Ritwik Vashistha

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Education

Aug. 2022 - May. 2027 (Expected)	PhD in Statistics The University of Texas at Austin Supervisor: Dr. Arya Farahi GPA: 3.98/4
Aug. 2020 - May 2022	Master's degree in Statistics Indian Institute of Technology at Kanpur GPA: 9.5/10 (Class Rank: 2/50)
Jul. 2017 - Jun. 2020	Bachelor's degree in Statistics University of Delhi GPA: 9.15/10 (Class Rank: 3/35)

Research Experience

May 2023 - Ongoing	Graduate Research Assistant Data, Discovery, and Decision Lab, The University of Texas at Austin Supervisor: Dr. Arya Farahi Developed trustworthiness frameworks to evaluate ML classifiers, advancing state-of-the-art techniques in classifier reliability and uncertainty. Formulated a kernel-based framework for analyzing noisy datasets enabling robust statistical testing and parametric estimation under noise/measurement error. Conducted extensive experiments using Python, illustrating strong practical computing skills.
May 2023 - Aug. 2023	Graduate Research Assistant Dr. Connor Jerzak Lab, The University of Texas at Austin Supervisor: Dr. Connor Jerzak Contributed to developing a novel methodology for causal analysis using satellite images, integrating temporal and spatial dependencies. Utilized advanced machine learning algorithms and probabilistic models for robust uncertainty modeling.

Teaching Experience

Aug. 2022 - May. 2023	Graduate Teaching Assistant SDS 320E Elements of Statistics Led a team of undergraduate teaching assistants, demonstrating leadership and collaboration skills. Facilitated student learning through guiding questions and concept explanations, showcasing strong communication skills in an educational environment.

Work Experience

May 2025 - Aug. 2025	Data Scientist Intern Amazon (Prime Video), US Supervisor: Dr. Pablo F. Perez Developed a data pipeline to analyze data of 100 million customers' interactions on Prime Video (PV) Home Page. Created a causal discovery and inference framework to understand journey of a customer from PV Home Page to Title Page. Obtained causal effect estimates for the impact of content localization on customer outcomes and identified areas of opportunity for PV in content localization.
May 2021 - Nov. 2021	Data Science Intern Pfizer, India Supervisor: Dr. Shibasish Dasgupta Developed Bayesian methods to identify biomarkers under severe collinearity using R. Collaborated with cross-functional teams and published a peer-reviewed paper.

Research Interests

- Machine Learning
- Causal Inference
- Time Series
- A/B Testing

Publications

[1] **Vashistha, Ritwik**, Phillips, J. M., Sarkar, A., & Farahi, A. (2026). Convolutional maximum mean discrepancy for inference in noisy data. *arXiv preprint arXiv:2604.12022*

[2] **Vashistha, Ritwik** & Farahi, A. (2025). I-trustworthy models. a framework for trustworthiness evaluation of probabilistic classifiers. *Proceedings of The 28th International Conference on Artificial Intelligence and Statistics (AISTATS)*, *258*, 4726–4734

[3] Dao, T.-Q., Schneiders, E., Williams, J., Bautista, J. R., Seabrooke, T., Vigneswaran, G., Kolpekwar, R., **Vashistha, Ritwik**, & Farahi, A. (2025a). Tame pain data release: Using audio signals to characterize pain. *Scientific Data*, *12*(1), 595

[4] Jerzak, C. T., **Vashistha, Ritwik**, & Daoud, A. (2024). Effect heterogeneity with earth observation in randomized controlled trials: Exploring the role of data, model, and evaluation metric choice. *arXiv preprint arXiv:2407.11674*

[5] **Vashistha, Ritwik** & Farahi, A. (2024). U-trustworthy models: Reliability, competence, and confidence in decision-making. *Proceedings of the AAAI Conference on Artificial Intelligence*, *38*(18), 19956–19964

[6] **Vashistha, Ritwik**, Noor, Z., Dasgupta, S., Pu, J., & Deng, S. (2023). Application of statistical machine learning in biomarker selection. *Scientific Reports*, *13*(1), 18331

Open-Source Software and Datasets

[1] Dao, T.-Q., Schneiders, E., Williams, J., Bautista, J. R., Seabrooke, T., Vigneswaran, G., Kolpekwar, R., **Vashistha, Ritwik**, & Farahi, A. (2025b). Tame pain: Trustworthy assessment of pain from speech and audio for the empowerment of patients. *PhysioNet*

Achievements/Awards

- **International Society of Bayesian Analysis** Travel Award for presenting research in 2026.
- **Outstanding Graduate Research Fellowship** in 2026.
- **Keller Award** in 2025 for demonstrating exceptional leadership skills and supporting others during PhD.
- **Professional Development Award** for presenting research work in 2023.
- **Dr. R. C. Srivastava Memorial Scholarship** for being ranked 1st during Master's at the end of first year.
- **Jasmine and Mohiuddin's Scholarship** for excellent academic performance at Indian Institute of Technology, Kanpur.
- **Academic Excellence Award** for outstanding performance in Academic Year 20-21 at Indian Institute of Technology, Kanpur.
- All India Rank **16** in Joint Admission Test For Masters (JAM) 2020 among **3473 candidates**
- **Academic Excellence Award** for outstanding performance in Academic Year 17-18 at University of Delhi

Service

- **Dean's Office Graduate Council**: Served as department representative and worked on improving graduate school experience for students throughout the College (2025 -)
- **Promote Graduate Education and Research**: Served as judge for Undergraduate Research Forum 2025 and Gateway to Graduate Studies in Science 2023. Participated as a panelist on STEM Graduate school panel 2025.
- **Department Committee**: Served as the student member of Awards Committee (2025-2026), PhD student recruitment committee (2024-2025) and Social Committee (2023-2024) for Department of Statistics and Data Science, UT Austin.
- **Journal Club**: Organized weekly Journal Clubs on Machine Learning in Department of Statistics and Data Science in Spring 2024 and Fall 2024.
- **Directed Reading Program**: Served as mentor for undergraduate students interested in statistics and machine learning (Fall 2023).
- **Summer Mentorship Program**: Co-organized a summer mentorship program, matching IITK alumni in industry with current students at IITK for summer projects (2021-2022)
- **National Service Scheme (NSS)**: Volunteered and organized community service/ outreach activities during undergrad at University of Delhi (2017-2020)

Mentoring

- **Anjie Liu**: Mentored in developing a python library for estimating locally calibrated classification models.
- **Anh Ngo**: Mentored as part of directed reading program on a project based on regression models.

Programming skills

Advanced: Python (scikit-learn, TensorFlow, and JAX), R, SQL
Intermediate: C++, LaTeX

May. 08, 2026