Ayush Sawarni

✉ sawarniayush@gmail.com
sawarniayush.github.io

Education

2024–Current **Stanford University**
PhD in Operations Research
Advisor: Prof. Vasilis Syrgkanis
Research Areas: ML & Statistics (estimation theory, efficiency, robustness); Causal Inference (methods; identification & estimation); Online Learning & Bandits (provable guarantees, data-adaptive exploration); GenAI Evaluation (formal frameworks, benchmarks).

2021–2023 **Indian Institute of Science, Bangalore**
M.Tech(Research) Computer Science
Advisor: Prof. Siddharth Barman
Thesis - Bandit Algorithms: Fairness, Welfare and Applications in Causal Inference.

2014–2018 **Birla Institute of Technology and Science, Pilani**
B.E.(Hons.) Electrical and Electronics

Publications

(* denotes alphabetical ordering or equal contribution)

Ayush Sawarni*, Jikai Jin, Justin Whitehouse, Vasilis Syrgkanis. "**Policy Learning with Abstention**". *Under Submission*
Paper

Ayush Sawarni*, Sahasrajit Sarmasarkar*, Vasilis Syrgkanis. "**Preference Learning with Response Time: Robust Losses and Guarantees**". To appear in 38th Conference on Neural Information Processing Systems
Paper , NeurIPS 2025

Ayush Sawarni, Nirjhar Das, Siddharth Barman, Gaurav Sinha. "**Generalized Linear Bandits with Limited Adaptivity**". Advances in Neural Information Processing Systems 37 (2024).
Paper , NeurIPS 2024 (Spotlight)

Ayush Sawarni, Soumyabrata Pal, Siddharth Barman. "**Nash Regret Guarantees for Linear Bandits**". Advances in Neural Information Processing Systems 36 (2023).
Paper , NeurIPS 2023

Ayush Sawarni, Rahul Madhavan, Gaurav Sinha, Siddharth Barman. "**Learning Good Interventions in Causal Graphs via Covering**". Proceedings of the Thirty-Ninth Conference on Uncertainty in Artificial Intelligence.
Paper , UAI 2023

Siddharth Barman*, Arindam Khan*, Arnab Maiti*, Ayush Sawarni* . "**Fairness and Welfare Quantification for Regret in Multi-Armed Bandits**". Proceedings of the AAAI Conference on Artificial Intelligence.
Paper , AAAI 2023 (Oral, Talk)

Industry Experience

2023-2024 **Microsoft Research, Bangalore**
Research Fellow
Advisor: Dr. Gaurav Sinha
Developed computationally and statistically efficient algorithms for online learning with non-linear reward functions, with a special focus on parallelizable, batch algorithms. This has led to several follow-up works for potential applications in Big Ads and a NeurIPS spotlight paper.

2018–2021 **Goldman Sachs**
Strat Analyst

- Built high-volume surveillance models and analytics to detect trade anomalies and fraudulent activity.
- Led the redesign of the market-data ingestion pipeline using *Spark* improving end-to-end throughput and accelerating large-scale surveillance model runs by ~30%.

Technical Skills

Machine Learning: Python, PyTorch, Statsmodels

Tools: Linux, Git

Research: Data Science, Causal Inference, Bandit Algorithms, Reinforcement Learning, Statistical Machine Learning

Honors and Awards

2023 Google Travel Grant (NeurIPS).

2023 Microsoft Travel Grant (UAI).

2022 **Reliance Foundation Scholar** (40 postgraduate students, India).

2021 GATE (Computer Science) **All-India Rank 3/100,000**.

2018 Winner, India–EU ICT Standards OneM2M Hackathon.

2016 Runner-up, nationwide robotics competition (MHRD, India).

Academic Service and Extracurricular Activities

- Reviewer: NeurIPS 2024; SOSA 2023.
- Teaching Assistant: Game Theory, Data Science and AI; Design and Analysis of Algorithms.
- Teaching Volunteer, National Service Scheme (2014–2016): taught computer applications to underprivileged women and children (Pilani and nearby villages).