

Yuning Chen

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RESEARCH INTEREST

I work in Machine Learning for Networked Systems, with hands-on experience in Time Series and Causal Learning (KDD'24), Large Language Models (MLSys'24), and Generative AI (MobiSys'24).

EDUCATION

Ph.D. in Electrical Engineering and Computer Science, **University of California, Merced** Aug. 2021 - May. 2025
Advisor: Prof. [Wan Du](#).

Bachelor in Software Engineering, **Tsinghua University** Aug. 2017 - May. 2021
Honor: *Outstanding Bachelor's Graduate (10%)*.

PROFESSIONAL EXPERIENCE

Software Engineer Intern, Bytedance, San Jose, CA May. 2024 - Aug. 2024
Advisor: Dr. [Yongping Tang](#). *Machine Learning for Systems, Network Engineering, Software-Defined Networks.*

- Design and develop a proactive ingress behavior probing tool for TikTok DNS and CDN users on IP anycast. After the successful deployment on 10+ edges globally, an ingress report for more than 240k DNS resolver IPs can be generated within 10 minutes.

Research Intern, Alibaba Cloud U.S., Sunnyvale, CA May. 2023 - Aug. 2023
Advisor: Dr. [Pan Hu](#), Dr. [Yunfei Ma](#). *Large Language Model(LLM), Cloud Computing, IP Anycast.*

- Propose a benchmark with 1011 problems for cloud-native configuration generation and a scalable evaluation platform for code assessment, and analyze the performance of 13 LLMs, offering strategies for quality and efficiency improvement.
- Build an IP anycast optimization system that formulates the AS path prepending optimization as a weighted MAX-SAT problem and propose an efficient scanning method to obtain the potential connections for global IP anycast clients.

PUBLICATIONS

(* denotes equal contribution)

- Yuning Chen, Kang Yang, Zhiyu An, Brady Holder, Luke Paloutzian, Khaled M. Bali, Wan Du. **MARLP: Time-series Forecasting Control for Agricultural Managed Aquifer Recharge**. ACM KDD 2024. [Code](#)
- Yifei Xu*, Yuning Chen*, Xumiao Zhang*, Xianshang Lin, Pan Hu, Yunfei Ma, Songwu Lu, Wan Du, Z. Morley Mao, Dennis Cai, and Ennan Zhai. **CloudEval-YAML: A Practical Benchmark for Cloud Configuration Generation**. MLSys 2024. [Code](#)
- Kang Yang, Yuning Chen, and Wan Du. **OrchLoc: In-Orchard Localization via a Single LoRa Gateway and Generative Diffusion Model-based Fingerprinting**. ACM MobiSys 2024. [Code](#)
- Kang Yang*, Yuning Chen*, Xuanren Chen, and Wan Du. **Link Quality Modeling for LoRa Networks in Orchards**. ACM/IEEE IPSN 2023. [Code](#)
- Yifei Xu*, Yuning Chen*, Xumiao Zhang*, Xianshang Lin, Pan Hu, Yunfei Ma, Songwu Lu, Wan Du, Z. Morley Mao, Ennan Zhai, and Dennis Cai. **CloudEval-YAML: A Realistic and Scalable Benchmark for Cloud Configuration Generation**. Machine Learning for Systems Workshop, NeurIPS 2023. [Code](#)
- Zhizhang Hu*, Shangjie Du*, Yuning Chen, Xuan Zhang, Wan Du, Asa Bradman, Shijia Pan. **Poster: Enhancing Fault Resilience of Air Quality Monitoring in San Joaquin Valley: A Data Equity Analysis**. ACM SenSys 2023.
- (Under submission) **GrangerNet: Multi-variate Time Series Modeling with Structural Granger Causality**.
- (Under submission) **GenRTC: Enabling Generative Visual Captions in Real-time Video Streaming**.

SERVICES

- **Conference Reviewer:** ICLR'25, NeurIPS'24, CIKM'24 TRAI, MobiCom'24 AE, MobiSys'24 AE, SenSys'23 P&D.
- **Journal Reviewer:** IEEE TPAMI, IEEE TMC, IEEE TNSE, ACM TOSN, IEEE IoTJ.

TECHNICAL SKILLS

- **Programming Languages:** Python, JavaScript, C++, Golang, MatLab, MySQL.
- **Technologies:** PyTorch, Hugging Face, OpenCV, TensorFlow, Kubernetes, Linux, Git, Scikit-learn, Pandas, NumPy, FFMPEG, WebRTC.