

PROFESSIONAL EXPERIENCE

University of North Carolina, Chapel Hill Tenure-Track Assistant Professor, School of Data Science and Society	Chapel Hill, NC, USA 2024–Current
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EDUCATION

University of California, Los Angeles Ph.D. in Computer Science, Advisor: Quanquan Gu, GPA: 3.94 / 4.00	Los Angeles, CA, USA 2019–2024
University of California, Los Angeles M.Sc. in Computer Science, Advisor: Quanquan Gu, GPA: 3.94 / 4.00	Los Angeles, CA, USA 2019–2022
Tsinghua University B.E. in Automation, GPA: 3.86/4.00, Rank 6 / 150	Beijing, China 2015–2019

RESEARCH INTEREST

- **Reinforcement Learning:** Markov decision process, Sample efficiency, Representation Learning, Uncertainty in RL
- **AI for Science:** Molecule prediction/generation, Epidemic models, Multi-Modal Models (Diffusion Models, LLMs)

SCHOLARSHIPS AND AWARDS

• UCLA Dissertation Year Fellowship	2023
• Doctoral Student Fellowships, Amazon Fellow	2021
• UCLA Summer Mentored Research Fellowship	2021
• Tsinghua University Excellent Undergraduate, Class of 2019	2019
• Qualcomm Scholarship	2017–2018
• Finalist in Mathematical Contests in Modeling (MCM)	2017
• China National Scholarship	2016
• Tsinghua Scholarship for Social Practicing	2016
• Tsinghua Scholarship for [Science and Technology Innovation, Academic Excellence]	2016–2019
• Tsinghua Outstanding Freshmen Scholarship	2015
• Golden Prize for Chinese Physics Olympiad (CPHO)	2014

RESEARCH EXPERIENCE

Research Internship NVIDIA Corporation, RAPIDS-cuGraph team	Santa Clara, CA, USA Summer 2023
Research Internship NVIDIA Corporation, RAPIDS-cuGraph team	Los Angeles, CA, USA Summer 2022

Doctoral Student Fellow Amazon Science Hub For Humanity and Artificial Intelligence at UCLA	Los Angeles, CA, USA Winter 2022 - Winter 2023
Research Assistant Statistical Machine Learning Lab, University of California, Los Angeles	Los Angeles, CA, USA Fall 2019 - Spring 2024
Research Assistant Institute for Artificial Intelligence, Tsinghua University	Beijing, China Fall 2018 - Summer 2019
Research Internship Liveness Computer Vision Group, Face++, Megvii Tech. Co. Ltd.	Beijing, China Fall 2019 - Winter 2019
Research Assistant Center for Visual Computing, University of California, San Diego	La Jolla, CA, USA Summer 2018
Research Assistant National Research Center for Information Science and Technology, Tsinghua University	Beijing, China Fall 2016 - Summer 2018

TEACHING

- **Instructor** at University of North Carolina at Chapel Hill
DATA 890: Special Topics: Decision Making and Reinforcement Learning
Spring 2025
- **Teaching Assistant** at University of California, Los Angeles
Introductory Digital Design Laboratory (CS M152A) ([Course Website 21 Fall](#), [Course Website 21 Spring](#))
Spring 2021, Fall 2021
- **Teaching Assistant** at University of California, Los Angeles
Fundamentals of Artificial Intelligence (CS 161) ([Course Website 22 Winter](#), [Course Website 23 Winter](#))
Winter 2022, Winter 2023

PROFESSIONAL SERVICES

Conference Area Chair/Senior Program Committee

- [International Conference on Machine Learning \(ICML\)](#), 2025

Conference Reviewer / Program Committee

- [International Conference on Learning Representations \(ICLR\)](#), 2020, 2021, 2022, 2023, 2024, 2025
- [Neural Information Processing Systems \(NeurIPS\)](#), 2021, 2022, 2023, 2024
- [International Conference on Machine Learning \(ICML\)](#), 2021, 2022, 2023, 2024
- [International Joint Conference on Artificial Intelligence \(IJCAI\)](#), 2020, 2021, 2022, 2023, 2024
- [International Conference on Artificial Intelligence and Statistics \(AISTATS\)](#), 2022, 2023, 2024

Journal Reviewer

- [Journal of Artificial Intelligence Research \(JAIR\)](#)
- [Transactions on Machine Learning Research \(TMLR\)](#)
- [PLOS ONE](#)
- [PLOS Global Public Health](#)

INVITED TALKS

- Exact Energy Guidance in Diffusion Models and offline RL 2024-12-05
Department of Computer Science, Indiana University Bloomington
- Introduction to Reinforcement Learning: from Bayesian Optimization to Bandits 2024-08-29
Prof. Chong Liu's Lab, Department of Chemistry, UCLA
- Uncertainty-Aware Unsupervised and Robust Reinforcement Learning 2024-08-23
Prof. Pan Xu's Lab, Department of Biostatistics & Bioinformatics, Duke University
- Introduction to Graph Neural Networks and Diffusion Models 2024-06-07
Prof. Chong Liu's Lab, Department of Chemistry, UCLA

PUBLICATIONS

* indicates equal contribution

- [Sun+25] Jingwen Sun, **Weitong Zhang**, Yuanzhou Chen, Benjamin B Hoar, Hongyuan Sheng, Jenny Y Yang, Quanquan Gu, and Chong Liu. "Inquiry into the Appropriate Data Preprocessing of Electrochemical Impedance Spectroscopy for Machine Learning". In: *The Journal of Physical Chemistry C* (2025).
- [Wan+25] Zhaoyang Wang, Weilei He, Zhiyuan Liang, Xuchao Zhang, Chetan Bansal, Ying Wei, **Weitong Zhang**, and Huaxiu Yao. "CREAM: Consistency Regularized Self-Rewarding Language Models". In: *International Conference on Learning Representations*. 2025.
- [ZZG25] Shiyuan Zhang, **Weitong Zhang**, and Quanquan Gu. "Energy-Weighted Flow Matching for Offline Reinforcement Learning". In: *International Conference on Learning Representations*. 2025.
- [Zho+25] Yiyang Zhou, Zhaoyang Wang, Tianle Wang, Shangyu Xing, Peng Xia, Bo Li, Kaiyuan Zheng, Zijian Zhang, Zhaorun Chen, Wenhao Zheng, et al. "AnyPrefer: An Automatic Framework for Preference Data Synthesis". In: *International Conference on Learning Representations*. 2025.
- [Hoa+24] Benjamin B Hoar, **Weitong Zhang**, Yuanzhou Chen, Jingwen Sun, Hongyuan Sheng, Yucheng Zhang, Yisi Chen, Jenny Y Yang, Cyrille Costentin, Quanquan Gu, et al. "Redox-Detecting Deep Learning for Mechanism Discernment in Cyclic Voltammograms of Multiple Redox Events". In: *ACS electrochemistry* 1.1 (2024), pp. 52–62.
- [Hua+24] Zijie Huang, Jeehyun Hwang, Junkai Zhang, Jinwoo Baik, **Weitong Zhang**, Dominik Wodarz, Yizhou Sun, Quanquan Gu, and Wei Wang. "Causal Graph ODE: Continuous Treatment Effect Modeling in Multi-agent Dynamical Systems". In: *Proceedings of the ACM on Web Conference 2024*. 2024, pp. 4607–4617.
- [She+24] Hongyuan Sheng, Jingwen Sun, Oliver Rodríguez, Benjamin B Hoar, **Weitong Zhang**, Danlei Xiang, Tianhua Tang, Avijit Hazra, Daniel S Min, Abigail G Doyle, et al. "Autonomous closed-loop mechanistic investigation of molecular electrochemistry via automation". In: *Nature Communications* 15.1 (2024), p. 2781.
- [Zha+24a] Junkai Zhang, **Weitong Zhang**, Dongruo Zhou, and Quanquan Gu. "Uncertainty-Aware Reward-Free Exploration with General Function Approximation". In: *Forty-first International Conference on Machine Learning*. 2024.
- [Zha+24b] **Weitong Zhang**, Zhiyuan Fan, Jiafan He, and Quanquan Gu. "Achieving Constant Regret in Linear Markov Decision Processes". In: *The Thirty-eighth Annual Conference on Neural Information Processing Systems*. 2024.
- [Zha+24c] Linxi Zhao, Yihe Deng, **Weitong Zhang**, and Quanquan Gu. "Mitigating Object Hallucination in Large Vision-Language Models via Classifier-Free Guidance". In: *arXiv preprint arXiv:2402.08680* (2024).

- [Zhe+24] Wenhao Zheng, Yixiao Chen, **Weitong Zhang**, Souvik Kundu, Yun Li, Zhengzhong Liu, Eric P Xing, Hongyi Wang, and Huaxiu Yao. “CITER: Collaborative Inference for Efficient Large Language Model Decoding with Token-Level Routing”. In: *Adaptive Foundation Models: Evolving AI for Personalized and Efficient Learning*. 2024.
- [Den+23] Yihe Deng, **Weitong Zhang**, Zixiang Chen, and Quanquan Gu. “Rephrase and respond: Let large language models ask better questions for themselves”. In: *arXiv preprint arXiv:2311.04205* (2023).
- [Ji+23] Kaixuan Ji, Qingyue Zhao, Jiafan He, **Weitong Zhang**, and Quanquan Gu. “Horizon-free Reinforcement Learning in Adversarial Linear Mixture MDPs”. In: *The Twelfth International Conference on Learning Representations*. 2023.
- [ZZG23] Junkai Zhang, **Weitong Zhang**, and Quanquan Gu. “Optimal horizon-free reward-free exploration for linear mixture mdps”. In: *International Conference on Machine Learning*. PMLR. 2023, pp. 41902–41930.
- [Zha+23a] **Weitong Zhang**, Jiafan He, Zhiyuan Fan, and Quanquan Gu. “On the interplay between misspecification and sub-optimality gap in linear contextual bandits”. In: *International Conference on Machine Learning*. PMLR. 2023, pp. 41111–41132.
- [Zha+23b] **Weitong Zhang**, Jiafan He, Dongruo Zhou, Q Gu, and A Zhang. “Provably efficient representation selection in low-rank Markov decision processes: from online to offline RL”. In: *Uncertainty in Artificial Intelligence*. PMLR. 2023, pp. 2488–2497.
- [Zha+23c] **Weitong Zhang**, Xiaoyun Wang, Weili Nie, Joe Eaton, Brad Rees, and Quanquan Gu. “MoleculeGPT: Instruction Following Large Language Models for Molecular Property Prediction”. In: *NeurIPS 2023 Workshop on New Frontiers of AI for Drug Discovery and Development*. 2023.
- [Zha+23d] **Weitong Zhang**, Xiaoyun Wang, Justin Smith, Joe Eaton, Brad Rees, and Quanquan Gu. “Diffmol: 3d structured molecule generation with discrete denoising diffusion probabilistic models”. In: *ICML 2023 Workshop on Structured Probabilistic Inference & Generative Modeling*. 2023.
- [Hoa+22] Benjamin B Hoar, **Weitong Zhang**, Shuangning Xu, Rana Deeba, Cyrille Costentin, Quanquan Gu, and Chong Liu. “Electrochemical mechanistic analysis from cyclic voltammograms based on deep learning”. In: *ACS Measurement Science Au* 2.6 (2022), pp. 595–604.
- [Jia+21] Yiling Jia, **Weitong Zhang**, Dongruo Zhou, Quanquan Gu, and Hongning Wang. “Learning Neural Contextual Bandits through Perturbed Rewards”. In: *International Conference on Learning Representations*. 2021.
- [ZZG21] **Weitong Zhang**, Dongruo Zhou, and Quanquan Gu. “Reward-free model-based reinforcement learning with linear function approximation”. In: *Advances in Neural Information Processing Systems* 34 (2021), pp. 1582–1593.
- [Wu+20] Yue Frank Wu, **Weitong Zhang**, Pan Xu, and Quanquan Gu. “A finite-time analysis of two time-scale actor-critic methods”. In: *Advances in Neural Information Processing Systems* 33 (2020), pp. 17617–17628.
- [Zha+20] **Weitong Zhang**, Dongruo Zhou, Lihong Li, and Quanquan Gu. “Neural Thompson Sampling”. In: *International Conference on Learning Representations*. 2020.
- [Zou+20] Difan Zou, Lingxiao Wang, Pan Xu, Jinghui Chen, **Weitong Zhang**, and Quanquan Gu. “Epidemic model guided machine learning for COVID-19 forecasts in the United States”. In: *MedRxiv* (2020), pp. 2020–05.
- [Liu+18] Shuai Liu, **Weitong Zhang**, Xiaojun Wu, Shuo Feng, Xin Pei, and Danya Yao. “A simulation system and speed guidance algorithms for intersection traffic control using connected vehicle technology”. In: *Tsinghua Science and Technology* 24.2 (2018), pp. 160–170.

Publications as group authors

- [Lop+24] Velma K Lopez, Estee Y Cramer, Robert Pagano, John M Drake, Eamon B O’Dea, Madeline Adee, Turgay Ayer, Jagpreet Chhatwal, Ozden O Dalgic, Mary A Ladd, et al. “Challenges of COVID-19 Case Forecasting in the US, 2020–2021”. In: *PLoS computational biology* 20.5 (2024), e1011200.
- [She+23] Katriona Shea, Rebecca K Borchering, William JM Probert, Emily Howerton, Tiffany L Bogich, Shou-Li Li, Willem G van Panhuis, Cecile Viboud, Ricardo Aguás, Artur A Belov, et al. “Multiple models for outbreak decision support in the face of uncertainty”. In: *Proceedings of the National Academy of Sciences* 120.18 (2023), e2207537120.
- [Cra+22] Estee Y Cramer, Evan L Ray, Velma K Lopez, Johannes Bracher, Andrea Brennen, Alvaro J Castro Rivadeneira, Aaron Gerding, Tilmann Gneiting, Katie H House, Yuxin Huang, et al. “Evaluation of individual and ensemble probabilistic forecasts of COVID-19 mortality in the United States”. In: *Proceedings of the National Academy of Sciences* 119.15 (2022), e2113561119.
- [Bra+21] Johannes Bracher, Daniel Wolfram, Jannik Deuschel, Konstantin Görden, Jakob L Ketterer, Alexander Ullrich, Sam Abbott, Maria Vittoria Barbarossa, Dimitris Bertsimas, Sangeeta Bhatia, et al. “A pre-registered short-term forecasting study of COVID-19 in Germany and Poland during the second wave”. In: *Nature communications* 12.1 (2021), p. 5173.
- [Ray+20] Evan L Ray, Nutch Wattanachit, Jarad Niemi, Abdul Hannan Kanji, Katie House, Estee Y Cramer, Johannes Bracher, Andrew Zheng, Teresa K Yamana, Xinyue Xiong, et al. “Ensemble forecasts of coronavirus disease 2019 (COVID-19) in the US”. In: *MedRxiv* (2020), pp. 2020–08.