Shuvom Sadhuka

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EDUCATION

Massachusetts Institute of Technology Cambridge, MA
PhD candidate in Computer Science 2027 (expected)
Research Interests: AI and Decision-making, Privacy, Applications to Biomedicine

Massachusetts Institute of Technology Cambridge, MA
SM in Computer Science September 2023
Concentration: AI

Harvard University Cambridge, MA
AB in Computer Science and Statistics May 2022
Extracurriculars: Harvard College Bhangra, Harvard Crimson, Harvard College Consulting Group, Harvard Sports Analytics Collective

PREPRINTS & PUBLICATIONS (* co-first)

[w] = working paper and/or under review, [p] = full publication

[w] S. Sadhuka, D. Prinster, C. Fannjiang, G. Scalia, A. Regev, H. Wang. *E-validation: Validating Agent Trajectories with Sequential Hypothesis Testing*. Working paper.

[w] S. Balachandar, S. Sadhuka, B. Berger, E. Pierson, N. Garg. *Using GNNs to Model Biased Crowdsourced Data for Urban Applications*. *ICML Workshop on Humans, Algorithmic Decision-Making and Society* 2024; under review 2025

[p] D. Shanmugam*, S. Sadhuka*, M. Raghavan, J. Guttag, B. Berger, E. Pierson. *Estimating Classifier Performance with Limited Labels*. NeurIPS 2025

[p] S. Sadhuka, S. Lin, B. Berger**. E. Pierson**. *A Bayesian Model for Multi-stage Censoring*. **spotlight presentation at** ML4H 2024 (findings track)

[p] H. Cho, D. Froelicher*, N. Dokmai*, A. Nandi*, S. Sadhuka*, M. Hong*, B. Berger. *Privacy-Enhancing Technologies in Biomedical Data Science*. *Annual Reviews in Biomedical Data Science* 2024

[p] S. Sadhuka, D. Fridman, B. Berger, H. Cho. *Assessing transcriptomic reidentification risks using discriminative sequence models*. *Genome Research* 2023; **oral presentation at** *RECOMB 2023*

[p] H. Pirie, S. Sadhuka, J. Wang, R. Andrei, J. Hoffman. *Topological phononic logic*. **Cover article in** *Physical Review Letters* 2022

- *Press: Science Daily, Harvard SEAS, IEEE Spectrum, Hackaday*

[p] Q. Wang, D. Kelley, J. Ulrisch, M. Kanai, S. Sadhuka, R. Cui, C. Albors, N. Cheng, Y. Okada, Biobank Japan Project, F. Aguet, K. Ardlie, D. MacArthur, H. Finucane. *Leveraging supervised learning for functionally informed fine-mapping of cis-eQTLs identifies an additional 20,913 putative causal eQTLs. Nature Communications* 2021

TALKS & POSTERS

MIT Machine Learning Tea [Talk] 2025
Machine Learning for Health Symposium. Vancouver, Canada [Spotlight Talk] 2024
ACM Conference on Health, Inference, and Learning. New York, NY [Poster] 2024
Research in Computational Molecular Biology. Istanbul, Turkey [Talk] 2023

- *YouTube*

American Society of Human Genetics Annual Meeting. Virtual [Talk] 2021
American Society of Human Genetics Annual Meeting. Virtual [Talk] 2020

SELECTED HONORS & AWARDS

MIT Envisioning the Future of Computing Essay, Honorable Mention 2023
National Science Foundation Graduate Research Fellowship 2022
Hertz Foundation Fellowship 2022

TEACHIING EXPERIENCE

Massachusetts Institute of Technology Cambridge, MA
TA, 18.418: Topics in Computational Molecular Biology (Prof. Bonnie Berger) Fall 2023

Harvard University Cambridge, MA
TF, CS 124: Data Structures and Algorithms (Prof. Michael Mitzenmacher) Spring 2021, 2022

- Derek Bok Award for Distinction in Teaching

TF, MCB 112: Biological Data Analysis (Prof. Sean Eddy) Fall 2020
TF, Stat 110: Introduction to Probability (Prof. Joe Blitzstein) Fall 2019

REVIEWING AND SERVICE

Roundtable Chair, ML4H 2024 2024
Member, NIST AI Safety Institute Task Force on Red Teaming 2024
Planning Committee, Hertz Foundation Summer Workshop 2023
Reviewing: NeurIPS, ICLR, ICLR MLGenX workshop, Journal of Computational Biology, *PNAS*

LEADERSHIP & OUTREACH

Mentor Training Chair, MIT EECS Graduate Application Assistance Program. 2024-present

- Mentor, 2022-present

Tutor, Research Science Institute Summer 2023, 2024

Non-Resident Tutor, Mather House (Harvard University) 2022-2023
Co-captain, Harvard College Bhangra 2020-2022

MENTORSHIP

Ragulan Sivakumar (MEng student) Fall 2024-Spring 2025
Sophia Lin (RSI summer student) Summer 2024-Fall 2024

INDUSTRIAL EXPERIENCE

Genentech San Francisco, CA
ML Research Intern 2025
Working on statistical methods for monitoring LLM agents.

BBN Technologies Cambridge, MA
Software Intern, Machine Translation Division 2020

REFERENCES

Bonnie Berger
Massachusetts Institute of Technology
Simons Professor of Mathematics and of Computer Science
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Emma Pierson
University of California, Berkeley
Assistant Professor of Electrical Engineering and Computer Science
emma.pierson@berkeley.edu

Hyunghoon Cho
Yale University
Assistant Professor of Biomedical Informatics and Data Science
hhcho@broadinstitute.org