Sujai Hiremath

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Google Scholar
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TL;DR

- 3rd year ORIE PhD at Cornell Tech (Exp. 2028) working on causality, RL, LLMs.
- Published 3 first-author papers (NeurIPS 2024, UAI 2025, NeurIPS 2025) on efficient causal inference and machine learning methods within 1.5 years of starting research.
- Interned at Amazon Research Tübingen as an applied scientist for 6 months, produced 2 preprints on (1) LLM-aided structure learning and (2) causal RL.

Education

Cornell Tech | New York, NY 2024 - 2028
PhD in Operations Research and Information Engineering | GPA: 3.9 *(expected)*
- Areas: Causal Inference, Reinforcement Learning, LLMs

Cornell University | Ithaca, NY 2023 - 2024
PhD in Operations Research and Information Engineering

California Institute of Technology | Pasadena, CA 2019 - 2023
BS in Applied and Computational Mathematics | GPA: 4.0
- Areas: Machine Learning, Mathematical Modelling, Deep Learning

Work Experience

Applied Scientist Intern | Amazon Research Tübingen, Germany 06.2025 - 11.2025
- Managers: Dr. Dominik Janzing, Dr. Shiva Kasiviswanathan, Dr. Elke Kirschbaum.
- Developed a method leveraging LLMs as unreliable experts to improve causal learning in finite samples. Validated theoretical results in Python experiments.
- Currently developing a causal reinforcement learning approach for sample-efficient training of LLMs in low-data/low-compute regimes. Validating theory with Python.

PhD Student Researcher | Cornell Tech 11.2023 - Present
- PIs: Dr. Kyra Gan, Dr. Promit Ghosal.
- Leveraged diffusion models, independence tests, and nonparametric regression for causal inference. Validated theory in experiments in Python (PyTorch, scikit-learn).
- Published 3 first-author papers at NeurIPS (2024, 2025) and UAI (2025) on improving finite-sample causal structure learning while relaxing assumptions.

Publications and Preprints

1. **Hiremath, S.***, et al. From Causal Structure to Efficient Representations: Deep Reinforcement Learning with Causal Rank Regularization *preprint*, 2025.
2. **Hiremath, S.***, et al. From Guess2Graph: When and How Can Unreliable Experts Safely Boost Causal Discovery in Finite Samples? *arXiv preprint*, 2025.
3. Meier, D.* and **Hiremath, S.***, et al. When Additive Noise Meets Unobserved Mediators: Bivariate Denoising Diffusion for Causal Discovery. *Thirty-Ninth Annual Conference on Neural Information Processing Systems*, 2025.
4. **Hiremath, S.***, et al. LoSAM: Local Search in Additive Noise Models with Mixed Mechanisms and General Noise for Global Causal Discovery. *Proceedings of the Forty-first Conference on Uncertainty in Artificial Intelligence*, 2025.
5. **Hiremath, S.***, et al. Hybrid Top-Down Global Causal Discovery with Local Search for Linear and Nonlinear Additive Noise Models. *Thirty-Eighth Annual Conference on Neural Information Processing Systems*, 2024.

Service & Awards

Service: Reviewer for NeurIPS 2025, ICLR 2025, AISTATS 2025.
Awards: NeurIPS Top Reviewer 2025 | Cornell Fellowship 2023 | Thomas J. Watson Fellowship, IBM (2019-2022) | SURF Fellowship, Caltech (2020, 2021).