

Zhiyong Wang | Curriculum Vitae

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🔗 <https://scholar.google.com/citations?user=JnT7gacAAAAJhl=zh-CN>

EDUCATION

Cornell University

Visiting Ph.D. in Computer Science and Engineering

Supervised by Prof. Wen Sun

Ithaca, New York, USA

Mar.2024–Present

The Chinese University of Hong Kong

Ph.D. in Computer Science and Engineering

ANSR Lab, supervised by Prof. John C.S. Lui (ACM/IEEE Fellow)

Hong Kong, China

Aug.2021–Jul.2025 (expected)

Huazhong University of Science and Technology

B.E. in Electronic Information Engineering

Advanced Class in Mathematics and Physics for Information Science

Wuhan, China

Sep.2017–Jun.2021

RESEARCH INTERESTS

The primary goal of my research is to design provably efficient and practical algorithms for data-driven online sequential decision-making under uncertainty. Specifically, I am interested in reinforcement learning (RL), multi-armed bandits, and their applications (e.g., in (conversational) recommendation systems, computer networks, video analytics, etc). Recently, I have also been interested in RL (including bandits) + Generative AI (e.g., diffusion models, LLMs, etc).

PREPRINTS

- **Model-based RL as a Minimalist Approach to Horizon-Free and Second-Order Bounds**,
Zhiyong Wang, Dongruo Zhou, John C.S. Lui, Wen Sun.
Selected as a course reference paper for CS 6789 Foundations of Reinforcement Learning at Cornell University.

PUBLICATIONS (* denotes equal contribution, # denotes corresponding author)

- **Online Learning and Detecting Corrupted Users for Conversational Recommendation Systems**,
Xiangxiang Dai*, Zhiyong Wang*#, Jize Xie, Tong Yu, John C.S. Lui,
Accepted in the IEEE Transactions on Knowledge and Data Engineering (TKDE), 2024.
- **Conversational Recommendation with Online Learning and Clustering on Misspecified Users**,
Xiangxiang Dai*, Zhiyong Wang*#, Jize Xie, Xutong Liu, John C.S. Lui,
Accepted in the IEEE Transactions on Knowledge and Data Engineering (TKDE), 2024.
- **Towards Zero-Shot Generalization in Offline Reinforcement Learning**,
Zhiyong Wang, Chen Yang, John C.S. Lui, Dongruo Zhou,
Accepted in the Adaptive Learning in Complex Environments TTIC Workshop, 2024.
Also accepted in ICML 2024 Workshop: Aligning Reinforcement Learning Experimentalists and Theorists.
Presented at TTIC Summer Workshop 2024: Data-Driven Decision Processes: From Theory to Practice.
- **Variance-Dependent Regret Bounds for Non-stationary Linear Bandits**,
Zhiyong Wang, Jize Xie, Yi Chen, John C.S. Lui, Dongruo Zhou,
Accepted in the Adaptive Learning in Complex Environments TTIC Workshop, 2024.
Also accepted in ICML 2024 Workshop: Foundations of Reinforcement Learning and Control – Connections

and Perspectives.

Presented at the 25th International Symposium on Mathematical Programming (ISMP), 2024.

- **Combinatorial Multivariant Multi-Armed Bandits with Applications to Episodic Reinforcement Learning and Beyond,**
Xutong Liu, Siwei Wang, Jinhang Zuo, Han Zhong, Xuchuang Wang, Zhiyong Wang, Shuai Li, Mohammad Hajiesmaili, John C.S. Lui, Wei Chen,
Accepted in the Forty-first International Conference on Machine Learning (ICML), 2024.
- **Quantifying the Merits of Network-Assist Online Learning in Optimizing Network Protocols,**
Xiangxiang Dai*, Zhiyong Wang*, Jiancheng Ye, John C.S. Lui,
Accepted in the IEEE/ACM International Symposium on Quality of Service (IWQoS), 2024.
- **Online Optimal Service Caching for Multi-Access Edge Computing: A Constrained Multi-Armed Bandit Optimization Approach,**
Weibo Chu, Xiaoyan Zhang, Xinming Jia, John C.S. Lui, Zhiyong Wang,
Accepted in the Computer Networks. 2024.
- **Federated Contextual Cascading Bandits with Asynchronous Communication and Heterogeneous Users,**
Hantao Yang, Xutong Liu, Zhiyong Wang, Hong Xie, John C.S. Lui, Defu Lian, Enhong Chen,
Accepted in the AAAI Conference on Artificial Intelligence (AAAI), 2024.
- **Learning Context-Aware Probabilistic Maximum Coverage Bandits: A Variance-Adaptive Approach,**
Xutong Liu, Jinhang Zuo, Junkai Wang, Zhiyong Wang, Yuedong Xu, John C.S. Lui,
IEEE International Conference on Computer Communications (INFOCOM), 2024.
- **Online Clustering of Bandits with Misspecified User Models,**
Zhiyong Wang, Jize Xie, Xutong Liu, Shuai Li, John C.S. Lui,
Thirty-seventh Conference on Neural Information Processing Systems (NeurIPS), 2023.
- **Online Corrupted User Detection and Regret Minimization,**
Zhiyong Wang, Jize Xie, Xutong Liu, Shuai Li, John C.S. Lui,
Thirty-seventh Conference on Neural Information Processing Systems (NeurIPS), 2023.
- **Adversarial Attacks on Online Learning to Rank with Click Feedback,**
Jinhang Zuo, Zhiyao Zhang, Zhiyong Wang, Shuai Li, Mohammad Hajiesmaili, Adam Wierman,
Thirty-seventh Conference on Neural Information Processing Systems (NeurIPS), 2023.
- **Efficient Explorative Key-term Selection Strategies for Conversational Contextual Bandits,**
Zhiyong Wang, Jize Xie, Xutong Liu, Shuai Li, John C.S. Lui,
Thirty-seventh AAAI Conference on Artificial Intelligence (AAAI), 2023.

WORKING EXPERIENCE

1. Microsoft Research Asia (Jun. 2023- Sep. 2023) -Theory Center, Research Intern,
Mentor: Dr. Wei Chen (IEEE Fellow, Director of Microsoft Research Asia Theory Center).

HONORS & AWARDS

TTIC Summer Workshop Travel Grant for Adaptive Learning in Complex Environments	2024, TTIC
Reaching Out Award	2024, HKSAR Government
Full Postgraduate Studentship	2021-2025, CUHK
Outstanding Graduates of Huazhong University of Science and Technology	2021, HUST
Outstanding Undergraduates in terms of Academic Performance (3%)	2017-2021, HUST
Scholarship for excellent academic performance (3%)	2019-2020, HUST
S. I. Komarova Scholarship for academic excellence	2020, Valeon
National Scholarship twice	2017-2018, 2018-2019, Ministry of Education of China
Merit Student twice (3%)	2017-2018, 2018-2019, HUST
Scholarship for Exploration	2018, Whale Education Foundation
Second Prize in the 11th Mathematical Modeling Competition of Central China	2018, HBSIAM

Scholarship for outstanding academic performance for Freshmen

2017-2018, **HUST**

TEACHING ASSISTANT

CSCI2040: Introduction to Python

Fall 2021, CUHK

CSCI1510: Computer Principles and C Programming

Spring 2022, CUHK

CSCI2040: Introduction to Python

Fall 2022, CUHK

CSCI2040: Introduction to Python

Spring 2023, CUHK

CSCI2040: Introduction to Python

Fall 2023, CUHK

SKILLS

Programming Skills: Python, Matlab, C.

Languages: English (IELTS: 7.0) and Mandarin Chinese (native language).