Hamsa Bastani

Wharton School, University of Pennsylvania
Operations, Information & Decisions (OID) Group
557 Jon M. Huntsman Hall

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(215) 573-5365

Academic Positions

Wharton School, University of Pennsylvania
Operations, Information & Decisions; Statistics and Data Science (secondary)
Associate Professor _(with tenure)_, 2023 – present
  - _Maternity Leave_, 2024 – 2025
Assistant Professor, 2018 – 2023
  - _Steering Committee_, Penn Center for Health Incentives and Behavioral Economics
  - _Senior Fellow_, Leonard Davis Institute for Health Economics
  - _Affiliate_, Analytics at Wharton, Warren Center for Networks & Data Sciences, Penn
    Research in ML, Penn Center for AI-enabled systems, Wharton Climate Center

Co-Director, Wharton Healthcare Analytics Lab, 2023 – present

IBM Research
Herman Goldstine Postdoctoral Fellow, 2017-2018

Education

Stanford University
Ph.D. in Electrical Engineering, 2012-2017

Harvard University
A.M. in Physics, 2011-2012
A.B. _summa cum laude_ in Physics and Mathematics, 2008-2012

Journal Papers

Improving Access to Essential Medicines via Decision-Aware Machine Learning
T.-H. Chung, J. Abdulai, P. Bayoh, L. Sandi, F. Smart, H. Bastani* and O. Bastani*
Nature, _Research Article (conditionally accepted)_
(* equal last authorship)
- _1st Place_, Public Sector in Operations Best Paper Award (2024)
- _2nd Place_, Pierskalla Award for Best Paper in Healthcare (2025)
- _2nd Place_, Doing Good with Good OR Best Student Paper Award (Chung, 2024)
- _Finalist_, MSOM Student Paper Competition (Chung, 2024)

**Generative AI Without Guardrails Can Harm Learning: Evidence from
High School Mathematics**, H. Bastani*, O. Bastani*, A. Sungu*, H. Ge,
O. Kabakcı and R. Mariman
(* equal first authorship); cited in the 2025 Economic Report of the President
PNAS _(2025)_

Improving Human Sequential Decision-Making with Reinforcement Learning
H. Bastani, O. Bastani and W. Sinchaisri
Management Science _(2025)_
- _1st Place_, Behavioral OM Best Working Paper Award (2021)

- *1st Place*, INFORMS Data Mining Best Paper Award (2022)
- *2nd Place*, TIMES Working Paper Award (2021)
- *2nd Place*, POMS Behavioral OM Junior Scholar Paper Award (Sinchaisri, 2021)

Unmasking Human Trafficking Risk in Commercial Sex Supply Chains with Machine Learning, P. Ramchandani, H. Bastani and E. Wyatt
M&SOM (2025)
- *1st Place*, MSOM Student Paper Competition (Ramchandani, 2022)
- *1st Place*, Service Science Best Student Paper Award (Ramchandani, 2021)
- *2nd Place*, POMS Sustainable OM Best Student Paper Award (Ramchandani, 2022)
- *Finalist*, Public Sector in Operations Best Paper Award (2021)
- *People's Choice Award*, Early-Career Sustainable OM Workshop (2022)

Optimal Multitask Linear Regression and Contextual Bandits under Sparse Heterogeneity, X. Huang, K. Xu, D. Lee, H. Hassani, H. Bastani and E. Dobriban
JASA (2025)

Multitask Learning and Bandits via Robust Statistics
K. Xu and H. Bastani
Management Science (2025)
- *3rd Place*, IBM Service Science Best Student Paper Award (Xu, 2022)

Interpretable OR for High-Stakes Decisions: Designing the Greek COVID-19 Testing System, H. Bastani*, K. Drakopoulos*, V. Gupta*, J. Vlachogiannis, C. Hadjicristodoulou, P. Lagiou, G. Magiorkinis, D. Paraskevis and S. Tsiodras
INFORMS Journal on Applied Analytics (2022)
(* equal first authorship)
- *1st Place*, Wagner Prize for Excellence in Operations Research Practice (2021)

Adaptive Clinical Trial Designs with Surrogates: When Should We Bother? A. Anderer, H. Bastani and J. Silberholz
Management Science (2022)
- *1st Place*, Pierskalla Award for Best Paper in Healthcare (2019)
- *1st Place*, MSOM Student Paper Competition (Anderer, 2020)
- *Finalist*, Public Sector in Operations Best Paper Award (2020)

Meta Dynamic Pricing: Transfer Learning Across Experiments
H. Bastani, D. Simchi-Levi and R. Zhu
Management Science (2022)

Learning Personalized Product Recommendations with Customer Disengagement, H. Bastani, P. Harsha, G. Perakis and D. Singhvi
M&SOM (2022)
- *2nd Place*, Service Science Best Paper Award (2019)
- *Hon. Mention*, POMS Best Student Paper in Supply Chain (Singhvi, 2019)

AI for Climate Change Adaptation, S. Cheong, K. Sankaran and H. Bastani
WIREs Data Mining and Knowledge Discovery, Perspectives (2022)

Efficient and Targeted COVID-19 Border Testing via Reinforcement Learning, H. Bastani*, K. Drakopoulos*, V. Gupta*, J. Vlachogiannis, C. Hadjicristodoulou, P. Lagiou, G. Magiorkinis, D. Paraskevis and S. Tsiodras
Nature, Research Article (2021)
(* equal first authorship)
- *1st Place*, Pierskalla Award for Best Paper in Healthcare (2021)
- *2nd Place*, Public Sector in Operations Best Paper Award (2021)

Predicting with Proxies: Transfer Learning in High Dimension
H. Bastani
Management Science (2021)

Mostly Exploration-Free Algorithms for Contextual Bandits
H. Bastani, M. Bayati and K. Khosravi
Management Science (2021)

Online Decision-Making with High-Dimensional Covariates
H. Bastani and M. Bayati
Operations Research (2020)
- *1st Place*, Pierskalla Award for Best Paper in Healthcare (2016)
- *1st Place*, George Nicholson Student Paper Competition (2016)
- *1st Place*, MSOM Student Paper Competition (2016)
- *1st Place*, IBM Service Science Best Student Paper Award (2016)

Evidence of Upcoding in Pay-for-Performance Programs
H. Bastani, J. Goh and M. Bayati
Management Science (2019)
- *1st Place*, Health Applications Society Best Student Paper Award (2015)

Multiplex coherent anti-Stokes Raman scattering (MCARS) for chemically sensitive, label-free flow cytometry
C. Camp, S. Yegnanarayanan, A. Eftekhar, H. Sridhar and A. Adibi
Optics Express (2009)

Working Papers

Group-Sparse Matrix Factorization for Transfer Learning of Word Embeddings, K. Xu, X. Zhao, H. Bastani and O. Bastani
Minor Revision, Management Science
- Preliminary version in ICML 2021

Action vs. Attention Signals for Human-AI Collaboration: Evidence from Chess, S. Poulidis, H. Ge, H. Bastani and O. Bastani
Major Revision, Management Science
- *1st Place*, Decision Analysis Society Student Paper Award (Poulidis, 2025)
- *Finalist*, TIMES Working Paper Award, 2025

Rethinking Algorithmic Fairness for Human-AI Collaboration
H. Ge, H. Bastani and O. Bastani
Major Revision, Management Science
- Preliminary version in ITCS 2024

The Human-AI Contracting Paradox
H. Bastani and G. Cachon

Self-Regulated AI Use Hinders Long-Term Learning
S. Poulidis, H. Bastani and O. Bastani

Effective Personalized AI Tutors via LLM-Guided Reinforcement Learning
T.-H. Chung, B. Zhang, L.-C. Kung, H. Bastani and O. Bastani

Beating the Winner's Curse via Inference-Aware Policy Optimization
H. Bastani, O. Bastani and B. McLaughlin

Winner's Curse Drives False Promises in Data-Driven Decisions: A Case Study in Refugee Matching, H. Bastani, O. Bastani and B. McLaughlin

Perceptions of Fairness in Algorithmic Decision-Making
B. Hsiao, H. Bastani, M. Kearns, A. Roth and D. Watts

Are AI Capabilities Increasing Exponentially? A Competing Hypothesis
H. Ge, H. Bastani and O. Bastani

Strategic Hiring under Algorithmic Monoculture
J. Baek, H. Bastani and S. Chen

Online Learning with Survival Data
A. Anderer, H. Bastani and J. Silberholz

Work In Progress	**Incentive-Compatible Human-AI Collaboration via Adversarial Tasks** H. Bastani, O. Bastani and T.-H. Chung **A Hierarchy of Policy Learning Problems** H. Bastani, O. Bastani and S. Chen **The Winner's Curse: Why Optimizing Structural Models Overpromises and Underdelivers**, N. Sharma and H. Bastani
Inactive Drafts	**Responsible Sourcing: The First Step is the Hardest** P. Ramchandani, H. Bastani and K. Moon - *People's Choice Award*, Early-Career Sustainable OM Workshop (2020) **Are Bans Effective under Limited Monitoring? Evidence from High Seas Management**, H. Bastani and J. F. de Zegher - *People's Choice Award*, Early-Career Sustainable OM Workshop (2019)
Refereed Conference Papers	**Stochastic Online Conformal Prediction with Semi-Bandit Feedback** H. Ge, H. Bastani and O. Bastani ICML (2025)

Generative Adversarial Model-Based Optimization via Source Critic Regularization, M. Yao, Y. Zeng, H. Bastani, J. Gardner, J. Gee and O. Bastani
NeurIPS (2024)

Stochastic Bandits with ReLU Neural Networks
K. Xu, H. Bastani, S. Goel and O. Bastani
ICML (2024)

Rethinking Fairness for Human-AI Collaboration
H. Ge, H. Bastani and O. Bastani
ITCS (2024)

Uniformly Conservative Exploration in Reinforcement Learning
W. Xu, Y. Ma, K. Xu, H. Bastani and O. Bastani
AISTATS (2023)

Decision-Aware Learning for Optimizing Health Supply Chains
T.-H. Chung, V. Rostami, H. Bastani and O. Bastani
ML4Health (2022)

Bandits for Online Calibration: An Application to Content Moderation on Social Media Platforms, V. Avadhanula, O. Baki, H. Bastani, et al.
NeurIPS DMML & RL4RealLife Workshops (2022)

Group-Sparse Matrix Factorization for Transfer Learning of Word Embeddings, K. Xu, X. Zhao, H. Bastani and O. Bastani
ICML (2021)

Exploring the Causal Relationships between Initial Opioid Prescriptions and Outcomes, J. Zhang, V. Iyengar, D. Wei, B. Vinzamuri, H. Bastani,
A. Macalalad, A. Fischer, G. Yuen-Reed, A. Mojsilović, and K. Varshney
AMIA Workshop on Data Mining for Medical Informatics (2017)

Interpretability via Model Extraction
O. Bastani, C. Kim and H. Bastani
FATML Workshop on Fairness, Accountability, and Transparency (2017)
- *Finalist*, Pierskalla Award for Best Paper in Healthcare (2018)

Analysis of Medicare Pay-for-Performance Contracts
H. Bastani, M. Bayati, M. Braverman, R. Gummadi and R. Johari
EC Workshop on Mechanism Design for Social Good (2017)

Creating Optical Vortex Modes with a Single Cylinder Lens
H. Sridhar, M. Cohen and J. Noe
Proceedings of *SPIE* (2010)

Book Chapters	**Optimizing Health Supply Chains in LMICs with Machine Learning: A Case Study in Sierra Leone**, H. Bastani, O. Bastani and T.-H. Chung

Sustainable and Responsible Operations - The New Frontier (2024)
Springer Nature; edited by C. Tang

Reinforcement Learning for Public Health: Targeted COVID-19 Screening
H. Bastani, K. Drakopoulos and V. Gupta
AI for Social Impact (2022)
Online; edited by F. Fang, M. Tambe and B. Wilder

Proceed with Care: Integrating Predictive Analytics with Patient Decision-Making, H. Bastani and P. Shi
AI for Healthcare: Interdisciplinary Partnerships for Analytics (2022)
Cambridge University Press; edited by S. Suen, E. Enns and D. Scheinker

Applied Machine Learning in Operations Management
H. Bastani, D. J. Zhang and H. Zhang
Innovative Technology at the Interface of Finance and Operations (2022)
Springer Series; edited by V. Babich, J. Birge, G. Hilary

Research Group	**Tsai-Hsuan (Angel) Chung**, Wharton OID PhD
	Shihan (Grace) Chen, Penn AMCS PhD
	Bethany Hsiao, Wharton OID PhD (advisor: D. Watts)
	Stefanos Poulidis, INSEAD DS PhD (advisor: S. Zoumpoulis)
	Xiaomeng Wang, Wharton Stats PhD (advisor: Z. Ren)
	Bryce McLaughlin, Wharton Postdoc
	Haosen Ge, Wharton Data Scientist

Pia Ramchandani, Wharton OID PhD, grad. in 2024
  - *Initial Placement:* Director of Responsible AI at PwC
Arielle Anderer, Wharton OID PhD, grad. in 2023
  - *Initial Placement:* Assistant Professor at Cornell Johnson
Kan Xu, Penn Economics PhD, grad. in 2023
  - *Initial Placement:* Assistant Professor at ASU Carey
Wichinpong Sinchaisri, Wharton OID PhD, grad. in 2021 (advisor: G. Allon)
  - *Initial Placement:* Assistant Professor at UC Berkeley Haas
Ruihao Zhu, MIT IDSS PhD, grad. in 2021 (advisor: D. Simchi-Levi)
  - *Initial Placement:* Assistant Professor at Purdue Krannert
Divya Singhvi, MIT ORC PhD, grad. in 2020 (advisor: G. Perakis)
  - *Initial Placement:* Assistant Professor at NYU Stern
Khashayar Khosravi, Stanford EE PhD, grad. in 2019 (advisor: M. Bayati)
  - *Initial Placement:* Postdoctoral fellow at Google
Wanqiao Xu, University of Michigan Math UG, grad. in 2021
  - *Initial Placement:* Stanford MS&E PhD

Teaching	**Wharton School, University of Pennsylvania**

OIDD 221: Optimization & Analytics (Undergrad), 2026 – present
OIDD 321: Introduction to Management Science (Undergrad), 2018 – 2024
  - Recipient of Wharton Teaching Excellence Award in 2019, 2020 & 2021
OIDD 941: Advances in Data-Driven Decision-Making (Ph.D.), 2021 – present

- Covers bandits, reinforcement learning, transfer learning, and policy optimization

Invited Talks	**2026:** MIT IDSS Institute; UW ISOM; Simons Institute; UF Statistics Annual Winter Workshop

2026: MIT IDSS Institute; UW ISOM; Simons Institute; UF Statistics Annual Winter Workshop

2025: Chicago Booth OM; JHU AMCS; NYU Stern OM; Temple AI Institute; U of Toronto SRI Series; Penn CS Theory; Penn ASSET Seminar; Wharton Marketing; Columbia Science of Learning Research Symposium; JHU BUAI Conf Keynote; Virginia Commonwealth; Banff AIMOR Workshop; Michigan Ross LLM Workshop; Wharton Global Forum; RM&P Conf

2024: UT Dallas OM; Emory ISOM; Conf on Health, Inference, & Learning Keynote; MIT Initiative on Digital Economy; Booth ML/Econ Summer Institute; Deployable RL Workshop Keynote; CHIBE Roybal Retreat; AstraZeneca; Perry World House Human Rights Seminar

2023: Columbia IEOR/DRO; Georgetown OM; UCLA Anderson; Dartmouth Tuck; Wisconsin-Madison Business Analytics; Penn Optimization Seminar; George Mason Stats; SUNY Binghamton Math & Statistics; NC State ISE; IMSI, University of Chicago; IPAM, UCLA; Stanford OIT Sustainability Conf; Symposium on AI for Learning Health; Penn ASSET Seminar; Philly Ops Day; Economist/IBM AI Roundtable; Purdue Statistics & Optimization Workshop; Penn CHIBE-PAIR Roybal Retreat; APS Conf

2022: Duke Fuqua Decision Sciences; HBS TOM; MIT OR/Stats; Stanford MS&E; Berkeley-UCSF Computational Precision Health; Virtual Quant Marketing Seminar Series; USC Marshall DSO; Georgia Tech AI4OPT Seminar; University of Alberta Business Analytics; JHU Carey OM; MIT AI Health Policy Forum; Harvard CRCS AI for Social Impact Seminar; NYC Operations Day; CCC/INFORMS/ACM Artificial Intelligence/Operations Research Visioning Workshop; Bilkent University; LMU Munich AI Seminar; UMD Social Impact Analytics Workshop; Stanford Ocean Health & Sustainability; Singapore Mgmt University; WALE Workshop; Information & Learning Workshop; Northeastern OR & Social Justice Lab; UC Berkeley Simons Institute; Sustainable OM SIG; Future of Data-Centric AI; MIT CODE

2021: MIT ORC; Berkeley Haas IOTM; NUS IORA; UNC OM; LBS OM; INSEAD TOM; Wharton Statistics; CMU Tepper OM; SMU Cox ITOM; WPI CS Colloquium; University of Minnesota Carlson SCO; University of Alberta AI Seminar; Philadelphia INFORMS Chapter; Lyft Marketplace Labs; Keynote Speaker for KDD Workshop on RL/MAB; Information & Learning Workshop; Chicago Booth Summer Institute in Machine Learning in Economics; COVID-19 Panelist, SIAM Conf on Data Mining; Loyola University Chicago Health Informatics Series; Boston Digital Leadership Forum; Rutgers Post-Pandemic SC & Health Mgmt Conf

2020: Yale School of Management; Chicago Booth OM; U of Maryland DO&IT; Purdue Krannert; Cornell Johnson OTIM; Utah Ops Conference; Facebook Adaptive Experimentation Workshop; Simons Institute for the Theory of Computing; Keynote Speaker for KDD Workshop on Applied Data Science for Healthcare; Invited Speaker for NeurIPS Workshop on Consequential Decision-Making; INFORMS Health Applications Society Tutorial; Wharton Analytics Webinar

2019: NYU Stern OM; MIT IDSS Data Science Lab; UC Irvine Operations & Decision Technologies; UC Irvine Algorithms, Combinatorics & Optimization Center; UT Dallas Naveen Jindal OM; Wharton OID; Wharton Empirical Workshop; Information & Learning Workshop, IESE; ISOM Workshop, Emory; Healthcare SIG; CUHK Shenzhen Healthcare & Service Operations Workshop

2018: IMA Data-Driven Supply Chain Mgmt (Applied) Workshop; IMA Data-Driven Supply Chain Mgmt (Theory) Workshop; Penn Warren Center for Network & Data Sciences; IBM Research Math for AI; IDinsight; MIT ORC IAP Seminar on OR for Social Impact

2017: UCLA Anderson; Duke Fuqua; USC Marshall; Northwestern IEMS; Yale School of Management; Harvard Business School; Columbia IEOR / DRO; Ross School of Business; INSEAD; Chicago Booth OM; Kellogg OM; Purdue Krannert IS; MIT IDSS Data Science Lab; U of Cambridge, Judge Business School; IBM Research Applied Probability Seminar; Cornell Tech; Stanford-Berkeley Health Economics Workshop

2016: Cornell ORIE; Wharton OID; Indiana Kelley; London Business School; Pittsburgh Katz; MIT Sloan OM; Stanford GSB OIT; Stanford Biostatistics Workshop; Stanford Medical School Med-X Conference; Healthcare SIG

Awards

Finalist, TIMES Working Paper Award, 2025
1st Place, Public Sector in Operations Best Paper Award, 2024
1st Place, INFORMS Data Mining Best Paper Award, 2022
People's Choice Award, Early-Career Sustainable OM Workshop, 2022
1st Place, Wagner Prize for Excellence in Operations Research Practice, 2021
1st Place, Pierskalla Award for Best Paper in Healthcare, 2021
2nd Place, Public Sector in Operations Best Paper Award, 2021
1st Place, Behavioral OM Best Working Paper Award, 2021
2nd Place, TIMES Working Paper Award, 2021
Wharton Teaching Excellence Award, 2021
Finalist, Public Sector in Operations Best Paper Award, 2020
People's Choice Award, Early-Career Sustainable OM Workshop, 2020
Wharton Teaching Excellence Award, 2020
1st Place, Pierskalla Award for Best Paper in Healthcare, 2019
2nd Place, Service Science Best Paper Award, 2019
People's Choice Award, Early-Career Sustainable OM Workshop, 2019
Wharton Teaching Excellence Award, 2019
Finalist, Pierskalla Award for Best Paper in Healthcare, 2018
1st Place, Pierskalla Award for Best Paper in Healthcare, 2016
1st Place, George Nicholson Student Paper Competition, 2016

1st Place, MSOM Student Paper Competition, 2016
1st Place, IBM Service Science Best Student Paper Award, 2016
1st Place, Health Applications Society Best Student Paper Award, 2015
National Science Foundation Fellow, 2012-2017
Stanford Department Fellowship in Electrical Engineering, 2012-2013
Finalist, Intel Science Talent Search, 2008

Service   Associate Editor for *Operations Research* (2022-)
Associate Editor for *M&SOM* (2021-)
Associate Editor for *Operations Research Letters* (2022-)
Senior Editor for *POMS* (2023-)
Area Chair for *NeurIPS* (2021-2023)
Guest Associate Editor (special issue) for *Naval Research Logistics* (2022)

Statistics Advisory Board, AHA Food is Medicine Initiative

Co-Chair, INFORMS PSOR Best Paper Competition, 2025
Co-Chair, SIG Day - Technology, Innovation, and Entrepreneurship, 2025
Co-Organizer, OM in the Wild Workshop, 2025
Advisory Board, Wharton Coalition for Equity & Opportunity, 2024-2025
Co-Organizer, (Re)Writing the Future of Healthcare with Generative AI Conf, 2024
Senior Program Committee, Algorithmic Learning Theory (ALT), 2023
Co-Organizer, Analytics for Social Impact Workshop, 2023-2025
Co-Organizer, Summer Operations Conference, 2023
Program Committee, Early-Career Sustainable OM Workshop, 2023
Co-Organizer, EAAMO Doctoral Consortium, 2022
Co-Organizer, Early-Career Sustainable OM Workshop, 2022
Wharton Faculty IT Steering Committee, 2022-2024
Board Member, INFORMS Revenue Mgmt & Pricing Section, 2021-2023
Area Chair, EAAMO Conference, 2021
Program Committee, EC Workshop on Design of Online Platforms, 2021
Co-Chair, George Nicholson Student Paper Competition, 2020
Co-Chair, Pierskalla Award for Best Paper in Healthcare, 2020
Program Committee, EC Conference, 2020
Program Committee, AAAI Conference on Artificial Intelligence, 2020
Program Committee, EC Mechanism Design for Social Good Workshop, 2018-2020
Wharton Dean's Advisory Council, 2019-2020
Area Chair, Mechanism Design for Social Good Workshop, 2019
Meritorious Service Award for *Management Science*, 2018
Co-Chair, Pierskalla Award for Best Paper in Healthcare, 2017

Various years: Speaker for Penn Women in Data Science Conf; Women in Simulation at Winter Simulation Conf; Women in OR/MS Panel at INFORMS; CMU YinzOR Student Conference

Various years: Judge for George Nicholson Student Paper Competition, MSOM SIG Best Paper Award, Revenue Management & Pricing Conference, PSOR Best Paper Award, RM&P Best Student Paper Award, Healthcare Applications Society Student Paper Competition, MSOM Student Paper Competition, MSOM Healthcare SIG, MSOM Sustainability SIG, MSOM Service SIG, MSOM Supply Chain SIG, POMS Best Healthcare OM Paper Competition, Elwood S. Buffa Doctoral Dissertation Award, Service Science Best Paper Award

External Activities

Workday
AI Advisory Board, Jan 2025 – present

HiredScore
Scientific Advisory Board, Oct 2022 – Mar 2024

Macro-Eyes
Technical Advisor, Mar 2022 – Mar 2023

Meta Core Data Science
Contractor, Aug 2021 – Aug 2022