

Isaac Gibbs

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EMPLOYMENT

Postdoctoral Researcher, Department of Statistics, UC Berkeley.
Advisor: Ryan Tibshirani.

August 2024 - Present

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.

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 34* <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 34* (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*, 52(2), 655-680.

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*, 220(1):110.e1-110.e21.

PREPRINTS AND WORK UNDER REVIEW

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>.

OTHER WORK EXPERIENCE

Meta Internship in the Central Applied Sciences group.

Summer 2022

Developed statistical methods for using A/B test data to identify subsets of the population that showed a strong positive response to the treatment.

PRESENTATIONS

Invited Talks

- Wayne State University Mathematics Seminar. October 18, 2023
Talk - Conformal Inference With Conditional Guarantees

Contributed Presentations

- Joint Statistical Meeting. August 8, 2023
Talk - Conditional Coverage and Covariate Shift in Conformal Inference.
- Advances in Neural Information Processing Systems 34. December 9, 2021
Talk - Adaptive Conformal Inference Under Distribution Shift.
- International Federation of Placenta Associations meeting. September 1, 2017
Talk - Placental subtypes of fetal growth restriction.

Conference Posters

- ICML 2021 Workshop on Distribution-Free Uncertainty Quantification. July 24, 2021
Title - Adaptive Conformal Inference Under Distribution Shift.

AWARDS

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|---|------------|
| Theodore W. Anderson Theory of Statistics Dissertation Award.
Received for PhD thesis at Stanford University. | 2024 |
| Stanford Statistics Departmental Teaching Assistant Award.
Received for work as a teaching assistant during Ph.D. at Stanford. | 2023 |
| Dr. Feng Qian Convocation Prize.
Awarded to top graduating students in computer science at McGill University. | 2019 |
| NSERC Undergraduate Student Research Award.
Received separately in 2018 and 2019 at McGill University. | 2018, 2019 |
| Sir Edward Beatty Memorial Scholarship and Emily Ross Crawford Scholarship.
For academic performance in B.Sc. at McGill University. | 2018 |