Depu Meng, Ph. D.

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Education

University of Science and Technology of China - Microsoft Research Asia — Beijing, China
Ph. D. in Control Science and Engineering — *Sept. '18 – Jun. '23*
Advisors: Dr. Baining Guo (Microsoft), Prof. Houqiang Li (USTC)

University of Science and Technology of China — Hefei, Anhui, China
B.E. in Electrical Engineering (School of Gifted Young) — *Sept. '14 – Jun. '18*

Work Experience

DiDi Autonomous Driving — San Jose, CA, USA
Machine Learning Engineer, AI Research — *Dec. '24 –*

University of Michigan — Ann Arbor, MI, USA
Research Fellow, Department of Civil and Environmental Engineering — *Aug. '23 – Dec. '24*
Mentor: Prof. Henry X. Liu

University of Michigan — Ann Arbor, MI, USA
Research Assistant, Department of Civil and Environmental Engineering — *Apr. '22 – Aug. '23*
Mentor: Prof. Henry X. Liu

Meituan — Beijing, China
Intern, Autonomous Delivery Group — *Aug. '21 – Apr. '22*
Mentor: Dr. Changqian Yu

Microsoft Research Asia — Beijing, China
Intern, Visual Computing Group — *Jul. '19 – Jul. '21*
Mentor: Dr. Jingdong Wang

Microsoft Research Asia — Beijing, China
Intern, Visual Computing Group — *Jul. '17 – Jul. '18*
Mentor: Dr. Jingdong Wang

Research Interests

Autonomous Driving: End-to-end Autonomous Driving, Sensor simulation, behavior prediction, scene understanding, scene generation, generative models.

Publications

Tinghan Wang, **Depu Meng**, Boqi Li, Rusheng Zhang, Yukun Zuo, Shengyin Shen, Darian Hogue, Michael Maile, Michael Shulman, Henry X. Liu.
Exploring Communication and Roadside Perception Requirements for Cooperative Warning Systems at Intersections
IEEE Intelligent Vehicles Symposium, 2025.

Rusheng Zhang, **Depu Meng**, Shengyin Shen, Boqi Li, Tinghan Wang, Henry X. Liu.
Towards Comprehensive Roadside Intelligence: Sensor Fusion and Full-stack Perception with Multiple Cameras
IEEE Intelligent Vehicles Symposium, 2025.

Rusheng Zhang*, **Depu Meng***, Shengyin Shen, Zhengxia Zou, Houqiang Li, Henry X. Liu.

MSight: An Edge-cloud Infrastructure-based Perception System for Connected Automated Vehicles
Tech Report.

Rusheng Zhang, **Depu Meng**, Lance Bassett, Shengyin Shen, Zhengxia Zou, Henry X. Liu.
Robust Roadside Perception for Autonomous Driving: An Annotation-free Straegy with Synthesized Data.
IEEE Transactions on Intelligent Vehicles, 2024.

Rusheng Zhang, **Depu Meng**, Tinghan Wang, Tai Karir, Shengyin Shen, Michael Maile, Michael Shulman, Henry X. Liu.
Systematic Assessment of Roadside Perception Systems for Automated Vehicles: Insights from Field Testing
Transportation Research Board Annual Meeting, 2024.
Submitted.

Depu Meng, Owen Sayer, Rusheng Zhang, Shengyin Shen, Houqiang Li, Henry X. Liu
ROCO: A Roundabout Traffic Conflict Dataset
Transportation Research Board Annual Meeting, 2023.

Depu Meng, Changqian Yu, Deheng Qian, Houqiang Li, Dongchun Ren.
HyMo: Hybrid Motion Representation Learning for Prediction from Raw Sensor Data.
IEEE Transaction on Multimedia, 2023.

Yunsheng Ni, **Depu Meng**, Changqian Yu, Chengbin Quan, Dongchun Ren, Youjian Zhao.
CORE: Consistent Representation Learning for Face Forgery Detection.
CVPR 2022 Workshop on Media Forensics.

Depu Meng*, Xiaokang Chen*, Zejia Fan, Yuhui Yuan, Gang Zeng, Houqiang Li, Lei Sun, Jingdong Wang.
Conditional DETR for Fast Training Convergence.
International Conference on Computer Vision, 2021.

Depu Meng, Zigang Geng, Zhirong Wu, Bin Xiao, Houqiang Li, Jingdong Wang.
Consistent Instance Classification for Unsupervised Representation Learning.
ICCV 2021 Workshop on Self-supervised Learning for Next-Generation Industry-level Autonomous Driving.

Ke Sun, Zigang Geng, **Depu Meng**, Bin Xiao, Dong Liu, Zhaoxiang Zhang, Jingdong Wang.
Bottom-Up Human Pose Estimation by Ranking Heatmap-Guided Adaptive Keypoint Estimates.
Tech Report.

Liming Zhao, Mingjie Li, **Depu Meng**, Xi Li, Zhuowen Tu, Zhaoxiang Zhang, Yueting Zhuang, J. Wang.
Deep Convolutional Neural Networks with Merge-and-Run Mappings.
International Joint Conference on Artificial Intelligence, 2018.

Awards

U.S. DOT Intersection Safety Challenge Stage 1B Tier 1 Winner Team (Prize: $750,000) *Jan. '25*

U.S. DOT Intersection Safety Challenge Stage 1A Winner Team (Prize: $100,000) *Jan. '24*

Shenzhen Stock Exchange Scholarship, USTC *Dec. '22*

Star of Tomorrow Internship Award, Microsoft Research Asia *Jul. '18*

First Prize in Intelligent Robot Competition, Harbin Institute of Technology *Jul. '16*

The AEGON-INDUSTRIAL Fund Scholarship, USTC *Oct. '15*

Services

Editorial Board Member: Artificial Intelligence and Autonomous Systems

Conference Reviewer: CVPR 2022, CVPR 2023, CVPR 2024, CVPR 2025, ECCV 2022, ECCV 2024, ICCV 2023, CICAI 2022, TRBAM 2023, TRBAM 2024, IROS 2023

Journal Reviewer: IEEE T-IV, IEEE T-MM, IEEE T-CSVT, Neurocomputing, Pattern Recognition, Automotive Innovation