

# Saeideh Mirghorbani

Charles E. Scheidt Faculty Fellow in Atrocity Prevention

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<b>Academic Positions</b>	Assistant Professor, Business Analytics and Operations Binghamton University (SUNY), Binghamton, NY	Fall 2018-Present
<b>Education</b>	<i>Ph.D., Operations Management</i> The University of Alabama, Tuscaloosa, AL Dissertation Title: Medical Decision Making in Patients with Chronic Diseases Advisors: Dr. Sharif Melouk and Dr. John Mittenthal	2014-2018
	<i>M.S., Production Management</i> Allameh Tabatabaee University, Tehran, Iran	2009-2011
	<i>B.S., in Industrial Management</i> Allameh Tabatabaee University, Tehran, Iran	2005-2009
<b>Research Interests</b>	Applied operations research in healthcare systems and social justice, stochastic models, neural networks, machine learning, natural language processing, Large language models	
<b>Journal Publications</b>	<ul style="list-style-type: none"><li>• <b>Mirghorbani, S.</b>, S. Melouk, and J. Mittenthal. 2021. The effect of adherence on antihypertensive therapy plans in patients with type 2 diabetes. <i>IIEE Transactions on Healthcare System Engineering</i>, <a href="https://doi.org/10.1080/24725579.2021.1879321">https://doi.org/10.1080/24725579.2021.1879321</a></li><li>– This paper was featured in the summer 2021 issue of the ISE Magazine.</li><li>• <b>Mirghorbani, S.</b>, S. Melouk, and J. Mittenthal. The impact of patient adherence on treatment costs. Under the second round of review in <i>IIEE Transaction</i>.</li><li>• <b>Mirghorbani, S.</b>, S. Derhami. Food insecurity prevention: from higher education to racial fairness. Under the first round of review in <i>Manufacturing &amp; Service Operations Management</i>.</li><li>• <b>Mirghorbani, S.</b>, S. Melouk, and J. Mittenthal. Using partially observable Markov Decision Processes to improve Alzheimer’s disease screening. Under the first round of review in <i>OMEGA</i>.</li></ul>	
<b>Conference Proceedings</b>	<ul style="list-style-type: none"><li>• <b>Mirghorbani, S.</b>, J. Wan, E. Wu, and C. Cheng. Model predictive control in optimal intervention of COVID-19 with mixed epistemic-aleatoric uncertainty. 2023 Winter Simulation Conference.</li></ul>	
<b>Grants &amp; Working Papers</b>	<ul style="list-style-type: none"><li>• A Deep Learning Approach to Predicting Mass Shootings: Analyzing Structured Data and Public Records. Working paper.</li><li>• Equitable food insecurity prediction using machine learning. In collaboration with S. Derhami. Role: PI.</li></ul>	

## Honors & Awards & Certificates

- Data-driven epidemiological processes identification for effective policy design. NSF DCSD program, Investigators: **S. Mirghorbani**, N. Wu. Role: Co-PI.
- Selected by POETS & QUANTS as Top 50 Undergraduate Business School Professors in 2021.
- Charles E. Scheidt Faculty Fellow in Atrocity Prevention, 2020 - present, Binghamton University, Binghamton, NY.
- SUNY Binghamton Teaching Honor Roll, 2019, 2020, 2021, & 2022.
- Teaching Online Certificate, Fall 2019, Binghamton University, Binghamton, NY.
- International Travel Grant, June 2017, \$2300, The University of Alabama, Tuscaloosa, AL.
- Summer Excellence in Research (SEiR) Grant, 2016, \$5000, Culverhouse College of Commerce & Business Administration, The University of Alabama, Tuscaloosa, AL.
- Student Fellowship, Master's Degree Program, Production Management, 2009, Allameh Tabatabaie University, Tehran, Iran.
- Student Fellowship, Bachelor's Degree Program, Industrial Management, 2005, Allameh Tabatabaie University, Tehran, Iran.

## Conferences & Presentations

Panelist at Frontiers of Prevention Conference, Institute for Genocide and Mass Atrocity Prevention, 2023, Binghamton, NY

**Mirghorbani, S.**, S. Melouk, J. Mittenthal. The impact of patient adherence on treatment costs.

- INFORMS Annual Meeting 2022, Indianapolis, IN.

**Mirghorbani, S.**, S. Melouk, and J. Mittenthal. Using Partially Observable Markov Decision Processes to Improve Alzheimer's Disease Screening.

- Center for Collective Dynamics of Complex Systems at Binghamton University (CoCo), 2019, Binghamton, NY.
- INFORMS Annual Meeting 2019, Seattle, WA.
- POMS Annual Meeting 2019, Washington D.C.

**Mirghorbani, S.**, S. Melouk, J. Mittenthal. The Effect of Adherence on the Anti-Hypertensive Therapy Plans in Patients with Diabetes.

- POMS Annual Meeting 2018, Houston, TX.
- DSI Annual Meeting 2017, Washington, D.C.
- INFORMS Annual Meeting 2017, Houston, TX.

**Mirghorbani, S.**, S. Melouk, J. Mittenthal. Anti-hypertensive Therapy Plan for Patients with Diabetes.

- INFORMS Healthcare 2017 Conference. Rotterdam, Netherlands.

**Mirghorbani, S.**, S. Melouk, J. Mittenthal. Optimal Statin Therapy Plan For Diabetic Patients.

- INFORMS Annual Meeting 2016, Nashville, TN.

## Social Media & News Coverage

- Featured in Forbes.com, Jan 2021. New vaccine supply and distribution problems slow fight against COVID-19. [Article link](#)
- Featured in Binghamton University Magazine, Fall 2020. What's next? Binghamton University School of Management faculty make predictions about the post-COVID world. [Article link](#)

## Teaching Experience

### *Instructor*

Binghamton University (SUNY), Binghamton, NY

Fall 2018 - Present

- SCM 560 - Decision Modeling & Risk Analysis
- MGMT 507 - Operations Management
- SCM 360 - Spreadsheet Modeling & Decision Making
- SCM 375 - Applied Models Operations Management

The University of Alabama, Tuscaloosa, AL

Fall 2016 & Summer 2017

- OM 300 - Introduction to Operations Management

## Workshops

- Proposal Writing Workshop, Fall 2020, Binghamton University, Binghamton, NY.
- Data-driven Approaches to the Humanities, Spring 2019, Binghamton University, Binghamton, NY.
- INFORMS Annual Meeting New Faculty Colloquium, Fall 2018, Phoenix, AZ.
- Conducted Python Workshop, Spring 2018, The University of Alabama, Tuscaloosa, AL.
- Organized R Workshop, Fall 2017, The University of Alabama, Tuscaloosa, AL.
- Conducted "L<sup>A</sup>T<sub>E</sub>X" Workshop, Fall 2016, The University of Alabama, Tuscaloosa, AL.
- INFORMS Annual Meeting Doctoral Students Colloquium. Fall 2016. Nashville, TN.

## Service & Leadership

### *Stage Participant*

- Commencement 2019, 2021 & 2023

### *Mentor*

- Women in OR/MS (WORMS) mentorship program

Fall 2019 - Present

### *Committee Member*

- Undergraduate Curriculum Committee
- University Testing Center Committee

Fall 2018 - Present

Fall 2021 - Present

### *Session Chair*

- INFORMS Annual Meeting

2017

### *INFORMS Student Chapter, The University of Alabama*

- President
- Won INFORMS Cum Laude award in 2018
- Secretary

Summer 2017 - Spring 2018

Fall 2016

### *Iranian Student Association, The University of Alabama*

- Secretary

Fall 2016 - Fall 2017

	<i>Ad-hoc Referee</i>	
	<ul style="list-style-type: none"> <li>• International Journal of Environmental Research and Public Health</li> <li>• International Journal of Production Economics</li> <li>• Journal of the Operational Research Society</li> </ul>	
<b>Professional Society Memberships</b>	<i>Institute for Operations Research and the Management Sciences (INFORMS)</i>	
	<ul style="list-style-type: none"> <li>• Health Applications Society</li> <li>• Optimization Society</li> <li>• Manufacturing and Service Operations Management Society</li> <li>• Women in OR/MS Forum</li> </ul>	
	<i>Production and Operations Management Society (POMS)</i> <i>Decision Sciences Institute (DSI)</i>	
<b>Skills Summary</b>	<b>Programming:</b> Python, SQL, R	
	<b>Tools &amp; Libraries:</b> TensorFlow, sci-kit-learn, SciPy, Pandas, PySpark, NumPy, Scrapy, Matplotlib, NLTK	
	<b>Methodologies:</b> Deep learning, Neural Networks, Statistical Inference, Time Series, Forecasting, Stochastic Processes, Design of Experiment	
	<b>Soft Skills:</b> Project Management, Team Leadership, Communication, Cross-functional Collaboration, Strategic Decision-Making	
<b>Industry Experience</b>	<i>System Group, Tehran, Iran</i>	
	System Analyst of Service Management Project	Jun 2011 - May 2014
	<ul style="list-style-type: none"> <li>• This position involved analyzing documents required for the implementation of the Infrastructure Technology Information Library (ITIL) standard. As part of this project, several tools were evaluated and ultimately Service Manager Console was selected as the main tool.</li> </ul>	
	Coordinator of Service Management Project	Dec 2011 - Jan 2012
	<ul style="list-style-type: none"> <li>• As part of a customer satisfaction project, we used the SERVQUAL model as a measuring tool in order to evaluate the customer service quality. We discovered 10% increase in customer satisfaction proportion to last year.</li> </ul>	