 2024
- Douglas Marek Memorial Scholarship, 2024
- 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

`Latest update in 07/2024.`