Isaac Gibbs

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Academic Positions

Postdoctoral Researcher, Department of Statistics, UC Berkeley. August 2024 - Present
Advisor: Ryan Tibshirani.

Education

Ph.D. in Statistics, Stanford University. 2019 - 2024
Advisor: Emmanuel Candès.
Thesis Title: Expanded coverage guarantees for conformal inference.

B.Sc. in Math and Computer Science, McGill University. 2015 - 2019
Graduated with first-class honours.

Preprints and Work Under Review

(* denotes equal contribution)

Ding, T., **Gibbs, I.**, and Tibshirani, R. (2025+). Calibrated multi-level quantile forecasting. *arXiv preprint*. https://arxiv.org/abs/2512.23671.

Gibbs, I.*, Cherian, J.*, and Candès, E. (2025+). Correcting the coverage bias of quantile regression. *arXiv preprint*. https://arxiv.org/abs/2511.00820.

Gibbs, I. and Tibshirani, R. (2025+). Sample-efficient omniprediction for proper losses. *arXiv preprint*. https://arxiv.org/abs/2510.12769.

Gibbs, I. and Candès, E. (2025+). Characterizing the training-conditional coverage of full conformal inference in high dimensions. *arXiv preprint*. https://arxiv.org/abs/2502.20579.

Publications

Gibbs, I., Cherian, J., and Candès, E. (2025). Conformal prediction with conditional guarantees. *Journal of the Royal Statistical Society: Series B*. https://arxiv.org/abs/2305.12616.

Cherian, J., **Gibbs, I.**, and Candès, E. (2024). Large language model validity via enhanced conformal prediction methods. *Advances in Neural Information Processing Systems*. https://arxiv.org/abs/2406.09714.

Gibbs, I. and Candès, E. (2024). Conformal inference for online prediction with arbitrary distribution shifts. *Journal of Machine Learning Research*. https://jmlr.org/papers/volume25/22-1218/22-1218.pdf.

Gibbs, I. and Candès, E. (2021). Adaptive conformal inference under distribution shift. *Advances in Neural Information Processing Systems* (oral presentation). https://arxiv.org/abs/2106.00170.

Gibbs, I. and Chen, L. (2020). Asymptotic properties of random Voronoi cells with arbitrary underlying density. *Advances in Applied Probability*.

Gibbs I.*, Leavey K., Benton S. J.*, Grynspan D., Bainbridge S. A., and Cox B. J. (2019). Placental transcriptional and histologic subtypes of normotensive fetal growth restriction are comparable to preeclampsia. *American Journal of Obstetrics and Gynecology*.

Teaching and Mentorship

Teaching as the Principal Instructor

- STATS302: Applied Statistics Qualifying Exam Workshop. Summer 2021
  Prepared review materials, gave summary lectures on key topics, and led problem-solving sessions to prepare first-year Ph.D. students at Stanford for their applied statistics qualifying exam.

Work as a Teaching Assistant

DATASCI190: The Data Science Experience.	Spring 2024
DATASCI112: Principles of Data Science.	Winter 2024
DATASCI120: Data Narratives.	Spring 2023
STATS217: Introduction to Stochastic Processes I.	Winter 2023
STATS300A: Theory of Statistics I.	Fall 2022
STATS203: Introduction to Regression Models and Analysis of Variance.	Spring 2022
STATS191: Introduction to Applied Statistics.	Winter 2022
STATS200: Introduction to Statistical Inference.	Fall 2021
STATS305b: Applied Statistics II.	Winter 2021
STATS200: Introduction to Statistical Inference.	Fall 2020
STATS203: Introduction to Regression Models and Analysis of Variance.	Summer 2020
STATS290: Computing For Data Science.	Winter 2020
STATS202: Data Mining and Analysis.	Fall 2019

Mentorship

- Stanford Inclusive Mentoring in Data Science. Winter 2024
  Mentored a community college student on a data analysis project.
- Statistics Summer Undergraduate Research Program at Stanford. Summer 2023
  Worked with six undergraduates who were matched with professors from across Stanford to work on research projects in applied or theoretical statistics. Served as a technical mentor to aid students in framing their problem and applying appropriate statistical tools.

Other Work Experience

- Meta Internship in the Central Applied Sciences group. Summer 2022

Service

- Reviewing: Journal of the Royal Statistical Society: Series B, Annals of Applied Statistics, Journal of Machine Learning Research (x2), Conference on Learning Theory (COLT), Annual ACM Symposium on Theory of Computing (STOC), Spatial Statistics, SIAM Journal on Mathematics of Data Science, Transactions on Intelligent Systems and Technology, Machine Learning, Data Mining and Knowledge Discovery, Journal of Complex Networks, International Journal of Approximate Reasoning.

Invited and Contributed Talks

- Joint Statistical Meetings. August 5, 2025
  Title: Large language model validity via enhanced conformal prediction methods.

- Intuit Seminar. November 29, 2023
  Title: Conformal inference with conditional guarantees.
- Wayne State University Mathematics Seminar. October 18, 2023
  Title: Conformal inference with conditional guarantees.
- UC Berkeley Rising Stars Seminar (Prof. Ahmed Alaa's group). November 1, 2023
  Title: Conformal inference with conditional guarantees.
- Joint Statistical Meetings. August 8, 2023
  Title: Conditional coverage and covariate shift in conformal inference.
- Advances in Neural Information Processing Systems 34. December 9, 2021
  Title: Adaptive conformal inference under distribution shift.
- International Federation of Placenta Associations meeting. September 1, 2017
  Title: Placental subtypes of fetal growth restriction.

Awards

Theodore W. Anderson Theory of Statistics Dissertation Award, *Stanford University.* 2024
Departmental Teaching Assistant Award, *Stanford Statistics.* 2023
Dr. Feng Qian Convocation Prize, *McGill University.* 2019
NSERC Undergraduate Student Research Award, *McGill University.* 2018, 2019
Sir Edward Beatty Memorial Scholarship in Math, *McGill University.* 2018
Emily Ross Crawford Scholarship, *McGill University.* 2018
Undergraduate Summer Research Award (UROP), *University of Toronto.* 2017