

# Xiaoji Zheng

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## Education

- Southeast University**, BS in Computer Science Sept. 2020 – June 2024
- GPA: 3.87/4.0 (rank: 5/113)
  - **Honor:** National Scholarship, President's Scholarship
- Tsinghua University**, MS in Autonomous Driving Sept. 2024 – June 2027
- GPA: 4.0/4.0 (rank: 1/56)
  - **Honor:** National Scholarship

## Experience

- Research Assistant**, Institute for AI Industry Research (AIR), Tsinghua University – Aug. 2023 – Present  
Beijing, China
- Enhanced motion prediction models using Large Language Models (LLMs); participated in the Waymo Open Dataset Challenge (Motion Prediction track)
  - Preprocessed and analyzed driver physiological data to improve end-to-end autonomous driving algorithms with cognitive signals
  - Lead a team to develop a cognitive embodied world model for autonomous driving
  - Administered the HCI group server and trained members in essential tools such as Git and remote computing
- Software Engineer Intern**, HUAWEI – Nanjing, China Sept. 2023 – Mar. 2024
- Conducted technical pre-research for the Network Performance Management (NPM) project
  - Independently designed and implemented a flow-level packet load balancing algorithm for the NPM probe
  - Achieved a reduction in packet loss rate from 50% to 10% under extreme network conditions

## Publications

- [1] **Learning to Drive with Two Minds: A Competitive Dual-Policy Approach in Latent World Models** (In Submission) [[website](#)] [[arxiv](#)] [[github](#)]  
Xiaoji Zheng\*, Ziyuan Yang\*, Yanhao Chen, Yuhang Peng, Yuanrong Tang, Gengyuan Liu, Bokui Chen, Jiangtao Gong
- We train a latent world model in the imitation loop while utilize it in the reinforcement loop
  - Unify imitation learning and reinforcement learning under a world-model-driven framework, and explore how to combine the advantages of the two learning methods
- [2] **Embodied Cognition Augmented End2End Autonomous Driving** (NeurIPS 2025) [[arxiv](#)] [[neurips](#)]  
Ling Niu, Xiaoji Zheng, Han Wang, Ziyuan Yang, Chen Zheng, Bokui Chen, Jiangtao Gong
- Based on self-collected <EEG, video> pair dataset, aligning cognitive encoder and perception encoder via contrastive learning methods
  - Enhanced an end-to-end autonomous driving model by integrating the cognition-aligned perception encoder
- [3] **Large Language Models Powered Context-aware Motion Prediction in Autonomous Driving** (IROS 2024) [[website](#)] [[arxiv](#)] [[github](#)]  
Xiaoji Zheng, Lixiu Wu, Zhijie Yan, Hao Zhao, Chen Zhong and Jiangtao Gong
- Teaching Large Language Models (LLMs) to interpret BEV-style traffic scene visualizations and generate high-level semantic information, including ego intentions, affordances, and drivable areas
  - Enhanced motion prediction models by incorporating high-level semantic cues generated by LLMs

[4] **Extended VR: Exploring the Integration of VR Experiences and Real-world Engagement** (DIS 2023)  
[video] [paper]

Xiaoji Zheng, Shaojun Sun, Ying Cao, Jiatong Li, Ding Ding, Zhuying Li

- Collected user behavior data to bridge virtual experiences with the physical world
- Proposed the “Extended VR” design paradigm, which encourages users to re-engage with the real world through virtual experiences