

Wenlong Ding (Curriculum Vitae)

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EDUCATION

- The Chinese University of Hong Kong (CUHK)** Shatin, Hong Kong SAR, China
Ph.D. in Computer Science and Engineering 08/2021 – Present
- Thesis (Ongoing): Learning Inspired Network Traffic and Configuration Management.
- Huazhong University of Science and Technology (HUST)** Wuhan, Hubei, China
B.E. in Computer Science and Technology (ACM class) 09/2017 – 06/2021
- GPA: 90.64/100 or 3.96/4.0 | Rank: Top 5%

RESEARCH INTERESTS

- Topic 1: Learning-Based Network Traffic Management (Traffic Engineering)** 08/2021 – Present
- **[Project 1] Archie**: Efficient link restoration with learning models in traffic engineering system.
 - **[Project 2] dNE**: A general DNN training framework for fast and high-performance traffic engineering.
- Topic 2: Learning/LLM-Driven Network Configuration Management** 04/2023 – Present
- **[Project 1] Xumi**: Automating conflict-aware ACL configuration from natural language intents with minimal rule additions. (*In Submission*)
 - **[Project 2] NAC**: Scalable selective verification with LLM-enabled network analysis copilot. (*Short version in submission, full paper ongoing*)
 - **[Misc]** Network configuration template database creation, automatic routing configurations, etc.

PUBLICATION LIST

Conference Papers

[C2] Wenlong Ding, and Hong Xu. Dynamic Learning-based Link Restoration in Traffic Engineering with Archie. In *Proceedings of IEEE International Conference on Computer Communications (IEEE INFOCOM)*, 2024.

[C1] Wenlong Ding, Libin Liu, Li Chen, and Hong Xu. ABC: Automatic Bottom-up Construction of Configuration Knowledge Base for Multi-Vendor Networks. In *Proceedings of the Fifth IEEE International Conference on Cognitive Machine Intelligence (IEEE CogMI) (Invited Paper)*, 2023.

Journal Papers

[J1] Wenlong Ding, Libin Liu, Li Chen, and Hong Xu. Learning for Accelerated Traffic Engineering with Differentiable Network Modeling. In *IEEE Transactions on Network Science and Engineering (TNSE)*, accepted in Jun 2025.

Posters

[P1] Wenlong Ding, Jianqiang Li, Zhixiong Niu, Huangxun Chen, and Hong Xu. Poster: Automating Network Configuration with Natural Language Intents. In *Proceedings of the ACM SIGCOMM 2024 Conference: Posters and Demos (ACM SIGCOMM Posters and Demos)*, 2024.

WORK EXPERIENCE

- Research Intern — Microsoft Research Asia, Beijing, China** 02/2025 - present
- *Lead role*: Design an LLM-based system for network configuration analysis to assist NetOps in verifying frequent configuration updates.
 - *Contributing role*: Optimize FIB entry count on routers to reduce memory pressure and improve scalability, while maintaining effective load balancing.

SERVICE AND TEACHING

Academic Services

Reviewers IEEE Transactions on Network Science and Engineering.
Shadow TPC ACM CoNEXT 2025.
Artifact Evaluation Committee ACM ASPLOS 2026, USENIX NSDI 2026.

Teaching Assistants in CUHK

CSCI4430 *Data Communication and Computer Networks*. Spring 2023; Fall 2023.
ENGG2020 *Digital Logic and Systems*. Fall 2022; Spring 2024.
CSCI3170 *Introduction to Database System*. Fall 2024.
ENGG1103 *Multivariable Calculus for Engineers*. Spring 2022.
ENGG2760 *Probability for Engineers*. Fall 2021.

HONORS AND AWARDS

06/2021 Excellent Undergraduate Thesis (3%), HUST
05/2021 Outstanding Graduate and Honours Bachelor's Degree (3%), HUST
09/2020 Merit Student (5%), HUST
12/2019 Outstanding Individual in University Students Innovation and Entrepreneurship Project, HUST
04/2019 Meritorious Winner, Mathematical Contest in Modeling (5%), COMAP, USA