Keegan W. Harris

Curriculum Vitae – October 2023

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Education

Carnegie Mellon University — Pittsburgh, PA
Machine Learning Ph.D. Student — *August 2020 - Present*
Master of Science - Machine Learning — *December 2022*
Advisors: Nina Balcan and Steven Wu

The Pennsylvania State University — State College, PA
Bachelor of Science - Computer Science (Mathematics minor; summa cum laude) — *May 2019*
Bachelor of Science - Physics (summa cum laude) — *May 2019*

Employment

Microsoft Research Lab - New England — Cambridge, MA
Research Intern — *May 2023 - August 2023*
Mentors: Nicole Immorlica, Brendan Lucier, and Alex Slivkins

Vitable Health (YC S20) — Philadelphia, PA
Machine Learning Consultant — *January 2022 - June 2022*

Publications

Conference Proceedings:

1. Anish Agarwal*, **Keegan Harris***, Justin Whitehouse*, and Zhiwei Steven Wu*. *Adaptive Principal Component Regression with Applications to Panel Data.* Neural Information Processing Systems (NeurIPS), 2023.
2. Mikhail Khodak*, Ilya Osadchiy*, **Keegan Harris**, Maria-Florina Balcan, Kfir Levy, Ron Mier, and Zhiwei Steven Wu. *Meta-Learning Adversarial Bandit Algorithms.* Neural Information Processing Systems (NeurIPS), 2023.
3. **Keegan Harris**, Chara Podimata, and Zhiwei Steven Wu. *Strategic Apple Tasting.* Neural Information Processing Systems (NeurIPS), 2023.
4. **Keegan Harris***, Ioannis Anagnostides*, Gabriele Farina, Mikhail Khodak, Zhiwei Steven Wu, and Tuomas Sandholm. *Meta-Learning in Games.* International Conference on Learning Representations (ICLR), 2023.
5. **Keegan Harris**, Valerie Chen, Joon Sik Kim, Ameet Talwalkar, Hoda Heidari, and Zhiwei Steven Wu. *Bayesian Persuasion for Algorithmic Recourse.* Neural Information Processing Systems (NeurIPS), 2022.
6. **Keegan Harris**, Daniel Ngo*, Logan Stapleton*, Hoda Heidari, and Zhiwei Steven Wu. *Strategic Instrumental Variable Regression: Recovering Causal Relationships From Strategic Responses.* International Conference on Machine Learning (ICML), 2022.
7. **Keegan Harris**, Hoda Heidari, and Zhiwei Steven Wu. *Stateful Strategic Regression.* Neural Information Processing Systems (NeurIPS), 2021.

Working Papers:

1. **Keegan Harris**, Nicole Immorlica*, Brendan Lucier*, Aleksandrs Slivkins*. *Effective Persuasion Through Simulation.* Manuscript available upon request.
2. Daniel Ngo*, **Keegan Harris***, Anish Agarwal, Vasilis Syrgkanis, Zhiwei Steven Wu. *Incentive-Aware Synthetic Control: Accurate Counterfactual Estimation via Incentivized Exploration.* https://keeganharris.github.io/IE_SC.pdf
3. **Keegan Harris**, Anish Agarwal, Chara Podimata, and Zhiwei Steven Wu. *Strategyproof Decision-Making in Panel Data Settings and Beyond.* https://arxiv.org/abs/2211.14236

Awards and Honors

NDSEG Fellowship — *April 2022*
Graduate fellowship funded by the United States Department of Defense

Evan Pugh Senior Scholar Award — *May 2019*
Awarded to senior Penn State students in the top 0.5% of GPA

*Denotes equal contribution and/or alphabetical ordering

Phi Beta Kappa *April 2018*
Honors society, inducted as a junior

Sigma Pi Sigma *April 2018*
Physics honors society, inducted as a junior

Talks

1. "*Effective Persuasion Through Simulation*"
   Google Research NYC, Algorithms Seminar (*forthcoming* January 2023)
   Carnegie Mellon University, Economics Seminar (*forthcoming* January 2023)
   Drexel University, EconCS Seminar (*forthcoming* October 2023)

2. "*Online Meta-Learning in Games and Bandits*"
   Multi-Agent Learning Seminar (*forthcoming* November 2023)
   University of Miami, Industrial and Systems Engineering Seminar (September 2023)

3. "*Algorithmic Decision-Making using Panel Data*"
   Stanford University, Causal Inference Reading Group (*forthcoming* November 2023)
   University of Pennsylvania, Computer Science Theory Seminar (*forthcoming* October 2023)
   University of Miami, Computer Science Seminar (August 2023)
   Microsoft Research Lab - New England, ML Ideas Seminar (August 2023)

4. "*Strategyproof Decision-Making in Panel Data Settings and Beyond*"
   INFORMS Annual Meeting (October 2023)
   Online Causal Inference Seminar (May 2023)
   Carnegie Mellon University, FEAT Reading Group (November 2022)

5. "*Algorithmic Decision-Making Under Incentives: Apple Tasting Feedback and Multiclass Learnability*"
   Carnegie Mellon University, Artificial Intelligence Seminar (September 2023)
   Simons TOC For Fairness Seminar (May 2023)

6. "*Bayesian Persuasion for Algorithmic Recourse*"
   Tübingen University, Setareh Maghsudi's Group Meeting (February 2023)
   3rd Symposium on the Foundations of Responsible Computing (June 2022)
   AAMAS 2022, Learning with Strategic Agents Workshop (May 2022, Oral Presentation)
   NeurIPS 2021, Workshop on Human and Machine Decisions (December 2021, Oral Presentation)

7. "*Strategic Instrumental Variable Regression: Recovering Causal Relationships From Strategic Responses*"
   AAMAS 2022, Learning with Strategic Agents Workshop (May 2022, Oral Presentation)
   ICML 2021, Workshop on Algorithmic Recourse (July 2021, Spotlight Presentation)

8. "*Decision Making Under Strategic Responses*"
   Carnegie Mellon University, FATES Summer Series (August 2021)

9. "*Stateful Strategic Regression*"
   2nd Symposium on the Foundations of Responsible Computing (June 2021)
   Carnegie Mellon University, FEAT Reading Group (March 2021)

Service

External Reviewer:

- ACM Conference on Economics & Computation (EC) 2022
- Conference on Neural Information Processing Systems (NeurIPS) 2021
- Innovations in Theoretical Computer Science (ITCS) 2024, 2022
- Symposium on Discrete Algorithms (SODA) 2022

Program Committee:

- Conference on Artificial Intelligence and Statistics (AISTATS) 2024, 2023 (Top 10% Reviewer)
- Conference on Neural Information Processing Systems (NeurIPS) 2023, 2022
- International Conference on Learning Representations (ICLR) 2024
- International Conference on Machine Learning (ICML) 2023, 2022

SIGecom:

- SIGecom Seminar Series Co-organizer 2022

University Service:

- CMU Machine Learning Ph.D. Admissions Committee 2024, 2023, 2022
- CMU SCS Graduate Application Support Program 2023, 2022, 2020
- CMU Undergraduate AI Mentoring Program 2023, 2022, 2021

Workshop Program Committee:

- Formal Verification of Machine Learning (ICML 2023)
- Learning and Decision Making with Strategic Feedback (NeurIPS 2021)
- Learning in Presence of Strategic Behavior (NeurIPS 2021)
- Mathematics of Modern Machine Learning (NeurIPS 2023)
- Trustworthy and Socially Responsible Machine Learning (NeurIPS 2022)

Teaching

- Guest Lecturer: Foundations of Operations Management (Fall 2023). Instructor: Sridhar Tayur
- Teaching Assistant: Advanced Topics in Machine Learning Theory (Fall 2022). Instructor: Nina Balcan
- Teaching Assistant: Operations Management (Fall 2023). Instructor: Sridhar Tayur
- Teaching Assistant: Service Management (Fall 2023). Instructor: Sridhar Tayur