

CONTACT	2 W Loop Rd New York, NY 10044	Homepage: <a href="https://kyra-gan.github.io">https://kyra-gan.github.io</a> ✉ E-mail: <a href="mailto:kyragan@cornell.edu">kyragan@cornell.edu</a>
EMPLOYMENT	<i>Assistant Professor</i> , <b>Cornell Tech</b> , ORIE, NYC, NY <i>Postdoctoral Fellow</i> , <b>Harvard University</b> , Statistics, Cambridge, MA • Under the supervision of Susan A. Murphy	2023- 2022-2023
EDUCATION	<b>Carnegie Mellon University</b> , Tepper School of Business, Pittsburgh, PA • Ph.D. in Operations Research (Minor in Machine Learning) • Thesis: <i>Modern Methods in Precision Medicine</i> • Committee: Sridhar Tayur (Co-chair), Andrew A. Li (Co-chair), Zachary Lipton, Alan Scheller-Wolf, Tinglong Dai <b>Smith College</b> , Northampton, MA. • B.A.s, Mathematics, Economics • Honors: Dean's List 2014 – 2017, Elected Sigma Xi 2017, Ann Kirsten Pokora Prize (excellence in mathematics) <b>University of California, San Diego</b> , La Jolla, CA. • Honors: Provost Honors 2013—2014	2017–2022        2014–2017        2013–2014
AWARDS	• Finalist, 2023 INFORMS DMDA Workshop Best Paper Competition – Theoretical Track • Winner, 2021 INFORMS Pierskalla Best Paper Award • Winner, 2021 CHOW Best Student Paper in the Category of Operations Research and Management Science • Finalist, 2019 INFORMS IBM Service Science Best Student Paper Award • Tata Consultancy Services Fellowship, 2020 • William Larimer Mellon PhD Fellowship, 2017-2019, 2021, 2022	
GRANTS	• AWS Credit Grants – Cornell's Center for Data Science for Enterprise and Society, 2024-2025	
PREPRINTS	• <b>MOSIC: Model-Agnostic Optimal Subgroup Identification with Multi-Constraint for Improved Reliability</b> Wenxin Chen, Weishen Pan, Kyra Gan, and Fei Wang • <b>From Restless to Contextual: A Thresholding Bandit Approach to Improve Finite-horizon Performance</b> Jiamin Xu, Ivan Nazarov, Aditya Rastogi, Africa Parianez, and Kyra Gan • <b>LoSAM: Local Search in Additive Noise Models with Unmeasured Confounders, a Top-Down Global Discovery Approach</b> Sujai Hiremath, Promit Ghosal, and Kyra Gan • <b>Online Uniform Sampling: Randomized Learning-Augmented Approximation Algorithms with Application to Digital Health</b> Xueqing Liu, Kyra Gan, Esmaeil Keyvan-shokooh, and Susan A. Murphy	
REFEREED CONFERENCE PROCEEDINGS	• <b>Reward Maximization for Pure Exploration: Minimax Optimal Good Arm Identification for Nonparametric Multi-Armed Bandits</b> Artificial Intelligence and Statistics Conference (AISTATS) 2025 Brian Cho, Dominik Meier, Kyra Gan, and Nathan Kallus • <b>CSPI-MT: Calibrated Safe Policy Improvement with Multiple Testing for Threshold Policies</b> ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) 2025 Brian Cho, Ana-Roxana Pop, Kyra Gan, Sam Corbett-Davies, Israel Nir, Ariel Evnine, and Nathan Kallus	

- **Local Causal Discovery for Structural Evidence of Direct Discrimination**  
The AAAI Conference on Artificial Intelligence 2025  
Jacqueline Maasch, Kyra Gan, Violet Chen, Agni Orfanoudaki, Nil-Jana Akpinar, and Fei Wang
- **Hybrid Top-Down Global Causal Discovery with Local Search for Linear and Non-linear Additive Noise Models**  
Conference on Neural Information Processing Systems (NeurIPS) 2024  
Sujai Hiremath, Jaqueline Maasch, Mengxiao Gao, Promit Ghosal, and Kyra Gan
- **Peeking with PEAK: Sequential, Nonparametric Composite Hypothesis Tests for Means of Multiple Data Streams**  
International Conference on Machine Learning (ICML) 2024  
Brian Cho, Kyra Gan, and Nathan Kallus
- **Local Causal Discovery by Partitioning: Polynomial-Time Causal Discovery around Exposure-Outcome Pairs**  
Uncertainty in Artificial Intelligence (UAI) 2024  
Jacqueline Maasch, Weishen Pan, Shantanu Gupta, Volodymyr Kuleshov, Kyra Gan, and Fei Wang  
A preliminary version appeared in the Causal Representation Learning Workshop (Neurips 2023)
- **Kernel Debiased Plug-in Estimation: Simultaneous, Automated Debiasing without Influence Functions for Many Target Parameters**  
International Conference on Machine Learning (ICML) 2024  
Finalist, 2023 INFORMS DMDA Workshop Best Paper Competition – Theoretical Track  
Brian Cho, Yaroslav Mukhin, Kyra Gan, and Ivana Malenica
- **Anytime-Valid Inference in N-of-1 Trials**  
Machine Learning for Health (ML4H) symposium 2023  
Ivana Malenica, Yongyi Guo, Kyra Gan, and Stefan Konigorski
- **Contextual Bandits with Budgeted Information Reveal.**  
Artificial Intelligence and Statistics Conference (AISTATS) 2024  
Kyra Gan, Esmaeil Keyvanshokoo, Xueqing Liu, and Susan A. Murphy
- **Greedy Approximation Algorithms for Active Sequential Hypothesis Testing.**  
Conference on Neural Information Processing Systems (NeurIPS) 2021  
Kyra Gan\*, Su Jia\*, and Andrew Li
- **Causal Inference with Selectively Deconfounded Data.**  
Artificial Intelligence and Statistics Conference (AISTATS) 2021  
Kyra Gan, Andrew Li, Zachary Lipton, and Sridhar Tayur
- **Data Visualization of Agent-Based Modeling of Virus Spread.**  
International Conference on Advanced Communications and Computation (INFOCOMP) 2017  
Jingyi Gan and Dominique Thiébaud.

JOURNAL  
PUBLICATIONS

- **Improving Treatment Responses through Limited Nudges: A Data-Driven Learning and Optimization Approach.**  
Esmaeil Keyvanshokoo, Kyra Gan, Yongyi Guo, Xueqing Liu, Anna L. Trella, and Susan A. Murphy
- **Toward a Liquid Biopsy: Greedy Approximation Algorithms for Active Sequential Hypothesis Testing.**  
2024. Forthcoming *Management Science*  
Winner, 2021 INFORMS Pierskalla Best Paper Award  
Kyra Gan\*, Su Jia\*, Andrew Li, and Sridhar Tayur
- **Awarding Additional MELD Points to the Shortest Waitlist Candidates Improves Sex Disparity in Access to Liver Transplant in the United States.**  
*American Journal of Transplant* 2022  
Sarah Bernards, Eric Lee, Ngai Leung, Mustafa Akan, Kyra Gan, Huan Zhao, Monika Sarkar, Sridhar Tayur, Neil Mehta

- **Machine Learning Algorithms for Predicting Hospital Readmissions in Sickle Cell Disease.**  
*British Journal of Haematology 2020*  
Arisha Patel\*, Kyra Gan\*, Andrew A. Li, Jeremy Weiss, Seyed Mehdi Nouraie, Sridhar Tayur, and Enrico M Novelli.  
Extended abstract appeared in ASH Annual Conference 2019.
- **Causal Inference with Selectively Deconfounded Data.**  
*Management Science* 2nd round: major revision  
Kyra Gan, Andrew Li, Zachary Lipton, and Sridhar Tayur.
- **Optimizing Wearable Devices in Personalized Opioid Use Disorder Treatments Under Budget Constraints.**  
2021 CHOW Best Paper in the Category of Operations Research and Management Science  
Finalist, 2019 IBM Service Science Best Student Paper Award  
Kyra Gan, Yanhan (Savannah) Tang, Alan Scheller-Wolf, and Sridhar Tayur.

#### SELECTED TALKS

- Cornell AI Seminar, *Efficient Local and Global Causal Discovery: Methods Leveraging Causal Substructures for Improved Finite Sample Performance*, Virtual, Feb 14, 2025
- Workshop on Individualized Decision Making, panelist on implementation challenges of individualized decisions, Berkeley, July 18-19, 2024
- Conference on Health, Inference, and Learning (CHIL), moderator, the panel on behavioral health and economics, New York, June 27-28, 2024
- Pre-Enar Workshop on Statistical Methods for Digital Health Technologies data, *Online Uniform Risk Times Sampling*, Baltimore, March 2024
- Learning on Graphs New York, *A Gentle Introduction to Causal Discovery and Local Discovery*, Jersey City, March 2024
- Information Theory and Applications Workshop, *Online Uniform Risk Times Sampling*, San Diego, Feb 2024
- Cornell Center for Applied Mathematics Colloquium, *Kernel Debiased Plug-in Estimation*, Ithaca, Feb 2024
- Workshop on Quantifying Uncertainty: Stochastic, Adversarial, and Beyond, Simons Institute for the Theory of Computing, *Greedy Approximation Algorithms for Active Sequential Hypothesis Testing*, September 2022
- Harvard Statistics Colloquium, *Greedy Approximation Algorithms for Active Sequential Hypothesis Testing*, October 2022
- IMSI workshop on Machine Learning and Artificial Intelligence for Personalized Medicine, *Contextual Bandits with Budgeted Information Reveal*, April 2023

#### TEACHING AT CORNELL TECH

- **ORIE 5217: Digital N-of-1 Trials and Their Application** Spring 2025
- **ORIE 7790: Selected topics in Applied Statistics – Statistical and Optimization Methods for Decision-Making in Healthcare** Spring 2024
- **CS 5785/ORIE 5750/ECE 5414, Applied Machine Learning** Fall 2023, 2024

#### TEACHING AT CMU

- **Mathematical Modeling for Consulting, Instructor** Jan - May 2021

#### COMMUNITY SERVICE

- Co-chairing 2022 INFORMS Pierskalla Award Competition
- PhD student admission committee: 2023 ORIE, 2024 CAM
- Serving as a reviewer for Transactions on Machine Learning Research, Management Science, Manufacturing & Service Operations Management, Production and Operations Management, INFORMS Journal of Computing, International Conference of Machine Learning