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Yun Zhang

Ph.D. Student

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EDUCATION

University of California, Los Angeles (UCLA)

Ph.D. Student
Advisor: Prof. Jiaqi Ma

Amazon Trainium Fellow; Graduate Dean's Scholar Award (2025–2027); Robotics: Science and Systems (RSS) Pathway Fellow 2025.

Los Angeles, CA, USA
Sept. 2025 – Present

University of California, Los Angeles (UCLA)

B.S. in Mathematics of Computer Science; B.S. in Statistics and Data Science
Dean's Honors List (6 quarters); Member, Upsilon Pi Epsilon (CS Honor Society).

Los Angeles, CA, USA
Sept. 2021 – June. 2025

RESEARCH EXPERIENCE

UCLA Mobility Lab, University of California, Los Angeles

Graduate Student Researcher

Los Angeles, CA, USA
Mar. 2024 – Present

- Developing large Vision–Language–Action (VLA) models for robot navigation and physical interaction, combining high-level semantic reasoning with low-latency motion control.
- Building large-scale embodied datasets and simulation platforms (*Isaac Lab*, *Isaac Sim*, CARLA) to study generalization, grounding, and failure modes in embodied agents.
- As an *Amazon Trainium Fellow*, training and optimizing multimodal models for real-time navigation using Neuron acceleration and latency-aware model adaptation.
- Designing closed-loop evaluation systems in which robots follow natural-language instructions, navigate complex scenes, and automatically report structured performance metrics.
- Research areas: camera-based spatial reasoning, world modeling, physical scene understanding, and multimodal policy learning.

Vwani Roychowdhury Lab, University of California, Los Angeles

Research Assistant

Los Angeles, CA, USA
Feb. 2023 – Dec. 2024

- Developed deep-learning pipelines for neural-signal event detection, improving the interpretability and reliability of high-frequency oscillation (HFO) biomarkers.
- Integrated VGG and transformer-based architectures into *PyHFO*, a clinical EEG analysis platform used in neuroscience and medical research.
- Engineered large-scale acceleration achieving approximately $50\times$ speedup for medical-signal event detection through optimized parallelization and system redesign.
- Strengthened model robustness through cross-patient generalization tests, benchmarking, and statistical performance evaluation.

HKU Summer Research Program, The University of Hong Kong

Research Intern

Hong Kong, China
Summer 2024

- Designed multimodal tumor-segmentation methods that integrate MRI modalities into MiniGPT-4 through instruction-following and spatial grounding strategies.
- Awarded *Best Presenter* for innovative contributions aligning large language models with clinical imaging tasks.
- Received a *Presidential Scholarship Ph.D. offer* based on research performance and technical impact.

SELECTED PUBLICATIONS

- Y. Zhang*, Z. Zheng, J. Liu, Z. Huang, Z. Zhou, Z. Meng, T. Cai, and J. Ma. *MIC-BEV: Multi-Infrastructure Camera Bird's-Eye-View Transformer with Relation-Aware Fusion for 3D Object Detection*. Submitted to *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, Best Paper Award (Third Prize) at *ICCV 2025 DriveX Workshop*, 2025.

2. **Y. Zhang***, Z. Zheng*, Z. Meng, J. Liu, X. Xia, and J. Ma. [InSPE: Rapid Evaluation of Heterogeneous Multi-Modal Infrastructure Sensor Placement](#). *Submitted to IEEE International Conference on Robotics & Automation (ICRA)*, 2026.
3. Z. Meng, **Y. Zhang**, Z. Zheng, S. Z. Zhao, and J. Ma. [AgentAlign: Misalignment-Adapted Multi-Agent Perception for Resilient Inter-Agent Sensor Correlations](#). *Submitted to IEEE International Conference on Robotics & Automation (ICRA)*, 2026.
4. T. Cai, **Y. Zhang**, Z. Zhou, Z. Huang, and J. Ma. [RelMap: Enhancing Online Map Construction with Class-Aware Spatial Relation and Semantic Priors](#). *Submitted to IEEE International Conference on Robotics & Automation (ICRA)*, 2026.
5. Z. Zhou, H. Xiang, Z. Zheng, S. Z. Zhao, M. Lei, **Y. Zhang**, T. Cai, X. Liu, J. Liu, M. Bajji, X. Xia, Z. Huang, B. Zhou, and J. Ma. [V2XPnP: Vehicle-to-Everything Spatio-Temporal Fusion for Multi-Agent Perception and Prediction](#). *IEEE/CVF International Conference on Computer Vision (ICCV)*, 2025.
6. Z. Huang, Z. Zhou, T. Cai, **Y. Zhang**, and J. Ma. [MDG: Multi-Agent Behavior Modeling in Traffic Scenarios through Masked Denoising Generation](#). *Submitted to The IEEE/CVF Conference on Computer Vision and Pattern Recognition*, 2026.
7. X. Han, Z. Zheng, Z. Zhou, **Y. Zhang**, T. Cai, Y. Liu, H. Xiang, C. Correa-Jullian, Z. Meng, Z. Huang, L. Gao, X. Xia, and J. Ma. [CDA.AI for OpenCDA: AI pathways for cooperative driving automation research](#). *Artificial Intelligence for Transportation*, 2025.
8. Z. Huang, Z. Zhou, T. Cai, **Y. Zhang**, and J. Ma. [AutoVLA: Vision-Language-Action Model for End-to-End Autonomous Driving with Adaptive Reasoning and Reinforcement Fine-Tuning](#). *Neural Information Processing Systems (NeurIPS)*, 2025.
9. H. Xiang, Z. Zheng, X. Xia, SZ. Zhao, L. Gao, Z. Zhou, T. Cai, **Y. Zhang**, and J. Ma. [V2X-RealO: An Open Online Framework and Dataset for Cooperative Perception in Reality](#). *Submitted to IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*.

PROFESSIONAL SERVICE

- **Reviewer** *IEEE Open Journal of Intelligent Transportation Systems (OJ-ITS)*, *IEEE International Conference on Intelligent Transportation Systems (ITSC)*, *IEEE Intelligent Vehicles Symposium (IV)*
- **Program Committee** Organizer of Tutorial on [Beyond Self-Driving: Exploring Three Levels of Driving Automation \(ICCV 2025\)](#)

HONORS & AWARDS

Amazon Trainium Fellowship	2025 – 2027
Awarded for research excellence in large-scale multimodal learning for embodied intelligence; supports model training on AWS Trainium hardware.	
Graduate Dean's Scholar Award (GDSA), UCLA	2025 – 2027
One of UCLA's highest graduate fellowships recognizing outstanding academic and research achievements.	
RSS Pathway Fellowship, Robotics: Science and Systems	2025
Selected among early-career researchers contributing to robotics foundations, embodied intelligence, and autonomous systems.	
Core Developer, Winner of U.S. Department of Transportation's Intersection Safety Challenge	2025
Received a \$750,000 cash prize for developing winning solutions in the U.S. DOT Smart Intersection Safety Challenge.	
Best Presenter, HKU Summer Research Program	Summer 2024
Awarded for outstanding research presentation on multimodal medical imaging; includes a \$2770 scholarship.	
Dean's Honors List, UCLA	2021 – 2024
Achieved academic distinction for six quarters during undergraduate study.	
Upsilon Pi Epsilon (UPE) Honor Society Inductee	2023
Recognized for academic excellence in computer science and contributions to the computing community.	
ICCV DriveX Workshop Best Paper Award (Third Prize)	2025
Awarded for contributions to infrastructure-based perception and BEV modeling (MIC-BEV project).	