

ZITONG YANG

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EDUCATION

Stanford University

September 2022 - Present

Ph.D. Statistics. Advisor: Tatsunori Hashimoto and Emmanuel Candès.

University of California, Berkeley

August 2016 - May 2021

M.S. Electrical Engineering. Thesis advisor: Jacob Steinhardt and Yi Ma.

B.A. Mathematics. B.A. Computer Science. B.A. Physics.

Technical Skills: PyTorch, Huggingface, JAX, R (data.table and tinyverse)

WORK EXPERIENCE

Research scientist (intern) at Apple AI/ML (Cupertino, CA)

June 2024- September 2024

I will be working with Dong Yin and Ruoming Pang on alignment stage of LLM. We study uncertainty quantification techniques for reward model that can make RLHF more efficient and robust.

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. Tatsunori Hashimoto
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- Prof. Prof.Emmanuel Candès
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Website: <https://candes.su.domains/people/>
- Prof. Jacob Steinhardt
Department of Statistics
University of California, Berkeley
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- Prof. Yi Ma
Department of Electrical Engineering and Computer Sciences
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- Aditya Krishna Menon
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