

CURRICULUM VITAE, FARZIN AHMADI

Center for Systems Science and Engineering, Johns Hopkins University
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EDUCATION	Johns Hopkins University , Baltimore, MD Ph.D. in Civil and Systems engineering • Advisor: Prof. kimia Ghobadi	2019 - present
	Sharif University of Technology , Tehran, Iran M.Eng., Road and Highway Engineering • Advisor: Prof. Nader Tabatabaee	2016 - 2018
	Sharif University of Technology , Tehran, Iran B.Sc., Civil Engineering	2012 - 2016

RESEARCH INTERESTS

- Decision Making in Healthcare
- Inverse Optimization and its Applications on Healthcare
- Optimizations and Simulations
- Data-Driven Approaches for Healthcare Applications

RESEARCH PUBLICATIONS

Papers Under Review/Preprints

1. Inverse Learning: A Data-driven Framework to Infer Optimizations Models, *Preprint*, Cited 5 times
with Fardin Ganjkanloo and Kimia Ghobadi
2. An open-source dataset on dietary behaviors and dash eating plan optimization constraints, *Preprint*, Cited 1 time
with Fardin Ganjkanloo and Kimia Ghobadi
3. Optimal resource and demand redistribution for healthcare systems under stress from COVID-19, *Preprint*, Cited 17 times
with Felix Parker, Hamilton Sawczuk, Fardin Ganjkanloo, Kimia Ghobadi

Papers published/in press in Refereed Journals

1. 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 (2022), Cited 1 time
with Ensheng Dong, Jeremy Ratcliff, Tamara D Goyea, Aaron Katz, Ryan Lau, Timothy K Ng, Beatrice Garcia, Evan Bolt, Sarah Prata, David Zhang, Reina C Murray, Mara R Blake, Hongru Du, Fardin Ganjkanloo, Jason Williams, Sayeed Choudhury, Lauren M Gardner

WORKING PAPERS

1. Inverse Learning to Improve Radiation Therapy Treatment Plans,
In Preparation with Todd R. McNutt and Kimia Ghobadi
2. Learning Group-Preferences in Constrained Environments: A Machine Learning and Inverse Optimization Hybrid Approach,
In Preparation with Tinglong Dai and Kimia Ghobadi
3. A Temporal Analysis over COVID-19 Mortality, Healthcare Capacity, Vaccination Rates and Socioeconomic Factors between 2020 and 2022,
In Preparation with Fardin Ganjkanloo and Kimia Ghobadi
4. Supervised Inverse Optimization,
In Preparation with Felix Parker, Fardin Ganjkanloo and Kimia Ghobadi
5. Smart Surgical Scheduling Tool: An Optimization Model with Integrated Perioperative Information Input,
In Preparation with Diego Martinez and Kimia Ghobadi

HONORS and AWARDS

- Teaching Assistant Award for excellence in teaching and dedication to engineering education, Johns Hopkins University, 2022
- Top 20 percent in Civil Engineering, class of 2012, Sharif University of Technology
- Straight Invitee to Participate in the M.Sc. program of Highway and Pavement Engineering, Department of Civil Engineering, Sharif University of Technology (2016)
- Honored as a "Brilliant Talented Student" by Iran's National Elites Foundation (2014)
- Ranked 221st (top 0.085%) among more than 260000 participants of National University Entrance Exam, Mathematics and Physics (2012)
- Ranked 171st (top 1.31%) among more than 13000 participants of National University Entrance Exam, Foreign Languages (2012)

INVITED TALKS

Conferences

1. *INFORMS Annual Meeting, Indianapolis, IN, USA, October 2022 (upcoming)*.
Title: A Data-driven Framework to Recommend Improved Radiation Therapy Treatment Plans
2. *AAPM Annual Meeting, Poster Presentation, Washington D.C., USA, July 2022*.
Title: Inverse Learning to Improve Radiation Therapy Treatment Plans
3. *Production and Operations Management Society (POMS) 32nd Annual POMS-Conference, virtual, May 2022*.
Title: Inverse Learning to Improve Radiation Therapy Treatment Plans
4. *INFORMS Annual Meeting, Anaheim, California, USA, virtual, October 2022*.
Title: Data-driven Inverse Optimization for Radiation Therapy Treatment Planning
5. *Canadian Operations Research Society (CORS), Virtual Presentation, 2021*.
Title: Inverse Learning: An Inverse Optimization Method for Learning Optimal Decisions

6. *Manufacturing and Service Operations Management (MSOM), Virtual Presentation, 2021.*
Title: Emulating Human Decision-Making Under Multiple Constraints: The Case of Precision Nutrition
7. *Manufacturing and Service Operations Management (MSOM), Virtual Presentation, 2021.*
Title: Inverse Learning: An Inverse Optimization Method for Learning Optimal Decisions
8. *ACM CHIL, Virtual Poster Presentation, 2020.*
Title: Emulating Human Decision-Making Under Multiple Constraints
9. *INFORMS Annual Meeting, Virtual Presentation, 2020.*
Title: Hybrid Inverse Optimization and Machine Learning for Precision Nutrition and Medical Decisions

TEACHING and Lectures Teaching Assistant, Johns Hopkins University

1. **BU.920.624: Data Science: Artificial Intelligence,**
Fall 2021, Fall 2022
Instructor: Prof. Tinglong Dai, Carey Business School
2. **EN.560.250: Introduction to Mathematical Decision Making,**
Spring 2022
Instructor: Prof. Kimia Ghobadi, Department of Civil and Systems Engineering
3. **EN.560.650: Operations Research,**
Spring 2021
Instructor: Prof. Kimia Ghobadi, Department of Civil and Systems Engineering

Guest Lectures, Johns Hopkins University

1. **EN.560.250: Introduction to Mathematical Decision Making,**
Spring 2022
Guest lectures on computer solutions to optimization problems. *Instructor: Prof. Kimia Ghobadi, Department of Civil and Systems Engineering*
2. **EN.560.100: Civilization Engineered,**
Fall 2020, Fall 2021
Guest lecture on healthcare operations in civil engineering
Instructor: Rachel Sangree, Department of Civil and Systems Engineering

Teaching Assistant, Sharif University of Technology

1. **Pavement Analysis, Design and Lab.,**
Fall 2015, Spring 2016, Fall 2016, Spring 2017, Fall 2017
Instructor: Prof. Nader Tabatabaee, CE Department Instructor: Prof. Ehsan Haghghat Kharrazi, Department of Civil Engineering (Fall 2016)
2. **Structural Analysis 2,**
Fall 2015, Spring 2016
Instructor: Prof. Kiarash Mohtasham Dolatshahi, Department of Civil Engineering

**SERVICE and
NOTABLE
PROJECTS**

Professional Service

- President, *Johns Hopkins University Student Chapter*, 2022 - present
- Editorial Board Member, *ORMS Tomorrow*, 2022 - present
- Memberships:
 1. Institute for Operations Research and the Management Sciences (INFORMS), 2019 - present
 2. Society for Industrial and Applied Mathematics (SIAM), 2022 - present
 3. Canadian Operations Research Society (CORS), 2020 - 2022
 4. American Association of Physicists in Medicine (AAPM), 2022 - present

Notable Projects and Experiences

- Data maintenance and monitoring for the COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University, 2020
Early role in maintaining U.S. county and state level data in a timely and accurate manner, working simultaneously with different state level health organizations.
- Kanoon Farhangi Amoozesh: Project Management and Data Provision and analysis 2016-2019
Project Management and Data Provision and analysis for <https://WoW.kanoon.ir>, an English Vocabulary Learning website in Iran with more than 100000 users alongside with managing different tasks such as data analysis, website debugging, board meetings, content Editing, database management and all in all, managing and collaborating with a talented 4-member team.

**COMPUTER
SKILLS**

Programming Languages: Python, Julia, R, MATLAB

REFERENCES

References available upon request

Last Updated: September 2022