Zhiyong Wang | Curriculum Vitae

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EDUCATION

Cornell University   **Ithaca, New York, USA**
Visiting Ph.D. in Computer Science and Engineering   *Mar.2024–Present*
Supervised by Prof. Wen Sun

The Chinese University of Hong Kong   **Hong Kong, China**
Ph.D. in Computer Science and Engineering   *Aug.2021–Jul.2025 (expected)*
ANSR Lab, supervised by Prof. John C.S. Lui (ACM/IEEE Fellow)

Huazhong University of Science and Technology   **Wuhan, China**
B.E. in Electronic Information Engineering   *Sep.2017–Jun.2021*
Advanced Class in Mathematics and Physics for Information Science

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).

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.
- **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

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**

SKILLS

Programming Skills: Python, Matlab, C.

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