

# 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) theory, 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).

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

- **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.
- **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.
- **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

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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

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

## TEACHING ASSISTANT

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CSCI2040: Introduction to Python	Fall 2021, <b>CUHK</b>
CSCI1510: Computer Principles and C Programming	Spring 2022, <b>CUHK</b>
CSCI2040: Introduction to Python	Fall 2022, <b>CUHK</b>
CSCI2040: Introduction to Python	Spring 2023, <b>CUHK</b>
CSCI2040: Introduction to Python	Fall 2023, <b>CUHK</b>

## SKILLS

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**Programming Skills:** Python, Matlab, C.

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