

PARSHAN PAKIMAN

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ACADEMIC EMPLOYMENT

Booth School of Business, University of Chicago, USA

2023 - Present

Position Postdoctoral Researcher

Mentor Dan Adelman

EDUCATION

College of Business Administration, University of Illinois Chicago, USA

2017 - 2023

Thesis title Self-guided Approximate Linear Programs: Randomized Multi-shot Approximation of Markov Decision Processes ([Link](#))

Committee Selva Nadarajah (Advisor and Chair); Dan Adelman, Beryl Chen, Itai Gurvich, Negar Soheili

College of Business Administration, University of Illinois Chicago, USA

2017 - 2023

M.Sc. Business Analytics

College of Science, University of Tehran, Iran

2012 - 2016

B.Sc. Applied Mathematics

RESEARCH INTERESTS

- Studying impactful healthcare and retail operations problems by designing new algorithms based on data-driven optimization, reinforcement learning, and machine learning techniques.
- Developing algorithms to tackle large-scale Markov decision processes that are accessible to business users by requiring minimal human intervention during implementation.

PUBLISHED PAPERS

- P. Pakiman, S. Nadarajah, N. Soheili, Q. Lin. *Self-Guided Approximate Linear Programs: Randomized Multi-Shot Approximation of Discounted Cost Markov Decision Processes*. Published in **Management Science** ([Link](#)).
- A. Chenreddy, P. Pakiman, S. Nadarajah, R. Chandrasekaran, R. Abens. *SMOILE: A Shopper Marketing Optimization and Inverse Learning Engine*. **Proceedings of the 25th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining**, 2019 (Acceptance rate 6.4%, [Link](#)).

UNDER REVIEW / WORKING PAPERS

- P. Pakiman, S. Nadarajah. *Back to the Future: Revisiting a Pioneering Approximation of Average Cost Markov Decision Processes Using a Multi-Shot Perspective*. Under review at **Operations Research** ([Link](#)).
- D. Adelman, A. J. Mersereau, P. Pakiman. *Dynamic Assignment of Jobs to Workers with Learning Curves*. In preparation for submission to **Operations Research** ([Link](#)).
- P. Pakiman, B. Chen, S. Nadarajah, S. Jasin. *Self-adapting Risk Management in Dynamic Pricing with Demand Learning*. In preparation for re-submission to **Manufacturing & Service Operations Management** (Earlier version available at [Link](#)).

WORK IN-PROGRESS

- D. Adelman, C. Keceli, P. Pakiman. *Equitable and Data-driven Dynamic Matching*.
- D. Adelman, P. Pakiman. *Retrospective Approximate Dynamic Programming*.
- S. Nadarajah, P. Pakiman. *Randomized Multi-Shot Least Squares Monte Carlo for Option Exercise*.

INDUSTRY COLLABORATIONS

- Interned with the Advanced Solutions team at *Guidehouse*: Developed an approximate dynamic programming algorithm based on simulation to address a workflow scheduling problem. 2021
- Collaborated with *Foresight ROI*: Developed an inverse optimization method using Markov decision processes to model historical data trajectories and optimize future marketing campaigns. ([Link](#) to the research paper). 2017 - 2019

TEACHING EXPERIENCES

Course Co-Designer

2021 - 2023

- Engaged in developing a new course, Optimization for Analytics, by designing the curriculum, delivering lectures, creating assignments with Python templates, and overseeing the final project ([Link](#) to the material).

Guest Instructor

2019 - 2023

- Supply Chain Management (UIC). Taught two sessions on warehouse management ([Link](#) to slides).
- Business Data Mining (UIC). Taught refresher sessions on programming in R ([Link](#) to the material).
- Business Analytics (UIC). Taught refresher classes on linear algebra, calculus, and probability, and hold lectures on regression, classification, and likelihood maximization ([Link](#) to the material).

Teaching Assistant

2014 - 2024

- Approximate Dynamic Programming (UChicago)
- Introduction to Operations Management (UIC)
- Business Analytics (UIC)
- Business Data Mining (UIC)
- Online Customer Analytics (UIC)
- Text Analytics for Business (UIC)
- Business Forecasting (UIC)
- Optimization for Analytics (UIC)
- Scientific Computing (UTehran)
- Numerical Linear Algebra (UTehran)

INVITED TALKS AND PRESENTATIONS

Dynamic Assignment of Jobs to Workers with Learning Curves

- INFORMS Applied Probability Society (APS) Conference, Atlanta, GA 2025
- University at Buffalo, School of Management, Buffalo, NY 2024
- Stony Brook University, College of Business, Stony Brook, NY 2024
- University of Toronto, Rotman School of Management, Toronto, ON 2024
- INFORMS Annual Meeting, Seattle, WA 2024
- Purdue Operations Conference, West Lafayette, IN 2024
- MSOM Conference (Healthcare SIG), Minneapolis, MN 2024
- Chicago Booth Principal Researcher Workshop, Chicago, IL 2024

Adaptive Risk Mitigation in Demand Learning

- POMS 35th Annual Conference, Atlanta, GA 2025
- INFORMS Annual Meeting, Phoenix, AZ 2023
- INFORMS Annual Meeting, Virtual 2020
- INFORMS Revenue Management and Pricing Student Live Paper Series, Virtual ([Link](#)) 2020

Randomized Multi-Shot Least Squares Monte Carlo for Option Exercise

- INFORMS Annual Meeting, Phoenix, AZ 2023
- POMS 32nd Annual Conference, Virtual 2022

Self-Guided Approximate Linear Programs: Randomized Multi-Shot Approximation of Discounted Cost Markov Decision Processes

- Tuck School of Business, Dartmouth College, Hanover, NH 2022
- International Conference on Continuous Optimization (ICCOPT), Bethlehem, PA 2022
- INFORMS Optimization Society (IOS) Conference, Greenville, SC 2022
- INFORMS Annual Meeting, Anaheim, CA 2021
- POMS 30th Annual Conference, Washington D.C. 2019
- INFORMS Annual Meeting, Phoenix, AZ 2018
- POMS 29th Annual Conference, Houston, TX 2018

SMOILE: A Shopper Marketing Optimization and Inverse Learning Engine

- ACM SIGKDD, International Conference on Knowledge Discovery & Data Mining, Anchorage, AK ([Link](#)) 2019

HONORS AND AWARDS

Doctoral fellowship:	College of Business Administration, University of Illinois Chicago, USA	2017 - 2023
BGS membership (honor society):	College of Business Administration, University of Illinois Chicago, USA	2021
Merit-Based Graduate Admission:	College of Science, University of Tehran, Iran	2016
Technical qualification:	Soccer Simulation League, RoboCup Iran open, Iran (Link)	2016
Technical qualification:	Soccer Simulation League, Khwarizmi International Award, Iran (Link)	2010

COMPUTATIONAL SKILLS

Programming languages:	Python, R, C++, C, Java, Matlab, HTML, JavaScript
Data analytics libraries:	Scikit-learn, Gymnasium, Numba, NumPy, Matplotlib, SciPy, Pandas
Optimization libraries:	Gurobi, CVXPY, Nevergrad, Autograd, PyTorch, Pyomo, OR-Tools
Operating systems:	Linux, MacOS

SERVICE

Reviewer

– Production and Operations Management (POM)	2024
– INFORMS Journal on Computing (IJOC)	2022
– Information Systems Research (ISR)	2022
– International Conference on Learning Representations (ICLR)	2021
– Annals of Operations Research (ANOR)	2019 - 2021
– Computers & Operations Research (COR)	2019 - 2021
– Electronic Commerce Research (ECR)	2018 - 2021
– Information Systems and Operational Research (INFOR)	2018

Conference Organization

– Session chair, <i>Dynamic Pricing and Risk Management</i> , POMS 35th Annual Conference	2025
– Session co-chair, <i>New Topics in Dynamic Assignment</i> , INFORMS Annual Meeting	2024
– Session co-chair, <i>Recent Advances in Approximate Dynamic Programming</i> , INFORMS Annual Meeting	2024
– Session co-chair, <i>Risk Management in Reinforcement Learning</i> , INFORMS Annual Meeting	2023
– Session co-chair, <i>Learning and Sequential Decision Making</i> , INFORMS Annual Meeting	2022
– Session co-chair, <i>Large-scale Linear Programs and Applications</i> , INFORMS Optimization Society Conference	2022
– Session chair, <i>Recent Advances in Reinforcement Learning</i> , INFORMS Annual Meeting	2021
– Session co-chair, <i>Social Responsibility and Risk in Supply Chains</i> , INFORMS Annual Meeting	2021

Membership

– Beta Gamma Sigma (BGS) Society	2021 - Present
– Production and Operations Management Society (POMS)	2018 - Present
– Institute for Operations Research and the Management Sciences (INFORMS)	2017 - Present
– INFORMS Chicago Chapter Ambassador	2022