TAIYI WANG

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United Kingdom
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https://kevinwty0107.github.io/

https://www.linkedin.com/in/taiyi-wang-3438121a2/

SKILLS

- Fund Raising
- Supervision and lecturing
- System Infra Development
- Research Team Leading

PROFESSIONAL SUMMARY

Diligent researcher with a robust academic and industry background in applied reinforcement learning and system infrastructure development. Drawing on my extensive lectureship and TA experience from my senior PhD years, I effectively co-supervised students, combining advanced research with practical, hands-on lessons to empower young teams and deliver real-world results.

INTERESTS AND EXPERTISE

Reinforcement Learning, LLM-Agent, Scalable Machine Learning, ML-enhanced System Optimization

EDUCATION

Expected graduation December 2025

Doctor of Philosophy in Computer Science Candidate

University of Cambridge

June 2021

Master of Engineering in Computer Science

Johns Hopkins University

July 2019

Bachelor of Science in Physics, minor in math

Peking University

WORKING EXPERIENCE

July 2025 - Present

Student Researcher

Google DeepMind, London

- Autonomous Agents Team

June 2024 - November 2024

Research Scientist Intern

Huawei Technology Research Center UK, London

- Noah's Ark Lab-RL x LLM Agent Group

September 2022 - May 2024

Co-founder and Chief Technology Officer

Powersense Technology Limited, Cambridge

June 2023 - October 2023

Research Scientist Intern

Huawei Technology Research Center UK, Edinburgh

- Database Group

November 2018 - May 2019

Research and Development Engineer

Baidu, Beijing

- Big Data Group

September 2018 - November 2018

Research and Development Intern

Sohu.com Ltd, Beijing

- Advertising Strategy Group

RESEARCH EXPERIENCE

Research Internship, SCALE Lab, Imperial College London (2020 Summer)
Instructed by: Prof. Thomas Heinis
Project: Leveraging Soft Functional Dependencies for Indexing Multi-dimensional Data

Research Assistant, Center for Data Science Peking University (2019 Fall)
Instructed by: Prof. Weinan E (Princeton), Zaiwen Wen (BICMR)
Project: Building Reinforcement Learning Simulator for Continuous Control

Visiting Scholar, CUSP Big Data Interaction (BDI) Lab, NYU (2018 Summer)

Instructed by: Prof. Huy T. Vo
Project: Simulating Taxi Ride Sharing at Scale

Research Assistant, Intelligent Transportation Research Center, EECS, MIT (2018 Spring)
Instructed by: Prof. Berthold K.P. Horn, Dr. Yajun Fang
Project: Building Bilateral Control Simulation Platform (BCSP)

AWARDS

- Pillman and Cody Award, University of Cambridge
- Runner-up in Shenzhen Innovation and Entrepreneurship Competition, Global Final, Shenzhen, China
- Runner-up in the Chris Abell postdoc Business Plan Competition, Cambridge, United Kingdom
- Finalist (F Awards, Top 1%), Mathematical Contest in Modeling (MCM)
- Excellent Graduate Student Award in School of Physics, Peking University
- Excellent Graduation thesis, Peking University
- Special Award, the 5th Youth Physics Tournament, Peking University
- Third Prize, Freshman Scholarship, Peking University

PUBLICATIONS

---2025----

- Taiyi Wang, Zhihao Wu, Jianehng Liu, et al. "DistRL: An Asynchronous Distributed Reinforcement Learning Framework for On-Device Control Agents", the Thirteenth International Conference on Learning Representations (ICLR'25)
- Taiyi Wang, Liang Liang, Guang Yang, Thomas Heinis, Eiko Yoneki. "A New Paradigm in Tuning Learned Indexes: A Reinforcement Learning-Enhanced Approach", the International Conference on Management of Data (SIGMOD'25)
- Youhe Jiang, Fangcheng Fu, Xiaozhe Yao, Taiyi Wang, Bin Cui, Ana Klimovic, Eiko Yoneki. "ThunderServe: High-performance and Cost-efficient LLM Serving in Cloud Environments", the Eighth Annual Conference on Machine Learning and Systems (MLSys'25)
- Taiyi Wang, Jianheng Liu, Bryan Lee, Zhihao Wu, Yu Wu. "OCMDP: Observation-Constrained Markov Decision Process", International Joint

Conference on Neural Networks (IJCNN'25)

- Youhe Jiang*, Fangcheng Fu*, Taiyi Wang*, Eiko Yoneki. "LiveServe: Efficient LLM Serving via Workload-aware Scheduling and Workload-adaptive Switching", under review
- Taiyi Wang, Zakir Singh, Eiko Yoneki. "AutoIndexer: A Reinforcement Learning-Enhanced Index Advisor Towards Scaling Workloads", under review
- Wenxuan Li*, Taiyi Wang*, Eiko Yoneki. "HiBO: Hierarchical Bayesian Optimization via Adaptive Search Space Partitioning", under review

---2024----

- Taiyi Wang, Eiko Yoneki. "IA2: Leveraging Instance-Aware Index Advisor with Reinforcement Learning for Diverse Workloads", the 4th Workshop on Machine Learning and Systems of EuroSys, 2024 (EuroMLSys'24)
- Taiyi Wang, Eiko Yoneki. "Enhancing Generalization through Task Vector Fusion in Deep Reinforcement Learning for Database Optimization", European Conference on Computer Systems (EuroSys), Poster, 2024
- George-Octavian Bărbulescu, Taiyi Wang, Zak Singh, Eiko Yoneki. "Learned Graph Rewriting with Equality Saturation: A New Paradigm in Relational Query Rewrite and Beyond", under review

---2023----

- Ali Hadian, Behzad Ghaffari, Taiyi Wang, Thomas Heinis. "COAX: Correlation-Aware Indexing on Multidimensional Data with Soft Functional Dependencies", DBML workshop of the 39th IEEE International Conference on Data Engineering (DBML@ICDE), 2023

---2022 and Before----

- Hao Sun, Taiyi Wang. "Toward Causal-Aware RL: State-Wise Action-Refined Temporal Difference", NeurIPS 2022 Workshop DeepRL, 2022
- Hao Sun, Ziping Xu, Meng Fang, Zhenghao Peng, Taiyi Wang, Bolei Zhou. "Constrained MDPs can be Solved by Early-Termination with Recurrent Models", NeurIPS 2022 Workshop FMDM, 2022
- Hao Sun, Ziping Xu, Taiyi Wang, Meng Fang, Bolei Zhou. "Supervised Q-Learning can be a Strong Baseline for Continuous Control", NeurIPS 2022 Workshop FMDM, 2022
- Taiyi Wang, Jiahao Shi. "Solving Maximal Stable Set problem via Deep Reinforcement Learning", International Conference on Communication Technology, Computational Engineering and Artificial Intelligence (ICAART'20)
- Taiyi Wang, Yajun Fang, Berthold K.P. Horn. "Why do we need bilateral control-in view of energy consumption", 2018 4th IEEE International Conference on Universal Village (IEEE UV'18)