

Abhineet Agarwal

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EDUCATION

• University of California, Berkeley

2020 - Present

PhD, Statistics

- Advisor: Prof. Bin Yu
- References: Prof. Bin Yu, Prof. Giles Hooker, Prof. Anish Agarwal
- Research Interests: Artificial Intelligence, Interpretability, Deep Learning, Large Language Models, Tree-Based Models, Causal Inference, Bandits & Reinforcement Learning

• Columbia University

2015-2019

B.A. Physics, Mathematics

- Awards: Magna Cum Laude, Phi Beta Kappa, Science Research Fellow, Departmental Honors

WORK EXPERIENCE

• Citadel

May 2024 - August 2024

Quantitative Research Intern, Equity Quantitative Research (EQR)

New York

- Developed statistical and ML models for alpha-capture

• Flatiron Institute, Center for Computational Physics

May 2018 - May 2019

Research Intern, Millis Lab

New York

- Applied and developed numerical methods to study novel superconductors

SKILLS

- **Programming/ML Tools:** Python, Git, Pytorch, Scikit-Learn, Hugging Face
- **Research Skills:** Artificial Intelligence, Machine Learning, Interpretability, Deep Learning, Tree-Based Models, Causal Inference, Experiment Design, Recommender Systems (Rankings), ML for Tabular Data

PUBLICATIONS

C=CONFERENCE, J=JOURNAL, S=IN SUBMISSION

- [S.1] Abhineet Agarwal, Bin Yu. (2024). **Tree-Transformers: Combining Tree-Based Models with Mixture of Experts & Transformers for Improved Accuracy and Inference Cost.** Submitted to **NeurIPS (2024) 3rd** Workshop on Table Representation Learning
- [C.1] Abhineet Agarwal, et al. (2024). **Multi-Armed Bandits with Network Interference.** Accepted, **NeurIPS (2024)**
- [C.2] Liwen Sun, Abhineet Agarwal, et al. (2024). **ED-Copilot: Reducing Emergency Department Wait Time with Language Model Diagnostic Assistance.** In **ICML (2024)**
- [J.1] Abhineet Agarwal, et al. (2024). **Fast Interpretable Greedy Tree Sums (FIGS).** Accepted to **Proceedings of the National Academy of Sciences (PNAS).**
- [C.3] Abhineet Agarwal, et al. (2023). **Synthetic Combinations: A Causal Inference Framework for Combinatorial Interventions.** In **NeurIPS 2023**, extended version in submission to **Econometrica**
- [S.2] Abhineet Agarwal, et al. (2023). **MDI+: A Random-Forest Based Flexible Feature Importance Framework.** Manuscript submitted for publication in **Journal of the American Statistical Association (JASA).**
- [C.4] Abhineet Agarwal, et al. (2022). **Hierarchical Shrinkage: Improving the Accuracy and Interpretability of Tree-Based Methods.** In **ICML 2022**, **Oral Presentation**
- [C.5] Tan Yan Shuo, Abhineet Agarwal, et al. (2022). **A Cautionary Tale on Fitting Decision Trees to Additive Models: Generalization Lower Bounds.** In **AISTATS 2022**
- [J.2] Abhineet Agarwal, et al. (2022). **Veridical Flow: A Python Package for Building Trustworthy Data-Science Pipelines with PCS.** Published in *Journal of Open-Source Software (JOSS).*

SERVICE

• Reviewer

- Conferences: *NeurIPS, ICML, AISTATS (Top Reviewer)*
- Journals: *Annals of Applied Statistics, Annals of Statistics, IEEE Transactions on Information Theory*

• Teaching

University of California, Berkeley

- Graduate Student Instructor for Physics 8A/B