HAOLIN ZOU

+1-929-216-9678 | kyrinzou@gmail.com | Linkedin | Google Scholar

New York, NY 10025, United States

Research Interest

My research focuses on high dimensional statistics, approximate and exact cross validation, and recently data evaluation and machine unlearning. I also work on the application of decoupling and self-normalization inequalities.

Education

- **Columbia University** *Sep 2020 - May 2026*
  Ph.D in Statistics, GPA: 4.0/4.0 New York, USA
  ◦ Selected courses: Prob and Stats (theoretical and computational), Topics (high-dim stats and decoupling).
- **Columbia University** *Sep 2018 - Dec 2019*
  Master in Actuarial Science, GPA: 4.0/4.0 New York, USA
  ◦ Selected courses: Actuarial Methods, Global Capital and Investment, Quant Methods for Finance.
- **Peking University** *Sep 2014 - Jul 2018*
  Bachelor of Applied Mathematics, GPA: 3.6/4.0; Bachelor of Economics (double major), GPA: 3.8/4.0 Beijing, China
  ◦ Selected courses: Calculus (basic, complex, real and functional), Algebra (advanced and abstract), Computation(data structure and algorithms), Stats (time series and stochastic processes), Economics (micro and macro), Finance.

Selected Publications

J=Journal, S=In Submission, A=On Arxiv

[S.1] Zou, H. et al. (2024). **A Complete Error Analysis of the K-fold CV for R-ERM in High Dimensions**. Under submission for publication in *IEEE Trans.Inf.Theory*.

[S.2] Zou, H. et al. (2024). **A Novel Formula for the Moments of Normalized Statistics**. Under submission for publication in *J. Appl. Probab*.

[S.3] Zou, H., et al. (2024). **Error of Leave-one-out CV in high dimensions**. Under submission for publication in *AISTATS 2025*.

[J.1] Auddy, A., Zou, H., Rahnama Rad, K. and Maleki, A. (2024). **Approximate Leave-one-out CV for Regression with L1 Regularizers**. *IEEE Trans. Inf. Theory*, accepted.

[C.1] Auddy, A., Zou, H., Rahnama Rad, K. and Maleki, A. (2024). **Approximate Leave-one-out CV for Regression with L1 Regularizers**. *Proceedings of The 27th International Conference on AISTATS*,238:2377-2385. Selected for oral presentation.

[J.2] de la Peña, V., Gzyl, H., Mayoral, S., Zou, H., and Alemayehu, D. (2024). **Prediction and estimation of random variables with infinite mean or variance**. *Commun. Stat-Theory and Methods*, 1-15.

[A.1] Zou, H. and de la Peña, V. (2021). **TopRank+: A Refinement of TopRank Algorithm**. On *arXiv:2001.07617*

Presentations

- **AISTATS** *May 2024*
  Paper S.1 Selected for oral presentation in Oral Session 9 ("Statistics")
- **Minghui Yu Memorial Conference** *Apr 2024*
  Volunteer presentation on approximate leave-one-out cross validation
- **Columbia Statistics Seminar** *Nov 2024*
  Volunteer presentation on high dimensional statistics
- **INFORMS** *Oct 2022*
  Session chair ("Heavi-tailedness, Dependence and Robustness"), presentation on the bias of Gini coefficient

Teaching Experience

- **Co-instructor** *Apr 2024*
  Short Course on Decoupling and Self-normalized Inequalities, Georgia Institute of Technology
  ◦ Co-instructed with Victor de la Peña on the application of decoupling and self-normalization, including bandit and sorting problems.
- **Instructor: Recitation** *Jan 2024 - May 2024*
  Columbia University
  ◦ Weekly recitation for Stat Inference and Modeling.
- **Teaching Associate** *Sep 2020 - Nov 2024*
  Columbia University
  ◦ Intro to Stats, Probability, Statistical Inference, , Generalized Linear Models, Stat Inference and Modeling etc.

Honors and Awards

- **Second Prize** *Sep 2017*
  Contemporary Undergraduate Mathematical Contest in Modeling (CUMCM)
- **First Class Scholarship** *Sep 2017*
  Yizheng Alumni Scholarship, top 25%
- **Honorable Mention** *Feb 2017*
  Mathematical Contest in Modeling (MCM/ICM)
- **First Prize** *Oct 2014*
  China Undergraduate Contest in Physics

Services

- **Peer Reviewing** *Aug 2024 - Dec 2024*
  Annals of Applied Statistics
- **Peer Reviewing** *Jun 2024 - Dec 2024*
  Journal of the Royal Statistical Society

Working Experience

- **ZZ Ventures** *May 2019 - Aug 2019*
  Summer Internship San Francisco, US
  - Acquired exclusive insights in 18 different verticals through market research
  - Boosted deal sourcing from 400+ companies and narrowed the range down by 90% collaboratively

Additional Information

Coding and Computing: Python (proficient), R/MS Office/STATA/STAN (advanced)
Languages: English (proficient), Chinese (native), Japanese (basic), Latin (beginner).