ZITONG YANG

⋄ https://zitongyang.github.io/ ⋄ (+1) 415-920-3391 ⋄ zitong@berkeley.edu

EDUCATION

Stanford University   *September 2022 - Present*
Ph.D. Statistics. Advisor: Tatsunori Hashimoto.

University of California, Berkeley   *August 2020 - May 2021*
M.S. Electrical Engineering. Thesis advisor: Prof. Jacob Steinhardt and Prof. Yi Ma

University of California, Berkeley   *August 2016 - May 2020*
B.A. Mathematics. B.A. Computer Science. B.A. Physics.

WORK EXPERIENCE

Research scientist (intern) at Google Research (New York City, NY) *May 2022- September 2022*
Worked with Aditya Menon and Sanjiv Kumar on the bigML at Google research. Introduced ResMem [2] as an retrieval-augmented procedure based on ScaNN that boosts on greedy decoding accuracy for LLM.

Member of research staff (full-time) at the Voleon Group (Berkeley, CA) *May 2021- May 2022*
Hired as the only non-Ph.D. researcher in the company. Developed ML models for forecasting multi-period bond returns and complementary uncertainty quantification techniques. Developed market impact model and exploited it in portfolio planning. Maintained end-to-end data pipelines including on-call rotation and debugging live trading systems.

PUBLICATIONS

[1] **Zitong Yang**, Emmanuel Candès, Lihua Lei. "Bellman Conformal Inference: Calibrating Prediction Intervals For Time Series".
arXiv preprint (Paper, Code), 2024.

[2] **Zitong Yang**, Michal Lukasik, Vaishnavh Nagarajan, Zonglin Li, Ankit Singh Rawat, Manzil Zaheer, Aditya Krishna Menon, Sanjiv Kumar. "ResMem: Learn what you can and memorize the rest".
*Neural Information Processing Systems(**NeurIPS**)* (Paper, Slides), 2023.

[3] Yaodong Yu*, **Zitong Yang***, Alexander Wei, Yi Ma, Jacob Steinhardt. "Predicting Out-of-Distribution Error with the Projection Norm".
*International Conference on Machine Learning(**ICML**)* (Paper, Talk), 2022.

[4] Yaodong Yu*, **Zitong Yang***, Edgar Dobriban, Jacob Steinhardt, Yi Ma. "Understanding Generalization in Adversarial Training via the Bias-Variance Decomposition".
arXiv preprint (Paper, Talk), 2021.

[5] **Zitong Yang**, Song Mei, Yu Bai. "Exact Gap between Generalization Error and Uniform Convergence in Random Feature Models".
*International Conference on Machine Learning(**ICML**)*(Paper, Talk), 2021.

[6] **Zitong Yang***, Yaodong Yu*, Chong You, Jacob Steinhardt, Yi Ma. "Rethinking the Bias-Variance Dilemma for Generalization of Neural Networks".
*International Conference on Machine Learning(**ICML**)*(Paper, Talk), 2020.

[7] Yuexiang Zhai, **Zitong Yang**, Zhengyu Liao, John Wright, Yi Ma. "Complete Dictionary Learning via ℓ^4-Maximization over the Orthogonal Group".
*Journal of Machine Learning Research(**JMLR**)*(Paper), 2020.

[8] Yuexiang Zhai, **Zitong Yang**, Zhengyu Liao, John Wright, Yi Ma. "A Fast Holistic Algorithm for Complete Dictionary Learning via ℓ^4 Norm Maximization".
*Signal Processing with Adaptive Sparse Structured Representations (**SPARS**)*(**Best Student Paper Finalist**), (Paper), 2019.

* *indicates equal or alphabetical contribution.*

AWARDS AND HONORS

- Three-year Stanford Graduate Fellowship. (Awarded to 1 out of 12 incoming statistics Ph.D. students.)

- UC Berkeley Class of 2020 High Distinction in General Scholarship.

- UC Berkeley Math Department Graduation with Highest Honor.

- Percy Lionel Davis Award for Excellence in Scholarship in Mathematics.

- Pomerantz Endowment Award ($1,000) for achieving full grades in all physics upper-division courses.

- Summer Undergraduate Research Fellowships($5,000) for undergraduates doing concentrated research.

REFERENCES

- Prof. Jacob Steinhardt
  Department of Statistics
  University of California, Berkeley
  Email: `jacob.steinhardt@gmail.com`
  Website: `https://www.stat.berkeley.edu/~jsteinhardt/`

- Prof. Yi Ma
  Department of Electrical Engineering and Computer Sciences
  University of California, Berkeley
  Email: `yima@eecs.berkeley.edu`
  Website: `http://people.eecs.berkeley.edu/~yima/`

- Aditya Krishna Menon
  Staff Research Scientist
  Google Research, New York City
  Email: `adityakmenon@google.com`
  Website: `https://akmenon.github.io/`

- Prof. Song Mei
  Department of Statistics
  University of California, Berkeley
  Email: `songmei@berkeley.edu`
  Website: `https://www.stat.berkeley.edu/~songmei/`