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Sujai Hiremath

TL;DR

PhD student at Cornell Tech working at the intersection of causality and LLMs. My work develops sample-efficient and robust causal discovery methods, with three first-author papers (NeurIPS 2024, UAI 2025, NeurIPS 2025). Currently interning at Amazon Research Tübingen, where I released a preprint on LLM-based causal discovery within 4 months.

Work Experience

Applied Scientist Intern | Amazon Research Tübingen 06.2025 - Present

- Managers: Dr. Dominik Janzing, Dr. Shiva Kasiviswanathan, Dr. Elke Kirschbaum.
- Developed a method leveraging LLMs as unreliable experts to improve causal discovery in finite samples; released preprint in <4 months.
- Currently investigating causal reinforcement learning approaches for sample-efficient training of LLMs in low-data regimes.

PhD Student Researcher | Cornell Tech 11.2023 - Present

- PIs: Dr. Kyra Gan, Dr. Promit Ghosal.
- Developed 3 novel causal discovery algorithms that use diffusion models, independence tests, and nonparametric regression techniques.
- 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 Guess2Graph: When and How Can Unreliable Experts Safely Boost Causal Discovery in Finite Samples? *arXiv preprint*, 2025.
2. 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.
3. **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.
4. **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.

Education

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

- Areas: AI, Causal Discovery, Causal Inference

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

Service & Awards

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