PARSHAN PAKIMAN

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Academic Empl	OYMENT	
Booth School of Business, University of Chicago, USA		2023 - Present
Position	Postdoctoral Principal Researcher	
Mentor	Dan Adelman	
Education		
College of Business Administration, University of Illinois Chicago, USA		2017 - 2023
Ph.D.	Information and Decision Sciences	
Thesis title	Self-guided Approximate Linear Programs: Randomized Multi-shot Approximation of Markov Decision Processes (Link)	
Committee	Selva Nadarajah (Advisor and Chair), Beryl Chen, Negar Soheili, Dan Adelman, Itai Gurvich	
College of Busine	ss Administration, University of Illinois Chicago, USA	2017 - 2023
M.Sc.	Business Analytics	
College of Science B Sc	e, University of Tehran, Iran Applied Mathematics	2012 - 2016
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Research Interests

- Studying emerging problems at the core of operating room management and retailing, where the applicability
 of existing methods is limited, necessitating the development of new reinforcement learning and data-driven
 optimization methods for these problems.
- Developing general-purpose reinforcement learning algorithms that guarantee near-optimal control policies for a broad class of Markov decision processes and can be easily adopted across applications without requiring domain knowledge.

WORKING PAPERS

- D. Adelman, A. J. Mersereau, P. Pakiman. Dynamic Assignment of Jobs to Workers with Learning Curves. In preparation for submission to Operations Research.
- P. Pakiman, S. Nadarajah. Randomized Multi-Shot Approximation of Average Cost Markov Decision Processes. In preparation for submission to Management Science.
- P. Pakiman, B. Chen, S. Nadarajah, S. Jasin. Self-adapting Risk Management in Dynamic Pricing with Demand Learning. In preparation for re-submission to Operations Research (Link).

ACCEPTED AND 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. Accepted 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).

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 a reinforcement learning algorithm to 2021 address a workflow scheduling problem.
- Collaborated with *Foresight ROI*: Developed an inverse reinforcement learning framework to mine past marketing data and optimize future marketing campaigns across retailers (Link to the research paper).

TEACHING EXPERIENCES

Note: All teaching materials are available at ParshanPakiman.github.io/Teaching.		
Teaching Assistant, University of Chicago	2023 - 2024	
 Approximate Dynamic Programming (BUS 36905) 		
 Course Co-Designer, University of Illinois Chicago Optimization for Analytics (IDS 435). Engaged in developing a new data science course, IDS 435, by designing curriculum, developing assignments, providing Python templates, and designing final project. 	2021 - 2023	
 Guest Instructor, University of Illinois Chicago Supply Chain Management (IDS 552). Taught two sessions on warehouse management. Business Data Mining (IDS 472). Taught multiple refresher sessions on introduction to programming in R. Statistical Models and Methods for Business Analytics (IDS 575). Taught refresher classes on linear algebra, calculus, and probability. Statistical Models and Methods for Business Analytics (IDS 575). Taught sessions on regression, classification and likelihood maximization. 	2019 - 2023	
 Teaching Assistant, University of Illinois Chicago Data Science for Online Customer Analytics (IDS 594) Statistical Models and Methods for Business Analytics (IDS 575) Advanced Text Analytics for Business (IDS 566) Introduction to Operations Management (IDS 532) Business Forecasting (IDS 476) Business Data Mining (IDS 472) Optimization for Analytics (IDS 435) 	2019 - 2023	
Teaching Assistant, University of Tehran Introduction to Numerical Analysis and Scientific Computing Numerical Linear Algebra 	2014 - 2016	
ItoNORS AND AWARDS Doctoral fellowship: College of Business Administration, University of Illinois Chicago, USA BGS ¹ membership: College of Business Administration, University of Illinois Chicago, USA Direct master's recipient: College of Science, University of Tehran, Iran Technical qualification: Soccer Simulation League, RoboCup Iran open, Iran (Link) Technical qualification: Soccer Simulation League, Khwarizmi International Award, Iran	2017 - 2023 2021 2016 2016 2010	
Computational Skills		
Programming languages:Python, R, C++, C, Java, Matlab, HTML, JavaScriptData science libraries:Scikit-learn, Gymnasium, Numba, NumPy, Matplotlib, SciPy, PandasOptimization libraries:Gurobi, CVXPY, Nevergrad, Autograd, PyTorch, Pyomo, OR-ToolsOperating systems:Linux, MacOS, Windows		
Invited Talks and Presentations		
Dynamic Assignment of Jobs to Workers with Learning Curves		
 Purdue Operations Conference, West Lafayette, IN Chicago Booth Principal Researcher Workshop, Chicago, IL 		
Self-Adapting Risk Management in Demand Learning – INFORMS Annual Meeting, Phoenix, AZ – INFORMS Annual Meeting, Virtual – INFORMS Revenue Management and Pricing Student Live Paper Series, Virtual (Link)	2023 2020 2020	
'Beta Gamma Sigma (BGS) is an International Business Honor Society (<mark>Link</mark>).		

Randomized Multi-Shot Least Squares Monte Carlo for Option Exercise — INFORMS Annual Meeting, Phoenix, AZ — POMS 32nd Annual Conference, Virtual	2023 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
Decision Learning with Menu Optimization	
 INFORMS Annual Meeting, Indianapolis, IN 	2022
– POMS 32nd Annual Conference, Virtual	2022
 POMS 31st Annual Conference, Virtual 	2021
SMOILE. A Shannar Marketing Ontimization and Inverse Learning Engine	
ACK CLOWDER A shopper marketing Optimization and inverse Learning Engine	
– ACM SIGKDD, International Conference on Knowledge Discovery & Data Mining, Anchorage, AK (LINK)	2019
Service	
Conference Organization	
- Session co-chair, Risk Management in Reinforcement Learning, INFORMS Annual Meeting	2023
 Session co-chair, Learning and Sequential Decision Making, INFORMS Annual Meeting 	2022
– Session co-chair, Large-scale Linear Programs and Applications, INFORMS Optimization Society Conference	2022
– Session chair, Recent Advances in Reinforcement Learning, INFORMS Annual Meeting	2021
 Session co-chair, Social Responsibility and Risk in Supply Chains, INFORMS Annual Meeting 	2021
Reviewer	
 INFORMS Journal on Computing 	2022
– Information Systems Research	2022
 International Conference on Learning Representations 	2021
 Annals of Operations Research 	2019 - 2021
 Computers & Operations Research 	2019 - 2021
 Electronic Commerce Research 	2018 - 2021
 Information Systems and Operational Research 	2018
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

References

 Dan Adelman, Charles I. Clough, Jr. Professor of Operations Management, Booth School of Business, University of Chicago. Email: Dan.Adelman@ChicagoBooth.edu.

Selva Nadarajah, Associate Professor of Operations Management, College of Business Administration, University of Illinois Chicago. Email: SelvaN@uic.edu.