

# Lesley (Yajie) Zhou

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Updated: September 2024

## RESEARCH INTERESTS

AI for NetOps, Self-improving networking and systems.

## EDUCATION

**University of Maryland, College Park** *Sep. 2023 - Now*

PhD student in Computer Science (transferred)

- Advisor: Prof. Zaoxing (Alan) Liu

**Boston University** *Sep. 2021 - Sep. 2023*

PhD student in Computer Engineering

- Advisor: Prof. Zaoxing (Alan) Liu

**Korea Advanced Institute of Science and Technology (KAIST)** *Aug. 2020*

M.S. in Electrical Engineering

- Advisors: Prof. Yung Yi, Prof. Dongsu Han

**Xidian University** *Jul. 2018*

B.E. in Computer Science and Technology

- Bachelor Dissertation Award: Top 1% in CS Dept.

## PUBLICATIONS

- Towards Interactive Research Agents for Internet Incident Investigation

**Yajie Zhou**, Nengneng Yu, Zaoxing (Alan) Liu.

*ACM HotNets, 2023*

- Enhancing Network Management Using Code Generated by Large Language Models

Sathiya Kumaran Mani, **Yajie Zhou**, Kevin Hsieh, Santiago Segarra, Trevor Eberl, Eliran Azulai, Ido Frizler, Ranveer Chandra, Srikanth Kandula.

*ACM HotNets, 2023*

- Automatic Curriculum Generation for Learning Adaptation in Networking

Zhengxu Xia\*, **Yajie Zhou\***, Francis Y. Yan, Junchen Jiang.

(\*equal contribution)

*ACM SIGCOMM, 2022*

## INTERNSHIP

**Microsoft Research (Redmond, WA)** *May. 2024 - Now*

Research Internship

**Microsoft Research (Redmond, WA)** *May. 2023 - Aug. 2023*

Research Internship

**NETWORKING EXPERIENCE** **Network Management Copilot** *May. 2023 - Present*

**Mentors:** Kevin Hsieh, Sathiya Kumaran Mani, Srikanth Kandula (MSR).

**Motivation:** Copilot for network management with code generated by LLMs.

- Extract domain-specific context for each user query.
- Reduce execution and logical errors for generated code.
- Build the E2E system.

**Internet Events Investigation and Planning** *Jun. 2023 - Present*

**Mentors:** Zaoxing (Alan) Liu. (at UMD)

**Key idea:** Build self-learning research agents with LLMs.

- Simulate research agents to learn to be an Internet accident expert.
- How human-in-the-loop can improve agents' reliability.

**Data-Driven Advanced Persistent Threats (APT) Analysis** *Jan. 2022 - Present*

**Mentors:** Zaoxing (Alan) Liu. (at BU)

**Motivation:** Provide in-depth attack analysis with limited data in real-world APT scenarios.

- Develop Transformer-based APT detection, with limited labeled data.
- Build fine-grained attack analysis instead of the simple binary classifier (threat vs benign).
- Reconstruct the attack story for security analysts and engineers.

**Generalizability of DL based Networking Systems** *Sep. 2020 - May. 2022*

**Mentors:** Junchen Jiang (UChicago), Francis Yan (MSR)

**Motivation:** How can we improve the generalizability of existing RL based networking systems?

- Propose a novel training framework that enhances the performance and generalization of reinforcement learning (RL) algorithms in networking and systems.
- Improve the performance and generalization of simulation-trained RL algorithms under unseen workloads and in real environments.

## **PATENT**

- Sathiya Kumaran Mani, **Yajie Zhou**, Kevin Hsieh, Santiago Segarra, Ranveer Chandra, Srikanth Kandula. 2023. "Graph Analysis and Manipulation." *US Patent Application MS#413451-US-NP, filed December 2023.*
- **Yajie Zhou**, Kasim Te. 2020. "Method and Apparatus for Transmitting Video Data." *Korean Patent Application 10-2020-0141018, registered October 2020.*

## **HONORS AND AWARDS**

- **N2Women Young Researcher Fellowship**, 2022
- **SIGCOMM Travel Grants**, NYC, US, 2023
- **SIGCOMM Travel Grants**, Amsterdam, Netherlands, 2022
- **Grad Cohort for Women-CRA Travel Grants**, New Orleans, 2022

## **SERVICE**

- **N2Women Young Researcher Support**  
**Serve as event host:** Connect mentors from academia and industry with female PhD/Post-docs to share advice for academic career development.

## **TEACHING**

- **Introduction of Networking (BU EC441)**  
Teaching assistant, Fall 2022, Spring 2023

## **SKILLS**

Programming Languages: Python, C++,  $\text{\LaTeX}$ .

Machine Learning Frameworks: LangChain, PyTorch, Tensorflow, Keras.

Editor: Emacs, PyCharm, Visual Studio.