
Fardin Ganjkanloo

Health Care Policy Modeler, Ph.D.

Center for Health Systems and Policy Modeling · Department of Health Policy and Management
Johns Hopkins Bloomberg School of Public Health

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RESEARCH AREAS

Operations Research, Health Economics and Policy, Healthcare Operations, Statistical Modeling

RESEARCH EXPERIENCE

Johns Hopkins University

2025–Present

Johns Hopkins Bloomberg School of Public Health, Department of Health Policy and Management

Health Care Policy Modeler, Center for Health Systems and Policy Modeling (CHSPM)

- Leading a structural microsimulation study of how bundled payment programs reshape hospital decisions around care delivery, patient outcomes, and spending; hospitals are modeled as multiobjective optimizing agents, with behavioral parameters estimated from national-scale CMS Medicare data.

Johns Hopkins University

2019–2025

Johns Hopkins Whiting School of Engineering, Dept. of Civil and Systems Engineering

Ph.D. Researcher, Center for Systems Science and Engineering

- Member of the globally recognized Johns Hopkins COVID-19 Dashboard team; co-developed the data-collection automation pipeline enabling real-time global tracking of the pandemic that informed public health decisions worldwide.
- Led projects on optimizing clinical fall risk assessment and interpretable risk scoring, in collaboration with clinicians from Johns Hopkins School of Medicine, using patient EHR data.
- Contributed to a range of projects including: methodological research in inverse optimization; a longitudinal study of COVID-19 mortality disparities across U.S. counties; optimal hospital capacity management under demand surges; and robust network flow optimization in collaboration with MIT's Computer Science and Artificial Intelligence Laboratory (CSAIL).
- Mentored junior researchers across these projects.

EDUCATION

Johns Hopkins University, Whiting School of Engineering 2019–2025

Department of Civil and Systems Engineering

Ph.D. in Systems Engineering (2025); M.S. in Systems Engineering (2023)

Sharif University of Technology 2012–2018

Department of Civil Engineering & Department of Computer Engineering

B.S. in Civil Engineering, Magna Cum Laude; B.S. in Computer Engineering (Software Engineering)

PUBLICATIONS

Peer-Reviewed

- Ganjkanloo, F., et al. “An Interpretable Data-Driven Approach to Optimizing Clinical Fall Risk Assessment.” *PLOS Digital Health* (accepted).
- Ganjkanloo, F., et al. (2024). “Evolving Patterns of COVID-19 Mortality in US Counties: A Longitudinal Study of Healthcare, Socioeconomic, and Vaccination Associations.” *PLOS Global Public Health*.
- Parker, F., Ganjkanloo, F., Martínez, D. A., Ghobadi, K. (2026). “Optimal Hospital Capacity Management During Demand Surges.” *Health Care Management Science*.
- Dong, E., et al. (2022). “The Johns Hopkins University Center for Systems Science and Engineering COVID-19 Dashboard: data collection process, challenges faced, and lessons learned.” *The Lancet Infectious Diseases*.

Under Review

- Ganjkanloo, F., et al. “Joint Score-Threshold Optimization for Interpretable Risk Assessment.” *IEEE Journal of Biomedical and Health Informatics* (under review).
- Ahmadi, F., Ganjkanloo, F., Ghobadi, K. “From Non-Identifiability to Goal-Integrated Decision-Making in Parametric Inverse Optimization.” *Operations Research* (under review).
- Ahmadi, F., Ganjkanloo, F. “Solution Prediction Dominates Parameter Prediction Under Generic Non-Identifiability: Connecting Inverse Optimization and Predict-then-Optimize.” *European Journal of Operational Research* (under review).

Working Papers

- Ganjkanloo, F., et al. “Statistical Inverse Linear Programming: One Framework for Stability, Vertex Recovery, and Tractability”.
- Ganjkanloo, F., et al. “How Do Hospitals Respond to Bundled Payments? A Structural Multiobjective Microsimulation Approach”.

HONORS AND AWARDS

Excellence in Research Award Finalist, JHU Department of Medicine & Whiting School of Engineering Research Retreat 2024

Recognized as an Outstanding Talent by Iran's National Elites Foundation 2014

INVITED TALKS AND PRESENTATIONS

INFORMS Healthcare Conference 2026 (upcoming) 07/2026

JHU Department of Medicine & Whiting School of Engineering Research Retreat 04/2024

POMS 33rd Annual Conference, Orlando, FL 05/2023

INFORMS Annual Meeting 2022, Indianapolis, IN 10/2022

POMS 32nd Annual Conference, Virtual 04/2022

INFORMS Healthcare Conference 2021, Virtual 07/2021

Canadian Operations Research Society (CORS) Annual Meeting 2021, Virtual 08/2021

POMS 31st Annual Conference, Virtual 04/2021

INFORMS Annual Meeting 2020, Virtual 11/2020

TEACHING EXPERIENCE

Johns Hopkins University 2021–2023

Department of Civil and Systems Engineering

- *Operations Research* (Prof. Kimia Ghobadi) — Teaching Assistant, Fall 2021, Fall 2023
- *Introduction to Mathematical Decision Making* (Prof. Kimia Ghobadi) — Teaching Assistant & Guest Lecturer, Spring 2022

Sharif University of Technology 2014–2016

Department of Civil Engineering

- *Structural Analysis II* (Prof. Kiarash Mohtasham Dolatshahi) — Teaching Assistant, Fall 2015, Spring 2016
- *Dynamics* (Prof. Ali Bakhshi) — Teaching Assistant, Spring 2014, Fall 2014, Spring 2015

ACADEMIC SERVICE

Johns Hopkins INFORMS Student Chapter

2022–2025

President & Former Vice President

INFORMS Healthcare Conference 2026 (upcoming)

07/2026

Session Chair: “Impact of Financial and Insurance Systems on Healthcare”

POMS 33rd Annual Conference, Orlando, FL

05/2023

Session Co-organizer

Reviewer

- npj Digital Medicine
- IISE Transactions on Healthcare Systems Engineering
- HICCS
- PCI Mathematical and Computational Biology

TECHNICAL SKILLS

Operations Research & Optimization: Mathematical Modeling, Linear/Integer Programming, Stochastic Optimization, Simulation, Heuristics

Statistical & Econometric Methods: Regression Analysis, Time Series Analysis, Hypothesis Testing, Causal Inference, Predictive Modeling

Programming: Python, Julia, Gurobi; AI coding agents (e.g., Claude)

Health Data Experience: Medicare claims, encounter, and enrollment data (CMS); Electronic Health Records (EHR)

PROFESSIONAL AFFILIATIONS AND RESEARCH CENTER INVOLVEMENT

- Center for Health Systems and Policy Modeling (CHSPM), Johns Hopkins Bloomberg School of Public Health
- Hopkins Business of Health Initiative (HBHI), Johns Hopkins University
- Center for Systems Science and Engineering (CSSE), Johns Hopkins University
- Malone Center for Engineering in Healthcare, Johns Hopkins University
- Institute for Operations Research and Management Sciences (INFORMS)
- Manufacturing and Service Operations Management Society (MSOM)
- Health Applications Society (HAS)

MEDIA MENTIONS

JHU Coronavirus Resource Center (CRC), Johns Hopkins University and Medicine	<i>March 2023</i>
One size doesn't fit all: An AI approach to creating healthy personalized diets, Malone Center News (myScience.org)	<i>November 2022</i>
COVID-19 Dashboard Creator Lauren Gardner Wins Lasker-Bloomberg Public Service Award, The Hub (JHU)	<i>September 2022</i>
New COVID-19 dashboard helps users make informed decisions regarding hospital care, The Hub (JHU)	<i>February 2021</i>
Seeing Red, The Hub (JHU)	<i>Summer 2020</i>