Zhuohua Li | Curriculum Vitae

The Chinese University of Hong Kong, Shatin, N.T., Hong Kong SAR
(+852) 6587 3796 • zhli@cse.cuhk.edu.hk • zhuohua.me
lizhuohua • lizhuohua • Zhuohua Li • 0000-0002-1390-0222

EDUCATION

The Chinese University of Hong Kong **Hong Kong**
Ph.D. in Computer Science and Engineering *Aug.2017–Oct.2022*
Advanced Networking and System Research Laboratory (ANSRLab)
Supervised by Prof. John C.S. Lui

University of Science and Technology of China **Hefei**
BEng in Computer Science and Technology *Aug.2013–Jun.2017*
Hua Xia Talent Program in Computer Science and Technology

WORK EXPERIENCE

The Chinese University of Hong Kong **Hong Kong**
Postdoctoral Fellow, Supervisor: Prof. John C.S. Lui *Aug.2023–Present*
- Working on online learning and multi-armed bandits algorithms and their applications

The Chinese University of Hong Kong **Hong Kong**
Junior Research Assistant, Supervisor: Prof. John C.S. Lui *Oct.2022–Aug.2023*
- Designed Border Gateway Protocols (BGP) for quantum networks
- Leveraged online learning algorithms to select high-fidelity paths while minimizing the testing cost

Baidu Security X-Lab **Sunnyvale, USA**
Intern, Supervisor: Dr. Tao (Lenx) Wei *Jul.2018–Oct.2018*
- Developed a framework for developing secure Linux kernel modules in the Rust programming language
- Provided infrastructures for safe kernel memory allocation and concurrency management

Microsoft Research Asia, Social Computing Group **Beijing**
Research Intern, Mentor: Dr. Xing Xie *Jul.2016–Sep.2016*
- Participated in improving the sentiment recognition of XiaoIce, Microsoft's AI chatbot
- Optimized the emotion recognition according to the context of XiaoIce's dialogues

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

- Maoli Liu, **Zhuohua Li**[#], Xiangxiang Dai, and John C.S. Lui. Leveraging the Power of Conversations: Optimal Key Term Selection in Conversational Contextual Bandits. *The 31st ACM SIGKDD Conference on Knowledge Discovery and Data Mining*. KDD'25.
- **Zhuohua Li**[*], Maoli Liu[*#], Xiangxiang Dai, John C.S. Lui. Demystifying Online Clustering of Bandits: Enhanced Exploration Under Stochastic and Smoothed Adversarial Contexts. *The 13th International Conference on Learning Representations*. ICLR'25.
- **Zhuohua Li**, Maoli Liu[#], Xiangxiang Dai, John C.S. Lui. Towards Efficient Conversational Recommendations: Expected Value of Information Meets Bandit Learning. *The Web Conference 2025*. WWW'25.
- Xuchuang Wang, Maoli Liu[#], Xutong Liu[#], **Zhuohua Li**, Mohammad Hajiesmaili, John C.S. Lui, Don Towsley. Learning Best Paths in Quantum Networks. *The 44th IEEE Conference on Computer Communications*. INFOCOM'25.
- **Zhuohua Li**[*], Maoli Liu[*], John C.S. Lui. FedConPE: Efficient Federated Conversational Bandits with Heterogeneous Clients. *The 33rd International Joint Conference on Artificial Intelligence*. IJCAI '24.
- Maoli Liu, **Zhuohua Li**[#], Xuchuang Wang, John C.S. Lui. LinkSelFiE: Link Selection and Fidelity Estimation in Quantum Networks. *The 43rd IEEE Conference on Computer Communications*. INFOCOM'24.

- Maoli Liu[*], **Zhuohua Li**[*#], Kechao Cai, Jonathan Allcock, Shengyu Zhang, John C.S. Lui. Quantum BGP with Online Path Selection via Network Benchmarking. *The 43rd IEEE Conference on Computer Communications*. INFOCOM '24.
- Jincheng Wang, **Zhuohua Li**, Mingshen Sun, Bin Yuan[#], John C.S. Lui. IoT Anomaly Detection Via Device Interaction Graph. *The 53rd Annual IEEE/IFIP International Conference on Dependable Systems and Network*. DSN'23.
- **Zhuohua Li**, Jincheng Wang, Mingshen Sun, John C.S. Lui. Detecting Cross-Language Memory Management Issues in Rust. *The 27th European Symposium on Research in Computer Security*. ESORICS'22.
- Jincheng Wang, **Zhuohua Li**, John C.S. Lui, Mingshen Sun. Zigbee's Network Rejoin Procedure for IoT Systems: Vulnerabilities and Implications. *The 25th International Symposium on Research in Attacks, Intrusions and Defenses*. RAID'22.
- Jincheng Wang, **Zhuohua Li**, John C.S. Lui, Mingshen Sun. Topology-Theoretic Approach To Address Attribute Linkage Attacks In Differential Privacy. *Computers & Security*, Volume 113, February 2022. An earlier version was presented at the *9th International Workshop on Security and Privacy in Big Data* (*BigSecurity'21*), *in conjunction with INFOCOM'21*.
- **Zhuohua Li**, Jincheng Wang, Mingshen Sun, John C.S. Lui. MirChecker: Detecting Bugs in Rust Programs via Static Analysis. *The 28th ACM Conference on Computer and Communications Security*. CCS'21.
- **Zhuohua Li**, Jincheng Wang, Mingshen Sun, John C.S. Lui. Securing the Device Drivers of Your Embedded Systems: Framework and Prototype. *The 3rd International Workshop on Security and Forensics of IoT* (*in conjunction with ARES 2019*). IoT-SECFOR'19.

SELECTED PROJECTS

FFIChecker (☆**54**): A Tool for Detecting Cross-Language Memory Management Issues in Rust

- Detected memory management issues across Rust's *Foreign Function Interface* (*FFI*)
- Detected 34 real-world memory management issues, including memory leaks and undefined behavior

MirChecker (☆**148**): A Static Analysis and Bug Detection Tool for Rust programs

- Performed static analysis on the Rust's *Mid-level Intermediate Representation* (*MIR*) based on the theory of *Abstract Interpretation*
- Detected 33 real-world runtime panics and memory safety bugs

linux-kernel-module-rust (☆**632**): A Framework for Secure Kernel Module Development in Rust

- A framework for writing Linux kernel modules in the Rust programming language
- Provided ownership-based infrastructure for kernel memory allocation and concurrency management

PROFESSIONAL SERVICE

Reviewer: IEEE/ACM Transactions on Networking, IEEE Transactions on Software Engineering, IEEE Internet of Things Journal, NeurIPS 2024, ICLR 2025, AISTATS 2025, WWW 2025, ICML 2025, KDD 2025

TPC Member: QCNC 2025, WWW 2025 Short Paper Track

TEACHING ASSISTANT

CMSC5735: Advanced Topics in Cloud Computing — Spring 2018, **CUHK**

CSCI3320: Fundamentals of Machine Learning — Spring 2018, **CUHK**

CSCI2040: Introduction to Python — Fall 2017, **CUHK**

HONORS & AWARDS

AISTATS 2025 Best Reviewer Award — 2025, **Phuket, Thailand**

Award of Excellence in the Microsoft Star of Tomorrow Internship Program — 2016, **MSRA**

1st Place in WRF, 4th Place Overall, ISC'16 Student Cluster Competition — 2016, **Frankfurt, Germany**
Talent Class Top-Tier Scholarship Plan, Category A (10%) for 3 times — 2014–2016, **USTC**
Second-class Scholarship for Outstanding Student (10%) for 2 times — 2015, 2016, **USTC**
Third-class Scholarship for Outstanding Student (15%) for 2 times — 2013, 2014, **USTC**
Excellent Student Cadre (3%) — 2015, **USTC**

COMPUTER SKILLS

Operating Systems: Gentoo Linux, macOS
Programming Languages: Experienced in C/C++, Rust, Python