

Kang Yang

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RESEARCH INTERESTS

AI-Enabled Design and Optimization of Cyber-Physical Systems

WORK EXPERIENCE

Postdoctoral Scholar, University of California, Los Angeles

Jan. 2025 – Current

Electrical and Computer Engineering (ECE) Department

Advisor: [Mani Srivastava](#), Distinguished Professor of ECE and CS at UCLA; Amazon Scholar

EDUCATION

University of California, Merced

Merced, CA, USA

Ph. D. Electrical Engineering and Computer Science (EECS)

Jan. 2020 – Nov. 2024

Thesis Title: "*Advanced LoRa Networking and Sensing for IoT Applications*"

Advisor: [Wan Du](#), Associate Professor in EECS at University of California, Merced

Xi'an Jiaotong University

Xi'an, China

M. S. School of Automation Science and Engineering

Sept. 2016 – Jun. 2019

Xi'an University of Science and Technology

Xi'an, China

B. S. School of Electrical and Control Engineering

Sept. 2012 – Jun. 2016

HONORS AND AWARDS

- **AAAI AI4TS Oral Award**, 2025
- **Postdoctoral Fellowship, UCLA Institute for Digital Research and Education (IDRE)**, 2025
- **NeurIPS Spotlight Award (Top 3.2% of 21K submissions)**, 2025
- **Rising Stars in EECS Workshop at MIT**, 2025
- **Rising Stars**, 23rd ACM International Conference on Mobile Systems, Applications, and Services (MobiSys), 2025
- **Best Demo Award**, 23rd ACM Conference on Embedded Networked Sensor Systems (SenSys), 2025
- **Farms Food Future Innovation Initiative (F3) R&D GSR Award**, 2024 – 2025
- **Farms Food Future Innovation Initiative (F3) R&D GSR Award**, 2023 – 2024
- **UC Merced Professional Development Award**, 2024
- **UC Merced GSA Conference Travel Award**, 2022
- **Best Paper Runner-up Award**, 17th IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS), 2021

PUBLICATIONS

Publication Record: 29 publications, including 15 first-author papers, in venues including 6 Transactions articles, 3 SenSys papers, 1 NeurIPS Spotlight paper, 1 CVPR paper, 1 MobiSys paper, 1 IPSN paper, and 1 e-Energy paper.

An asterisk (*) denotes co-first authorship.

Conferences

C12 [CVPR '26] "Generalizable Radio-Frequency Radiance Fields for Spatial Spectrum Synthesis."

Kang Yang, Yuning Chen, and Wan Du.

The IEEE/CVF Conference on Computer Vision and Pattern Recognition 2026.

C11 [e-Energy '26] "CarbonX: An Open-Source Tool for Computational Decarbonization Using Time Series Foundation Models."

Diptyaroop Maji*, **Kang Yang***, Prashant Shenoy, Ramesh K. Sitaraman, and Mani Srivastava.
The 17th ACM International Conference on Future and Sustainable Energy Systems (e-Energy).

C10 [SenSys '26] “*SoilX: Calibration-Free Comprehensive Soil Sensing Through Contrastive Cross-Component Learning.*”
Kang Yang*, Yuanlin Yang*, Yuning Chen*, Sikai Yang, Xinyu Zhang, and Wan Du.
The inaugural ACM/IEEE International Conference on Embedded Artificial Intelligence and Sensing Systems (SenSys).
Best Demo Award

C9 [NeurIPS '25] “*GSRF: Complex-Valued 3D Gaussian Splatting for Efficient Radio-Frequency Data Synthesis.*”
Kang Yang, Gaofeng Dong, Sijie Ji, Wan Du, and Mani Srivastava.
The 39th Conference on Neural Information Processing Systems (NeurIPS).
Spotlight Award (Top 3.2% of 21K submissions)

C8 [NeurIPS '25] “*ADMN: A Layer-Wise Adaptive Multimodal Network for Dynamic Input Noise and Compute Resources.*”
Jason Wu, Yuyang Yuan, **Kang Yang**, Lance M. Kaplan, and Mani Srivastava.
The 39th Conference on Neural Information Processing Systems (NeurIPS).

C7 [NeurIPS '25] “*Benchmarking Spatiotemporal Reasoning in LLMs and Reasoning Models: Capabilities and Challenges.*”
Pengrui Quan, Brian Wang, **Kang Yang**, Liying Han, and Mani Srivastava.
The 39th Conference on Neural Information Processing Systems (NeurIPS).

C6 [MobiSys '24] “*OrchLoc: In-Orchard Localization via a Single LoRa Gateway and Generative Diffusion Model-based Fingerprinting.*”
Kang Yang, Yuning Chen, and Wan Du.
The 22nd ACM International Conference on Mobile Systems, Applications, and Services (MobiSys).

C5 [KDD '24] “*MARLP: Time-series Forecasting Control for Agricultural Managed Aquifer Recharge.*”
Yuning Chen, **Kang Yang**, Zhiyu An, Brady Holder, Luke Paloutzian, Khaled Bali, and Wan Du.
The 30th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD).

C4 [IPSN '23] “*Link Quality Modeling for LoRa Networks in Orchards.*”
Kang Yang*, Yuning Chen*, Tingruixiang Su, and Wan Du.
The 22nd ACM/IEEE Conference on Information Processing in Sensor Networks (IPSN).

C3 [SenSys '22] “*LLDPC: A Low-Density Parity-Check Coding Scheme for LoRa Networks.*”
Kang Yang and Wan Du.
The 20th ACM Conference on Embedded Networked Sensor Systems (SenSys).

C2 [DCOSS '21] “*ATPP: A Mobile App Prediction System Based on Deep Marked Temporal Point Processes.*”
Kang Yang, Xi Zhao, Jianhua Zou, and Wan Du.
The 17th IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS).
Best Paper Runner-Up Award

C1 [SenSys '19] “*DeepAPP: A Deep Reinforcement Learning Framework for Mobile Application Usage Prediction.*”
Zhihao Shen*, **Kang Yang***, Wan Du, Xi Zhao, and Jianhua Zou.
The 17th ACM Conference on Embedded Networked Sensor Systems (SenSys).

Journals

J8 [TMC] “*Generative Diffusion Model-Assisted Efficient Fingerprinting for In-Orchard Localization.*”
Kang Yang, Yuning Chen, and Wan Du.
IEEE Transactions on Mobile Computing, vol. 24, no. 12, pp. 12833–12851, 2025.

J7 [TOSN] “*FLog: Link Quality Modeling for LoRa Networking in Orchards.*”
Kang Yang, Yuning Chen, and Wan Du.
ACM Transactions on Sensor Networks, vol. 21, no. 2, pp. 1–28, 2025.

J6 [ToN] “*RALoRa: Rateless-Enabled Link Adaptation for LoRa Networking.*”
Kang Yang, Miaomiao, Liu, and Wan Du.
IEEE/ACM Transactions on Networking, vol. 32, no. 4, pp. 3392–3407, 2024.

J5 [TOSN] “*A Low-Density Parity-Check Coding Scheme for LoRa Networks.*”

Kang Yang and Wan Du.

ACM Transactions on Sensor Networks, vol. 20, no. 4, pp. 1–29, 2024.

J4 [TKDE] “DMM: A Deep Reinforcement Learning based Map Matching Framework for Cellular Data.”

Zhihao Shen, **Kang Yang**, Xi Zhao, Jianhua Zou, and Wan Du.

IEEE Transactions on Knowledge and Data Engineering, vol. 36, no. 10, pp. 5120–5137, 2024.

J3 [TOSN] “ATPP: A Mobile App Prediction System Based on Deep Marked Temporal Point Processes.”

Kang Yang, Xi Zhao, Jianhua Zou, and Wan Du.

ACM Transactions on Sensor Networks, vol. 19, no. 3, pp. 1–24, 2023.

J2 [TOSN] “Driving Maneuver Anomaly Detection based on Deep Auto-Encoder and Geographical Partitioning.”

Miaomiao Liu, **Kang Yang**, Yanjie Fu, Dapeng Oliver Wu, and Wan Du.

ACM Transactions on Sensor Networks, vol. 19, no. 2, pp. 1–22, 2023.

J1 [TMC] “DeepAPP: A Deep Reinforcement Learning Framework for Mobile Application Usage Prediction.”

Zhihao Shen*, **Kang Yang***, Wan Du, Xi Zhao, and Jianhua Zou.

IEEE Transactions on Mobile Computing, vol. 22, no. 2, pp. 824–840, 2021.

Preprints, Workshops, Posters, and Demos

09 [arXiv] “Scaling Online Complex Event Detection via Synthetic Supervision and Mamba-Based Neural Algorithmic Reasoning.”

Liyang Han, Gaofeng Dong, Xiaomin Ouyang, **Kang Yang**, Lance M. Kaplan, Federico Cerutti, Mani Srivastava

08 [arXiv] “UniFi: Combining Irregularly Sampled CSI from Diverse Communication Packets and Frequency Bands for Wi-Fi Sensing.”

Gaofeng Dong, **Kang Yang**, and Mani Srivastava.

arXiv preprint arXiv:2512.22143, 2025.

07 [arXiv] “See Behind Walls in Real-time Using Aerial Drones and Augmented Reality.”

Sikai Yang, **Kang Yang**, Yuning Chen, Fan Zhao, and Wan Du.

arXiv preprint arXiv:2410.13139, 2024.

06 [arXiv] “GenRTC: Enabling Generative Visual Captions in Live Video Streaming.”

Yuning Chen, Kang Yang, Yuanlin Yang, and Wan Du.

05 [arXiv] “Federated Hierarchical Anti-Forgetting Framework for Class-Incremental Learning with Large Pre-Trained Models.”

Fan Zhao, Kang Yang, and Wan Du.

04 [AI4TS @ AAAI '26] “Spectral Predictability as a Fast Reliability Indicator for Time Series Forecasting Model Selection.”

Oliver Wang, Pengrui Quan, **Kang Yang**, and Mani Srivastava.

AI for Time Series Analysis: Theory, Algorithms, and Applications (AI4TS), AAAI 2026.

Oral Award

03 [MobiSys '25 Rising Stars] “Scalable and Adaptive RF Signal Propagation Modeling for Next-Generation Wireless Systems.”

Kang Yang.

The 23rd ACM Annual International Conference on Mobile Systems, Applications and Services (MobiSys).

02 [SenSys '25 Demo] “Demo Abstract: Comprehensive Wireless Soil Component Sensing via VNIR and LoRa.”

Yuanlin Yang*, Yuning Chen*, **Kang Yang***, Sikai Yang, and Wan Du.

The 23rd ACM Conference on Embedded Networked Sensor Systems (SenSys).

Best Demo Award

01 [SenSys '25 Poster] “Poster Abstract: Scalable 3D Gaussian Splatting-Based RF Signal Spatial Propagation Modeling.”

Kang Yang, Wan Du, and Mani Srivastava.

The The 23rd ACM Conference on Embedded Networked Sensor Systems (SenSys).

FUNDING & FELLOWSHIPS

- **NSF, Communications, Circuits, and Sensing-Systems (CCSS)**, Proposal No. 2525613/4.
 “Generalizable and Adaptive RF Signal Generative Models for Next-Generation Wireless Communication and Sensing.”
 PIs: Wan Du (UC Merced) and Mani Srivastava (UCLA).
 Award Amount: \$400K (\$200K per institution).
 Role: Senior Personnel — responsible for proposal preparation and technical approach formulation.
 Status: *Awarded 2025.*
- **Institute for Digital Research and Education (IDRE) Postdoctoral Fellowship**, UCLA.
 “IDRE Postdoctoral Fellowship supporting postdoctoral research in digital and computational methods.”
 Award Amount: \$5,000.
 Role: Postdoctoral Fellow.
 Status: *Awarded 2025.*
- **Farms Food Future (F3) R&D GSR Program**, Economic Development Administration.
 “Reliable and Energy-Efficient LoRa Networks for Smart Irrigation and Groundwater Recharging in Orchards.”
 Award Period: *Aug. 2023 – Aug. 2024.*
 Status: *Completed.*
- **Farms Food Future (F3) R&D GSR Program (Renewal)**, Economic Development Administration.
 “Reliable and Energy-Efficient LoRa Networks for Smart Irrigation and Groundwater Recharging in Orchards.”
 Award Period: *Aug. 2024 – Aug. 2025.*
 Status: *Completed.*

BOOK CHAPTER

Mobile Big Data Analytics for Social Computing
 Chapters 7 and 10, Print ISBN: 9787121401695.

Publishing House of Electronics Industry

RESEARCH EXPERIENCE

Research Intern, University of California, Los Angeles *Jun. 2024 – Sept. 2024*
Focus: Efficient Generative Models for RF Data Advisor: Mani Srivastava

Research Intern, University of California, Merced *Jan. 2022 – Jun. 2023*
Focus: Artificial Intelligence of Things (AIoT)

Research Assistant, Xi’an Jiaotong University, Xi’an, China *Jun. 2019 – Dec. 2019*
Focus: Mobile Computing

TEACHING EXPERIENCE

Teaching Assistant, EECS, University of California, Merced *Spring 2021*
CSE 005: Introduction to Computer Applications
CSE 150: Operating Systems *Fall 2020 & 2021*
CSE 021: Introduction to Computing II *Spring 2020*

MENTORING

Yuning Chen, PhD student at UC Merced *Spring 2023 – Spring 2024*
Research Outcome: one IPSN paper, one KDD paper, one manuscript under review.

Tingruixiang Su, Undergraduate student at UC Merced *Spring 2023*
Research Outcome: one IPSN paper.

Yuanlin Yang, PhD student at UC Merced *Spring 2024 – Fall 2024*
Research Outcome: One SenSys paper.

Fan Zhao, PhD student at UC Merced *Fall 2024 – Fall 2024*
Research Outcome: one manuscript under review.

Jason Wu, PhD student at UCLA *Spring 2025 – Current*

Research Outcome: one NeurIPS paper.

Pengrui Quan, PhD student at UCLA
Research Outcome: one NeurIPS paper.

Spring 2025 – Current

Gaofeng Dong, PhD student at UCLA
Research Outcome: one manuscript under review.

Spring 2025 – Current

Diptyaroop Maji, PhD student at University of Massachusetts Amherst
Research Outcome: one manuscript under review.

Spring 2025 – Current

Oliver Wang, Undergraduate student at UCLA
Research Outcome: one AI4TS Workshop @ AAAI paper.

Spring 2025 – Current

Samyak Kakatur, Master student at UCLA
Research Project: Carbon-aware adaptive systems.

Fall Quarter 2025

Sajal Das Shovon, PhD student at University of Memphis
Research Project: physiological-based Pain-detection systems.

Fall Quarter 2025 – Current

Liyang Han, PhD student at UCLA
Research Outcome: one manuscript under review.

Fall 2025 – Current

PROFESSIONAL SERVICE

Program Committee

- ACM/IEEE SenSys Demo 2026
- ECCV 2026
- SIGKDD 2026
- CVPR 2026
- ICLR 2026
- AAAI 2026
- ACM MobiCom Demo 2025
- ACM BuildSys 2025
- USENIX ATC 2025
- ACM CHI 2025
- IEEE ICC 2024
- IEEE MECOM 2024
- ACM SenSys 2022 Shadow Program Committee
- IEEE GLOBECOM 2021

Journal Reviewer

- ACM Transactions on Internet of Things (Distinguished Reviewer Board)
- ACM Transactions on Sensor Networks (Distinguished Reviewer Board)
- IEEE/ACM Transactions on Networking
- IEEE Transactions on Mobile Computing
- IEEE Transactions on Visualization and Computer Graphics
- ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies
- IEEE Transactions on Wireless Communications
- IEEE Internet of Things Journal
- IEEE Transactions on Network Science and Engineering
- Data-Centric Engineering

- Journal of Systems Science and Systems Engineering
- Sensors
- The Journal of Supercomputing

Editorial Activity

- Guest Editor: Special Issue on Wireless Systems, Computers, Materials & Continua (CMC) 2026
- Guest Editor: Special Issue on IoT and Distributed Computing, IoT 2025
- Guest Editor: Special Issue on Advances in Distributed Learning and Optimization over Networks: Techniques, Algorithms, and Applications, IoT 2025

Organizer

- General Co-Chair: 2nd ACM International Workshop on Foundation Models for Energy-Efficient Buildings, Cities, Transportation, and Sustainability (FMSust) at ACM BuildSys 2026

PRESENTATION

- *Time Series Foundation Models (TSFMs) for Carbon-Aware Research and Sustainability*
Institute for Digital Research & Education (IDRE) workshop, UCLA Feb. 2026
- *Global Carbon Intensity Forecasting Through Time Series Foundation Models*
Invited Talk, FMSust Workshop, ACM BuildSys, Golden, CO, USA Nov. 2025
- *Scalable and Adaptive RF Signal Propagation Modeling for Next-Generation Wireless Systems*
Rising Stars Talk, ACM MobiSys, Anaheim, CA, USA Jun. 2025
- *Improving the Energy Efficiency and Reliability of LoRa Networks Using Coding Techniques*
EECS Seminar, University of California, Merced, CA, USA Mar. 2024
- *LLDPC: A Low-Density Parity-Check Coding Scheme for LoRa Networks*
Conference Talk, ACM SenSys, Boston, MA, USA Nov. 2022
- *ATPP: A Mobile App Prediction System Based on Deep Marked Temporal Point Processes*
Conference Talk, IEEE DCOSS, Virtual Jun. 2021