Yuning Chen

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RESEARCH INTEREST

I specialize in machine learning and its applications in large-scale systems, with hands-on experience in Generative AI (MLSys'24, MobiSys'24) and time series modeling with causal learning (KDD'24, etc.). My recent works include CodeGen benchmarking and optimization, as well as implemented Image and 3D Gen into live video streaming systems.

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.
- (1st author, under submission) **GenRTC: Enabling Generative Visual Captions in Live Video Streaming.**
- (1st author, under submission) **GrangerNet: Multi-variate Time Series Modeling with Structural Granger Causality.**

SERVICES

- **Conference Area Chair**: KDD'25.
- **Conference Reviewer**: KDD'25, ICML'25, ICLR'25, AISTATS'25, NeurIPS'24, MobiCom'24 AE, MobiSys'24 AE, etc.
- **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.