Suproteem K. Sarkar

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Education

Ph.D. Economics, Harvard University, 2019 - present.

Graduate coursework: Empirical Studies of Innovation and Digitization, Econometrics, Corporate Finance, Asset Pricing, Theoretical and Empirical Perspectives on Entrepreneurship, Psychology and Economics, Market Design, Robust Machine Learning, Probabilistic Machine Learning, Algorithmic Game Theory.

NSF Graduate Research Fellowship. Second Year Requirements Completed in December 2019

S.M. Applied Mathematics, Harvard University, 2019.

A.B. Computer Science, *summa cum laude*, Harvard University, 2019.

GPA 3.97/4.00, Phi Beta Kappa.

Research

In Progress

Welfare Effects of Machine Learning in Health Policy (with Sendhil Mullainathan and Ziad Obermeyer).

The Behavioral Impact of Recommender Algorithms (with Jon Kleinberg and Sendhil Mullainathan).

The New Vaporware? Estimating the Returns to High-Tech Branding in the AI Founder's Paradise.

Human Capital and Technical Sophistication in AI Adaption Across Firms.

Published and Forthcoming

Constitutional Dimensions of Predictive Algorithms in Criminal Justice (with Michael Brenner, Jeannie Suk Gersen, Michael Haley, Matthew Lin, Amil Merchant, Richard Jagdishwar Millett, Drew Wegner).

Forthcoming, *Harvard Civil Rights-Civil Liberties Law Review*, 2020.

Universal Causal Evaluation Engine (with Alexander Lin, Amil Merchant, and Alexander D'Amour). *[PDF]*

Published in *Proceedings of Machine Learning Research*, 2019.

Presented at *ACM KDD Workshop on Causal Discovery*, Ancorage, 2019.

Robust Classification of Financial Risk (with Kojin Oshiba, Daniel Giebisch, and Yaron Singer). *[PDF]*

Presented at *Neural Information Processing Systems, Workshop on AI in Financial Services*, Montréal, 2018.

Employment

Software Engineer Intern, Google 2018

Software Engineer Intern, Microsoft 2017

SUPROTEEM SARKAR

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I am applying to the NBER PhD Workshop on the Economics of AI to build on my research interests in the economics of artificial intelligence, engage with leading faculty, and meet with and learn from other researchers in the field.

I am currently enrolled in the PhD program in Economics at Harvard, where I completed my second-year course requirements last December. I also graduated with a Bachelor's in Computer Science and a Master's in Applied Mathematics from Harvard, and spent summer months at Microsoft and Google conducting research on machine learning and its intersections with social science.

My research interests are centered around the economics of artificial intelligence and technology. Among my earlier projects, one paper studies the fragility of deep learning models used for financial applications, and proposes both methodological and practical changes that might make these models more robust in practice. Another project, forthcoming in *Harvard Civil Rights-Civil Liberties Law Review*, studies risk assessment technologies in criminal justice from a law and economics perspective.

More recently, I am studying the welfare effects of machine learning-informed health policy, using information from the health impacts of mammogram screening policy changes in Denmark, in joint work with Sendhil Mullainathan and Ziad Obermeyer. Another project, also with Mullainathan, studies how predictive models used in recommender systems affect consumer behavior. Furthermore, I am researching AI adaption in early-stage ventures, estimating both markups to VC funding for firms advertising AI methods and products, as well as heterogeneity in firms' effectiveness in using AI tools.

I strongly believe taking part in the workshop will help me develop as a researcher in this field. The content has a strong overlap with my research interests, and I would appreciate a chance to meet with and learn from other researchers in the discipline.

I am thankful for the support of a National Science Foundation Graduate Research Fellowship for some of the research discussed in this application.