Hammaad Adam

1 Jay St, Apt 2 | Cambridge, MA 02139
Tel: (203) 443-3175 | hadam@mit.edu

RESEARCH INTERESTS

My research focuses on questions at the intersection of machine learning and healthcare equity. My current work is driven by two key goals: (1) identifying racial and other disparities in healthcare using statistical and causal inference, and (2) investigating novel ways to use machine learning to create more equitable systems. I am particularly passionate about the second, as it goes beyond auditing bias and actively addresses existing inequity. Methodologically, I am interested in causal inference, probabilistic machine learning, algorithmic fairness, and natural language processing.

EDUCATION

Massachusetts Institute of Technology, Cambridge, MA — Aug 2020-Present

- PhD student in Social and Engineering Systems at the Institute for Data, Systems, and Society (IDSS); GPA: 4.0/4.0
- Advisor: Dr. Marzyeh Ghassemi
- Coursework: probability theory, mathematical statistics, machine learning, causal inference, natural language processing, market design

Columbia University, New York, NY — Aug 2018-Dec 2019

- Master of Science in Data Science, GPA: 4.1/4.0
- Coursework: graphical models, approximate inference, Bayesian statistics, algorithms

Yale University, New Haven, CT — Aug 2012-May 2016

- Bachelor of Science in Applied Mathematics; GPA: 3.9/4.0, magna cum laude

WORK EXPERIENCE

***Research Intern*, Microsoft Research,** Cambridge, MA — May 2022-Aug 2022

- Assess the fairness implications of early stopping rules in clinical trials and A/B testing, and develop more equitable methods
- Mentors: Allison Koenecke, Lester Mackey, Lorin Crawford, Neil Tenenholtz, Fan Yin

***Senior Analyst*, Altman Vilandrie & Company,** Boston, MA — Sep 2016-May 2018

- Provided strategy consulting and M&A advisory for telecom, media, and technology firms
- Led data analysis, financial modeling, and client presentations on a variety of projects

PUBLICATIONS

Adam, H., Yang, M.Y., Cato, K., Baldini, I., Senteio, C., Celi, L.A., Zeng, J., Singh, M. and Ghassemi, M., 2022. Write It Like You See It: Detectable Differences in Clinical Notes By Race Lead To Differential Model Recommendations. In *Proceedings of the 2022 AAAI/ACM Conference on AI, Ethics, and Society (AIES'22)*. https://doi.org/10.1145/3514094.3534203

Rube, H.T., Rastogi, C., Feng, S., Kribelbauer, J.F., Li, A., Becerra, B., Melo, L.A., Do, B.V., Li, X., **Adam, H**. and Shah, N.H., 2022. Prediction of protein–ligand binding affinity from sequencing data with interpretable machine learning. *Nature Biotechnology*, pp.1-8.

WORKING PAPERS

Machine Learning for Demand Estimation in Long Tail Markets
With Fanyin Zheng and Pu He
Major revision, *Management Science*
Preprint: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3702093

Just Following AI Orders: When Unbiased People Are Influenced By Biased AI
With Aparna Balagopalan, Emily Alsentzer, Fotini Christia, and Marzyeh Ghassemi
Revise & resubmit, *Communications Medicine*

Fair Organ Allocation Learning
With Rene Bermea, Ming Ying Yang, Leo Celi, and Marzyeh Ghassemi
In preparation

HONORS AND AWARDS

MIT Jameel Clinic Grant (with PI: Dr. Marzyeh Ghassemi), 2021
MIT IBM Watson AI Lab Grant (with PI: Dr. Marzyeh Ghassemi), 2021
MIT Bose Fellowship, 2020

PRESENTATIONS

MIT-MGB AI Cures Poster Session, April 2022
MIT Jameel Clinic Seminar, March 2022
Empirical Operations Workshop, INFORMS, October 2021
Empirical Operations Management Workshop, INFORMS, November 2020

MENTORSHIP

MIT Undergraduate Research Opportunities Program (Ming Ying Yang)

SKILLS & INTERESTS

Avid skier, novice curler, retired rugby player
Former college classic rock radio show host