HAMMAAD ADAM

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RESEARCH AREAS

Digital Experimentation (A/B Testing), Machine Learning, Causal Inference
Clinical Trials, Healthcare Disparities, Healthcare Operations

EDUCATION

Massachusetts Institute of Technology, Cambridge, MA   Aug 2020-Present
- PhD student in Social and Engineering Systems and Statistics; GPA: 4.0/4.0
- Department: Institute for Data, Systems, and Society (IDSS)
- Advisors: Profs. Marzyeh Ghassemi and Nikhil Agarwal
- Coursework: machine learning, probability theory, mathematical statistics, causal inference, natural language processing, market design, econometrics

Columbia University, New York, NY   Aug 2018-Dec 2019
- Master of Science in Data Science, GPA: 4.1/4.0
- Coursework: machine learning, Bayesian statistics, probabilistic models, 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

Applied Scientist Intern, **Amazon,** Seattle, WA   Jun 2024-Sep 2024
- Developed new causal inference methods for Weblab, Amazon's internal experimentation platform that is used to run over 100,000 A/B tests every year
- Combined classical and novel statistical methods to find the outcome metrics most impacted by the treatment in large-scale digital experiments with millions of users

Research Intern, **Microsoft Research,** Cambridge, MA   May 2022-Aug 2022
- Assessed the fairness implications of early stopping rules in sequential A/B testing and clinical trials with heterogeneous populations
- 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

SELECTED PUBLICATIONS

1. **Adam, Hammaad**, Fan Yin, Mary Hu, Neil Tenenholtz, Lorin Crawford, Lester Mackey, and Allison Koenecke. "Should I Stop or Should I Go: Early Stopping with Heterogeneous Populations." *NeurIPS*, 2023.

   → *NeurIPS Spotlight Presentation (top ~5% of submissions)*
   → *Presented at: CoDE 2023 (parallel talk)*, INFORMS 2023, IC2S2 2023 (parallel talk)

2. **Adam, Hammaad**, Pu He, and Fanyin Zheng. "Machine learning for demand estimation in long tail markets." *Management Science* (forthcoming).

   → *Presented at: INFORMS (2020, 2021)*

3. **Adam, Hammaad**, Aparna Balagopalan, Emily Alsentzer, Fotini Christia, and Marzyeh Ghassemi. "Mitigating the impact of biased artificial intelligence in emergency decision-making." *Communications Medicine* 2, no. 1 (2022): 149.

   → *Presented at*: *NeurIPS Workshop on Trustworthy, Safe, and Reliable ML (2022)*
   → *Media coverage*: *MIT News*

4. **Adam, Hammaad**, Ming Ying Yang, Kenrick Cato, Ioana Baldini, Charles Senteio, Leo Anthony Celi, Jiaming Zeng, Moninder Singh, and Marzyeh Ghassemi. "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)*, pp. 7-21. 2022.

   → *Presented at*: *AIES (lighting talk), SickKids Bioethics Week (2022)*
   → *Media coverage*: *STAT, MIT News*

5. Rube, H. Tomas, Chaitanya Rastogi, Siqian Feng, Judith F. Kribelbauer, Allyson Li, Basheer Becerra, Lucas AN Melo Bach Viet Do, Xiaoting Li, **Hammaad Adam**, Neel H. Shah, Richard S. Mann & Harmen J. Bussemaker. "Prediction of protein–ligand binding affinity from sequencing data with interpretable machine learning." *Nature biotechnology* 40, no. 10 (2022): 1520-1527.

HONORS AND AWARDS

Robert Wood Johnson Evidence for Action grant (~$500k, with PI: Dr. Marzyeh Ghassemi), 2024
MIT Prize for Open Data, 2023
MIT Racism Research Fund Grant (with PI: Dr. Marzyeh Ghassemi), 2023
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

SERVICE

Reviewing
- *Journals*: Management Science, Journal of Racial and Ethnic Health Disparities, Nature Scientific Data
- *Conferences / Workshops*: FAccT (2023, 2024), CHIL (2023), Machine Learning for Health (2022)

Mentorship
- MIT Undergraduate Research Opportunities Program (Ming Ying Yang)
- Try AI Micro-Internship Program for early college students, 2023.

SKILLS AND INTERESTS

- R, Python (including pandas, sklearn and PyTorch), Stan, SQL, Java, MATLAB
- Avid skier, novice curler, retired rugby player
- Former college classic rock radio show host