Yue Wu

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Academic Employment

2024 – Present **Princeton University AI Lab**, Princeton, New Jersey.
Postdoctoral Research Fellow

Education

2019 – 2024 **University of California, Los Angeles**, Westwood, California.
Doctor of Philosophy in Computer Science
Advisor: Quanquan Gu
Committee: Quanquan Gu, Guy Van den Broeck, Lieven Vandenberghe, Aditya Grover, Mengdi Wang

2015 – 2019 **Peking University**, Beijing, China.
Bachelor of Science in Machine Intelligence
GPA: 3.83/4.00, Rank: 1/53, Summa Cum Laude.
Thesis Advisor: Liwei Wang

Publications and Preprints

Wang, Y., Wang, L., Shen, Y., Wang, Y., Yuan, H., **Wu**, **Y.**, & Gu, Q. (2024). Protein conformation generation via force-guided se (3) diffusion models. *Proceedings of the 40th International Conference on Machine Learning* (**ICML 2024**).

Wu, **Y.**, Jin, T., Di, Q., Lou, H., Farnoud, F., & Gu, Q. (2024). Borda regret minimization for generalized linear dueling bandits. *Proceedings of the 40th International Conference on Machine Learning* (**ICML 2024**).

Wu, **Y.**, Sun, Z., Yuan, H., Ji, K., Yang, Y., & Gu, Q. (2024). Self-play preference optimization for language model alignment. *arXiv preprint arXiv:2405.00675*.

Zhang*, Y., Zhang*, G., Wu*, Y., Xu, K., & Gu, Q. (2024). General preference modeling with preference representations for aligning language models. *https://arxiv.org/abs/2410.02197*.

Di, Q., Jin, T., **Wu**, **Y.**, Zhao, H., Farnoud, F., & Gu, Q. (2023). Variance-aware regret bounds for stochastic contextual dueling bandits. *International Conference on Learning Representations* (**ICLR 2024**).

Wu, **Y.**, He, J., & Gu, Q. (2023). Uniform-PAC guarantees for model-based RL with bounded eluder dimension. *Proceedings of the Thirty-Ninth Conference on Uncertainty in Artificial Intelligence* (**UAI 2023**), 2304–2313.

Wu, **Y.**, Zhang, S., Yu, W., Liu, Y., Gu, Q., Zhou, D., Chen, H., & Cheng, W. (2023). Personalized federated learning under mixture of distributions. *Proceedings of the 40th International Conference on Machine Learning* (**ICML 2023**).

Xiao, Y., Jin, Y., Bai, Y., **Wu**, **Y.**, Yang, X., Luo, X., Yu, W., Zhao, X., Liu, Y., Chen, H., et al. (2023). Large language models can be good privacy protection learners. *arXiv preprint arXiv:2310.02469*.

Yang, X., Cheng, W., **Wu**, **Y.**, Petzold, L., Wang, W. Y., & Chen, H. (2023). Dna-gpt: Divergent n-gram analysis for training-free detection of gpt-generated text. *International Conference on Learning Representations Proceedings of the 40th International Conference on Machine Learning* (**ICLR 2024**).

Chen, Z., Deng, Y., **Wu**, **Y.**, Gu, Q., & Li, Y. (2022). Towards understanding the mixture-of-experts layer in deep learning. *Advances in neural information processing systems* (**NeurIPS 2022**).

Lou, H., Jin, T., **Wu**, **Y.**, Xu, P., Gu, Q., & Farnoud, F. (2022). Active ranking without strong stochastic transitivity. *Advances in neural information processing systems* (**NeurIPS 2022**), *35*, 297–309.

Wu, **Y.**, Jin, T., Lou, H., Xu, P., Farnoud, F., & Gu, Q. (2022). Adaptive sampling for heterogeneous rank aggregation from noisy pairwise comparisons. *International Conference on Artificial Intelligence and Statistics* (**AISTATS 2022**), 11014–11036.

Wu, **Y.**, Zhou, D., & Gu, Q. (2022). Nearly minimax optimal regret for learning infinite-horizon average-reward mdps with linear function approximation. *International Conference on Artificial Intelligence and Statistics* (**AISTATS 2022**).

Cao, Y., Fang, Z., **Wu**, **Y.**, Zhou, D.-X., & Gu, Q. (2021). Towards understanding the spectral bias of deep learning. *International Joint Conference on Artificial Intelligence* (**IJCAI 2021**).

Wu, **Y.**, Zhang, W., Xu, P., & Gu, Q. (2020). A finite-time analysis of two time-scale actor-critic methods. *Advances in Neural Information Processing Systems* (**NeurIPS 2020**).

Wang, L., Hu, L., Gu, J., **Wu**, **Y.**, Hu, Z., He, K., & Hopcroft, J. (2018). Towards understanding learning representations: To what extent do different neural networks learn the same representation. *Advances in neural information processing systems* (**NeurIPS 2018**).

Honors and Awards

2023 **Dissertation Year Fellowship**, University of Calofornia, Los Angeles.

2017 **China National Scholarship**, Peking University.

2016 **Founder Scholarship**, Peking University.

Invited Talks

2024.4 Learning from Preference Feedback
Department of Electrical and Computer Engineering, Princeton University.

2024.3 Learning from Preference Feedback
Laboratory for Information and Decision Systems, Massachusetts Institute of Technology.

Teaching Experience

Winter 2021,22,23 **UCLA CS 161: Fundamental of Artificial Intelligence**
Teaching Assistant
Re-formulated the course homework and projects, as well as designed mid-term and final exams.

Teaching Experience (continued)

Spring 2023 — **UCLA CS 31: Introduction to Computer Science**
Teaching Assistant

Fall 2020 — **UCLA CS M51A: Logic Design of Digital Systems**
Teaching Assistant

Academic Services

Reviewing

2020 – present
- ICML, reviewer
- NeurIPS, reviewer
- ICLR, reviewer
- AISTATS, reviewer

2022
- AAAI, Senior PC member

Industrial Experience

2024 — **Meta**, Bellevue, Washington
Research Scientist Intern, Gen AI
Worked on token-level reward modeling and new architecture design for general human preference and general preference optimization.

2023 — **Bytedance AI Lab**, Los Angeles, California.
Research Scientist Intern, Drug Discovery
Worked on multi-conformation generation of large protein molecules. Incorporated physical priors of molecular dynamics into diffusion-based generative models.

2022 — **NEC Laboratories America**, Princeton, New Jersey
Research Intern, Data Science and System Security
Worked on personalized federated learning and developed a method based on mixture models. Resulted in one paper accepted in ICML 2023.