Lesley (Yajie) Zhou

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RESEARCH INTERESTS

AI for NetOps, Self-driving 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

- Securing Public Cloud Networks with Efficient Role-based Micro-Segmentation
  Sathiya Kumaran Mani, Kevin Hsieh, Santiago Segarra, Ranveer Chandra, **Yajie Zhou**, Srikanth Kandula
  USENIX NSDI, 2025
- 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, Srikanth Kandula (MSR).
Motivation: Copilot for network management with code generated by LLMs.

- Generate domain-specific context.
- Reduce execution and logical errors.
- The E2E system is integrating in Azure Networking.

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.

- Develope 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
- **NSDI Student Travel Grants**, PA, USA, 2025
- **SIGCOMM Travel Grants**, NYC, US, 2023
- **SIGCOMM Travel Grants**, Amsterdam, Netherlands, 2022
- **Grad Cohort for Women-CRA Travel Grants**, New Orleans, 2022

SERVICE

- **Sensors S&P Workshop 2025**
  Serve as TPC member.
- **N2Women Young Researcher Workshop 2023**
  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++, LaTeX.
Machine Learning Frameworks: LangChain, PyTorch, Tensorflow, Keras.
Editor: Emacs, PyCharm, Visual Studio.