MARYAM ALIMOHAMMADI

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4124 Bell Engineering Center, University of Arkansas

Fayetteville, Arkansas, 72701

EDUCATION

University of Arkansas, Fayetteville, Arkansas *Expected 2022*
Ph.D. in Industrial Engineering
(GPA: 4.0/4.0)

Sharif University of Technology, Tehran, Iran *2017*
M.Sc. in Industrial Engineering
(GPA: 3.83/4.0)

Sharif University of Technology, Tehran, Iran *2015*
B.Sc. in Industrial Engineering
(GPA: 3.53/4.0)

RESEARCH INTERESTS

Methodology

· Stochastic Processes, Markov Decision Process, Machine Learning, Reinforcement Learning, Temporal Analysis

Application

· Medical Decision Making, Health Analytics, Health Systems Engineering

ACADEMIC EXPERIENCE

Teaching Experience

Instructor of Applied Probability and Statistics for Engineers I. *Summer 2020*
(4.31/5.0 with 97% participation)
University of Arkansas

Teaching Assistant for Applied Probability and Statistics for Engineers I. *Summer 2018*
University of Arkansas

Teaching Assistant for Plant Layout Design. *Spring and Fall 2015*
Sharif University of Technology

Teaching Assistant for Management Information System. *Spring 2015*
Sharif University of Technology

Teaching Assistant for Computer Information System. *Fall 2015*
Sharif University of Technology

Research Experience

Research Assistant, University of Arkansas *2017-present*

Research Mentor, University of Arkansas *2020-present*
Mentored a Masters student's research in pediatric sepsis prediction.

HONORS AND AWARDS

- **Gilbreth Memorial Fellowship**, Institute of Industrial and Systems Engineers *2021*

- **John F. Fargher Scholarship**, Institute of Industrial and Systems Engineers *2020*

- **AAIE Taha Family Scholarship**, University of Arkansas. *2021*

- **AAIE Kim and William Needy Scholarship**, University of Arkansas. *2021*

- **AAIE G. Kent Burnett Scholarship**, University of Arkansas. *2020*

- **AAIE John and Mary Lib White Scholarship** University of Arkansas. *2020*

- **AAIE Gary W. and Lana Taber Hunt Scholarship** University of Arkansas. *2020*

- **Graduate Academic Award**, Department of Industrial Engineering,
University of Arkansas. *2019*

PUBLICATIONS AND PRESENTATIONS

Peer-reviewed papers

- Zhang, M., Specking, E., **Alimohammadi, M.**, Boykin, A., Bell, S., Schubert, K., Davis, S. "Establishing a Research Experience for Teachers Site to Enhance Data Analytics Curriculum in Secondary STEM Education." In *2021 ASEE Midwest Conference*

- **Alimohammadi, M.**, Madadi, M., Zhang, S., Nachtmann, H. "Predicting Outcomes of COPD Patients Receiving Mechanical Ventilation in ICU." Under review at *Health Care Management Science*

- **Alimohammadi, M.**, Zhang, S., Chaovalitwongse, W. "Utilizing Clinical Trial Data to Assess Timing of Surgical Treatment for Emphysema Patients", Under review at *Medical Decision Making*

Working Papers

- **Alimohammadi, M.**, Zhang, S. "Predicting the Outcome and Overuse of Invasive Mechanical Ventilation in ICU."

- **Alimohammadi, M.**, Zhang, S. "Clustering Optimization to Determine the Optimal Time-window Size in Temporal Clinical Data."

- **Alimohammadi, M.**, Zhang, S. "Representational Learning in Transactional Health Data and Electronic Health Records."

Invited Presentations

- **Alimohammadi, M.**, Zhang, S. "Prediction of Mechanical Ventilation Outcome in Intensive Care Units Using Modified Recurrent Neural Network." 2021 INFORMS Annual Meeting, Anneheim.

- **Alimohammadi, M.**, Zhang, S., Madadi, M. "Ventilation Use in Intensive Care Unit for Patients with COPD." 2020 INFORMS Annual Meeting, Virtual.

- **Alimohammadi, M.**, Zhang, S., Chaovalitwongse, W. "Optimal Treatment Strategy for Patients With Severe Emphysema." 2019 INFORMS Annual Meeting, Seattle.

- **Alimohammadi, M.**, Zhang, S., Chaovalitwongse, W. "Decision Analytic for Emphysema Treatment." 2018 INFORMS Annual Meeting, Phoenix.

Poster Presentations

- **Alimohammadi, M.**, Zhang, S. "Predicting the Outcome and Overuse of Invasive Mechanical Ventilation in the Intensive Care Unit." INFORMS Annual Meeting, Anneheim, 2021.

PROPOSAL PREPARATIONS

- Facilitated the development of proposal "AI-Enabled Prediction for Early Detection of Sepsis among Hospitalized Pediatric Patients submitted to Agency for Healthcare Research and Quality (AHRQ R03HS027900).

- Facilitated the development of project description for "Harnessing Transaction Data through Feature Engineering" as part of the proposal "RII Track-1: Data Analytics that are Robust and Trusted (DART): From Smart Curation to Socially Aware Decision Making" funded by the National Science Foundation (Award #: 1946391)

SERVICE

Reviewer for *Health Systems*, and *Decision Analysis*   *2020-Present*

Conference session chair at 2021 INFORMS Annual Meeting   *2021*
   Session title: Predictive Analytics towards Improved Health Outcomes

President of the INFORMS student chapter at the University of Arkansas   *2021-Present*

Vice president of the INFORMS student chapter at the University of Arkansas   *2020-2021*
   The Chapter received an Honorable Mention for the INFORMS 2020
   Student Chapter Annual Award.

Secretary of the INFORMS student chapter at the University of Arkansas   *2019-2020*

Vice president of the IE Newsletter at the Sharif University of Technology   *2011- 2012*

PROFESSIONAL AFFILIATION

Member of Institute for Operations Research and the Management Sciences (INFORMS)

Member of Institute of Industrial and Systems Engineers (IISE)

Member of Alpha Phi Mu, Tau Beta Pi honor societies

COMPUTER SKILLS

Programming Languages: R, Python, C#, MATLAB

Database Management: SQL (PostgreSQL, MySQL)

Optimization Tools: CPLEX, Lingo, GAMS, AMPL

REFERENCES

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