

# Abhineet Agarwal

[aa3797@berkeley.edu](mailto:aa3797@berkeley.edu) | [Personal Website](#) | [Google Scholar](#) | [Github](#) | [LinkedIn](#)

## 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) 3<sup>rd</sup> 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