

# Zebin Xing

Institute of Automation, Chinese Academy of Sciences, Beijing

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## Education

### Institute of Automation, Chinese Academy of Sciences (CASIA)

Academic Master in Computer Application Technology | Advisor: Prof. Qichao Zhang

Beijing, China

Sept 2024 - Jun 2027

- GPA: 3.6 / 4.0

### Beijing University of Posts and Telecommunications (BUPT)

Bachelor in Software Engineering (National First-class Discipline Program)

Beijing, China

Sept 2020 - Jun 2024

- GPA: 3.8 / 4.0 (top 5%), Overall score: 93 / 100 (top 2%)

### Awards

Awards during Undergraduate and Postgraduate Studies

- Merit Student, University of Chinese Academy of Sciences, 2025.
- Beijing Outstanding Graduate, (top 5%), Beijing Municipal Education Commission, 2024.
- First-class Scholarship, Beijing University of Posts and Telecommunications, 2022.
- First Prize of the Chinese Mathematics Competitions for Undergraduates, Chinese Mathematical Society, 2022.
- National Endeavor Scholarship, Ministry of Education of the PRC, 2021.

## Research Interest

My long-term research goal is to build Physical AI that understands the physical world. Such intelligence should integrate visual and tactile inputs to comprehend properties like distance and mass, enabling reasonable control and planning.

**Autonomous Driving** World Model; E2E Autonomous Driving; Multimodal Planning.

**Robotics** Vision-tactile Fusion, Vision-language-action Model, World Model.

## Research Experience

### CHANGAN Automobile (长安汽车)

Research Intern @ DISCOVER Lab | Advisor: Dr. Qiang Chen

Beijing, China

Nov. 2025 - Apr. 2026

- Topic:** Vision-Language-Action model; E2E Autonomous Driving; Memory.

### Horizon Robotics (地平线)

Research Intern @ Horizon Robotics | Advisor: Dr. Wei Yin

Beijing, China

Jun. 2024 - Apr. 2024

- Topic:** E2E Autonomous Driving, Flow Matching Policy, World Model.

### Wireless Communication Security Center, BUPT (北邮无线通信安全中心)

Research Intern @ Wireless Communication Security Center | Advisor: Prof. Guoshun Nan

Beijing, China

Sept. 2022 - Feb. 2023

- Topic:** AI safety; Differential Privacy; Federated Learning.

## Publications

(\* denotes equal contribution; † denotes corresponding author.)

### JOURNAL ARTICLES

#### PokéVLA: Empowering Pocket-Sized Vision-Language-Action Model with Comprehensive World Knowledge Guidance

Yupeng Zheng\*, Xiang Li\*, Songen Gu\*, Shuai Tian, Weize Li, Lingbo Wang, Senyu Fei, Pengfei Li, Yinfeng Gao, Zebin Xing, Yilun Chen, Qichao Zhang, Haoran Li†, Wenchao Ding†

T-RO, In Submission, 2026

#### Mimir: Hierarchical Goal-Driven Diffusion with Uncertainty Propagation for End-to-End Autonomous Driving

Zebin Xing, Yupeng Zheng, Qichao Zhang†, Zhixing Ding, Pengxuan Yang, Songen Gu, Zhongpu Xia, Dongbin Zhao

RA-L, 2025

#### Planagent: A multi-modal large language agent for closed-loop vehicle motion planning

Yupeng Zheng\*, Zebin Xing\*, Qichao Zhang†, Bu Jin, Pengfei Li, Yuhang Zheng, Zhongpu Xia, Kun Zhan, Xianpeng Lang, Yaran Chen, Dongbin Zhao

TCDS, 2025

### CONFERENCE PROCEEDINGS

#### DriveVLA-M0: Failure-Aware Memory Augmentation for Autonomous Driving

Zebin Xing, Yupeng Zheng, Qiang Chen, Linbo Wang, Yichen Zhang, Pengxuan Yang, Junli Wang, Deheng Qian, Xiaoqing Ye, Junyu Han, Yifeng Pan, Qichao Zhang†, Dongbin Zhao

ACM MM, In Submission, 2026

#### TrajMoE: Scene-Adaptive Trajectory Planning with Mixture of Experts and Reinforcement Learning

Zebin Xing, Pengxuan Yang, Linbo Wang, Yichen Zhang, Yiming Hu, Yupeng Zheng, Junli Wang, Yinfeng Gao, Guang Li, Kun Ma, Long Cheng, Zhongpu Xia, Qichao Zhang, Hangjun Ye, Dongbin Zhao

CSIS-IAC (Oral), 2026

**MeanFuser: Fast One-Step Multi-Modal Trajectory Generation and Adaptive Reconstruction via MeanFlow for End-to-End Autonomous Driving**

Junli Wang, Zheng Yinan, Liu Xueyi, **Zebin Xing**, Pengfei Li, Kun Ma, Hangjun Ye, Guang Chen, Guang Li, Long Chen, Zhongpu Xia, Qichao Zhang†  
CVPR, 2026

**World4Drive: End-to-End Autonomous Driving via Intention-aware Physical Latent World Model**

Yupeng Zheng, Pengxuan Yang, **Zebin Xing**, Qichao Zhang†, Yuhang Zheng, Yinfeng Gao, Pengfei Li, Teng Zhang, Zhongpu Xia, Peng Jia, Dongbin Zhao  
ICCV, 2025

**GoalFlow: Goal-Driven Flow Matching for Multimodal Trajectories Generation in End-to-End Autonomous Driving**

**Zebin Xing\***, Xingyu Zhang\*, Yang Hu, Bo Jiang, Tong He, Qian Zhang, Xiaoxiao Long, Wei Yin†  
CVPR, 2025

**UncAD: Towards Safe End-to-end Autonomous Driving via Online Map Uncertainty**

Pengxuan Yang, Yupeng Zheng, Qichao Zhang†, Kefei Zhu, **Zebin Xing**, Qiao Lin, Yunfu Liu, Zhiguo Su, Dongbin Zhao  
ICRA, 2025

**OccRWKV: Rethinking Efficient 3D Semantic Occupancy Prediction with Linear Complexity**

Junming Wang, Wei\* Yin, Xiaoxiao† Long, Xingyu Zhang, **Zebin Xing**, Xiaoyang Guo, Qian Zhang  
ICRA, 2025

**ComDrive: Comfort-Oriented End-to-End Autonomous Driving**

Junming Wang, Xingyu Zhang, **Zebin Xing**, Songen Gu, Xiaoyang Guo, Yang Hu, Ziyang Song, Qian Zhang, Xiaoxiao Long, Wei Yin†  
IROS, 2025

## Challenge

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**ICCV Autonomous Grand Challenge 2025**

CASIA | **Top contributor of the team**

Jun 2025 - Sep 2025

**Third Place** in NAVSIM v2 End-to-End Driving Challenge Track