Annie Liang

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EMPLOYMENT	**Northwestern University** Assistant Professor of Economics (primary): 2021 – present Karr Family Assistant Professor of Computer Science: 2021 – present **University of Pennsylvania** Assistant Professor of Economics: 2017 – 2020 **Microsoft Research New England** Postdoctoral Researcher: 2016 – 2017
EDUCATION	**Harvard University** Ph.D. in Economics (June 2016) **Massachusetts Institute of Technology** S.B. in Mathematics and S.B. in Economics (June 2011)
PEER-REVIEWED PUBLICATIONS	**Measuring the Completeness of Economic Models** (with Drew Fudenberg, Jon Kleinberg, and Sendhil Mullainathan), *Journal of Political Economy*, Vol. 130(4), Pages 956-990, 2022 (presented at EC 2017) **Dynamically Aggregating Diverse Information** (with Xiaosheng Mu and Vasilis Syrgkanis), *Econometrica*, Vol. 90 (1), Pages 47-80, 2022 (presented at EC 2021) **Complementary Information and Learning Traps** (with Xiaosheng Mu), *Quarterly Journal of Economics*, Vol. 135 (1), Pages 389-448, 2020 (presented at EC 2018) **Predicting and Understanding Initial Play** (with Drew Fudenberg), *American Economic Review*, Vol. 109 (12), Pages 4112-4141, 2019 (presented at EC 2019, invited plenary session) **Inference of Preference Heterogeneity from Choice Data**, *Journal of Economic Theory*, Vol. 179, Pages 275-311, 2019 **Optimal and Myopic Information Acquisition** (with Xiaosheng Mu and Vasilis Syrgkanis), *Proceedings of the 2018 ACM Conference on Economics and Computation*, Pages 45-46, 2018.
INVITED PUBLICATIONS	**Machine Learning for Evaluating and Improving Theories** (with Drew Fudenberg), *SIGEcom Exchanges*, Vol. 18 (1), Pages 4-11, 2020
WORKING PAPERS	**The Transfer Performance of Economic Models**, with Isaiah Andrews, Drew Fudenberg, and Chaofeng Wu **Algorithmic Design: Fairness Versus Accuracy**, with Jay Lu and Xiaosheng Mu

How Flexible is That Functional Form? Quantifying the Restrictiveness of Theories, with Drew Fudenberg and Wayne Gao (presented at EC 2021)
- selected as the "Exemplary AI and Computation Track Paper" at EC '21

Data and Incentives, with Erik Madsen (presented at EC 2020)

Games of Incomplete Information Played by Statisticians

GRANTS AND AWARDS	NSF CAREER Grant SES-2145352, "Information, Algorithms, and Learning," 2022-2027

American Economic Review Excellence in Refereeing Award, 2019

NSF Grant SES-1851629 (with Aislinn Bohren), "Learning from Diverse Sources and Models," 2019-2022

University Research Foundation Grant (with David Dillenberger)

Kravis Award for Outstanding Undergraduate Teaching in Economics, University of Pennsylvania, 2018-2019

PROFESSIONAL ACTIVITIES

Referee for *AEJ: Micro*, *American Economic Review*, *AER: Insights*, *Econometrica*, *Economic Journal*, *International Economic Review*, *Journal of Economic Theory*, *Journal of Political Economy*, *Management Science*, *Theoretical Economics*, *The Review of Economics and Statistics*, and *Quarterly Journal of Economics*.

Reviewer for *STOC*, *Artificial Intelligence*.

ACM Conference on Economics and Computation (EC)
- Program Committee: EC '17 - EC '20
- Workshop Chair: EC '20, EC '21
- Area Chair: EC '21

Conference/Workshop Organization:

- *NeurIPS Workshop: Human and Machine Decisions* (co-organized with Daniel Reichman, Joshua Peterson, Kiran Tomlinson, and Tom Griffiths), 2021
- *NeurIPS Workshop: Learning in the Presence of Strategic Behavior* (co-organized with Nika Haghtalab, Yishay Mansour, Omer Ben-Porat, David Parkes), 2021
- *Algorithms and their Social Impact* (co-organized with Avrim Blum, Ben Golub, Samir Khuller, Jason Hartline, and Aravindan Vijayaraghavan), part of the Northwestern CS Quarterly Theory Workshop, 2021
- *Machine Learning and Strategic Behavior* (co-organized with Ben Golub, Jason Hartline, Marciano Siniscalchi, and Alireza Tahbaz-Salehi), part of the Northwestern Quarterly CS+Econ Workshop, 2021
- *NeurIPS Workshop: Machine Learning for Economic Policy* (co-organized with Nika Haghtalab, Jamie Morgenstern, Alex Trott, David Parkes, and Stephan Zhang), 2020
- *Economics of Data Conference* (co-organized with Michael Kearns and Rakesh Vohra), hosted by the University of Pennsylvania Warren Center, 2018
- *Predictive Game Theory* (co-organized with Jason Hartline), part of the Special Quarter on Data Science and Online Markets hosted by the Northwestern CS Department, 2018

Invited Talks

2021-2022. *Seminars:* Princeton Behavioral & Experimental, Berkeley-UChicago Behavioral, Western Ontario, Northwestern Econometrics, Stanford Behavioral & Experimental, University of Wisconsin-Milwaukee, UMichigan Statistics, Israel Algorithmic Game Theory, Berkeley Haas, Harvard Kennedy School, Berkeley Economics, Tepper CMU, Harvard Behavioral/Experimental, London Business School, Paris School of Economics, Harvard-MIT, UBC, UChicago Econometrics. *Conferences:* INFORMS Session on "Platforms, Data, and Algorithms," International Workshop on Economic Theory, SIGecom Winter Meeting, Simons Workshop: Learning in the Presence of Strategic Behavior, Behavioral Incentives/Mechanisms Mini-Conference. *Plenary:* WINE 2021.

2020-2021. *Seminars:* University of Aalto, Emory University, Microsoft Research, MIT Sloan, University of Arizona, LUISS, Duke-UNC, Harvard CS-Econ Seminar, Research on Algorithms and Incentives in Networks (Stanford), Peking University (CS), Virtual Seminar in Economic Theory, University of Michigan, Joint Asian Theory (co-organized by Kyoto U, Osaka U, NTU, Academia Sinica, HKBU), Virginia Tech, University of Pisa, NYU Quantitative Methods Seminar, Coller School of Management (Tel Aviv University), Virtual Market Design (co-organized by Bonn, Manheim, Paris, and Karlsruhe), Peking University (Economics), CUHK-HKU-HKUST Joint Theory, LMU Munich, Seminars in Economic Theory (Warwick). *Conferences:* AEA 2020, 32nd Stony Brook Conference on Game Theory, Workshop on Strategic Communication and Learning (Stonybrook), Workshop on Applications of Revealed Preference, EC '21, RINSE, SITE Psychology and Economics (Stanford).

2019-2020. *Seminars:* University of Maryland, Georgetown University, UCLA, University of Edinburgh, Northwestern CS, BU, University of Oxford, UCL, University of Warwick, Northwestern Economics. *Conferences:* NYU Stern IO Day, Simons Workshop (Berkeley), Workshop in Experiments, Revealed Preferences, and Decisions, SITE Dynamic Games (Stanford).

2018-2019. *Seminars:* Brown, University of Chicago, EUI, Harvard/MIT, NYU, New Economic School, Higher School of Economics, UT Austin, Berkeley, University of Michigan SBEE, University of Pittsburgh/CMU, Cornell Johnson SBE, Kellogg Strategy, UCSD, Central European University, CERGE-EI, University of Bonn, University of Cologne. *Conferences:* The "FATE" of Technology: Fairness, Accountability, Transparency, and Ethics (Warren Center, UPenn), Arizona State University Economic Theory Conference, East Coast Behavioral/Experimental Conference, Nemmers Conference in Honor of David Kreps (Northwestern), Barcelona GSE Summer Forum: Workshop on Stochastic Choice, 30th Stony Brook Conference on Game Theory, Workshop on Information Economics (Queen Mary University at London), Summer Institute in Computational Social Science (Princeton), RINSE. *Plenary:* "Highlights Beyond EC" session at EC '19.

2017-2018. *Seminars:* Princeton (Behavioral/Experimental), UCLA, LSE, Cambridge University, Stanford (Behavioral/Experimental), Stanford (Theory). *Conferences:* Cambridge Area Economics and Computation Day (Microsoft Research), AEA, Influence and the Media Workshop (John Hopkins), Predictive Game Theory Workshop (Northwestern CS), Cowles Conference in Economic Theory, EC '18, European Summer Symposium in Economic Theory (Gerzensee), Workshop on Learning and Strategic Behavior (Toyota Technological Institute in Chicago), European Summer Meeting of the Econometric Society.

2016-2017. *Seminars:* University of Toronto, University of Rochester, Columbia University, IIES (Stockholm University), Tel Aviv University. *Conferences:* YoungEC Workshop (Tel Aviv University), Pennsylvania Theory Conference, EC '17, Big Data Conference (Harvard CMSA), SITE Experimental Economics (Stanford).

2015-2016. *Seminars:* University of Pennsylvania, Harvard Kennedy School, Boston University, Microsoft Research New England, University of Southern California, Cornell University, Kellogg School of Management (MEDS), Hebrew University, Center for Mathematical Social Sciences (Harvard), Affective Brain Lab (UCL). *Conferences:* Conference in Market Design and Microeconomic Theory (Seoul), Frontiers of Economic Theory and Computer Science (UChicago), SITE Psychology and Economics (Stanford).

TEACHING

Northwestern

- COMPSCI 396, Theory of Data and Decisions (undergraduate): Spring 2022
- ECON 412-1, Learning, Information, and Data (graduate): Fall 2021
- COMPSCI 496, Learning, Information, and Data (graduate): Spring 2021

Harvard

- ECON 2052, Advanced Game Theory (graduate): Fall 2020

University of Pennsylvania

- ECON 212, Game Theory (undergraduate): Fall 2017, Fall 2018, Fall 2019.
- ECON 782, Topics in Economic Theory: Beliefs, Learning, and Information (graduate): Spring 2018, Spring 2019, Fall 2019 (half-term)

PERSONAL

Citizenship: US; Place of Birth: Urbana, IL.