Jian, Mao

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Education

Tongji University   **Shanghai, China**
Robotics and Embodied AI Lab,Department of Computer Science and Technology   *Sep. 2022 - Present*

- **Ph.D.** candidate

Jilin University   **Changchun, China**
College of Vehicle Engineering   *Sep. 2018 - Jun. 2022*

- **B.Eng.** in Mechanical Engineering (Vehicle Engineering)
- **Overall GPA**: 88.67/100   **Rank**: 12/244 Top 5%
- **IELTS**: Overall 7.0, Listening 7.0, Reading 8.5, Writing 6.5, Speaking 6.0

Research Interests

- **Image/Video generation**
- **2D/3D generation**
- **World models for Autonomous Driving**

Internship

3D content generation   **Shanghai AI Laboratory**
Mentor: Zhaoyang lyu   *June. 2025 - Present*

- Procedual generation for 3D articulated objects.

3D Visual BEV Object Detection and Segmentation   **Westwell Lab**
                                                         Jul. 2023 - Oct. 2023

- Applying State-of-the-art 3D visual BEV perception framework on autonomous vehicles in ports.
- Deal With complicated and changeable lighting conditions in ports and adjust the off-the-shelf algorithms to be applicable to the special environment.

Research Project/ Publications

2025

"Learning Temporal Awareness for Novel Class Discovery in 3D Point Cloud Segmentation"
Jian Mao, Tianpei Zou, Guo Yu, Sanqing Qu, Yuan Huang, Tengfei Zhang, Guang Chen[†], Alois Knoll.
(Preprint),2025.

"RCP-Bench: Benchmarking Robustness for Collaborative Perception Under Diverse Corruptions"
Shihang Du, Sanqing Qu, Tianhang Wang, Xudong Zhang, Yunwei Zhu, **Jian Mao**, Qiao Lin, Bo Zhang, Guang Chen[†].
Proceedings of the IEEE/CVF conference on computer vision and pattern recognition. (**CVPR**),2025

2024

- *"MHCPP:A Motion-based Historical Enhancement Collaborative Perception and Prediction Framework."*
  Shihang Du,Tianhang Wang,**Jian Mao**, Sanqing Qu, Fan Lu, Bo Zhang, Guang Chen[†], Changjun Jiang.
  IEEE Transactions on Transactions On Intelligent Transportation Systems (**TITS**), 2024. (Under review)

2023

- *"Multi-agent Collaborative Perception for Autonomous Driving: Unsettled Aspects"*
  Guang Chen, **Jian Mao**, Rongqi Gu, Tianhang Wang, Bo Zhang
  SAE Technical Paper, 2023.

Honors & Awards

- **Graduate Freshmen Scholarship**, *Tongji University* — 2022
- **Outstanding Graduates** , *Jilin University* — 2022
- **Honorable Mention** , *Interdisciplinary Contest In Modeling, American* — 2022
- **Second Prize** , *"Challenge Cup" National College Student Curricular Academic Science and Technology Works Competition* — 2022
- **Third Prize, Annual Academic Scholarship** , *Jilin University* — 2022
- **Scond Prize, Annual Academic Scholarship** , *Jilin University* — 2021
- **Outstanding Student** , *Jilin University* — 2019 and 2020
- **Weichai Power Scholarship** , *Jilin University* — 2019 and 2020
- **First Prize(Top 5%), Annual Academic Scholarship** , *Jilin University* — 2020
- **National Scholarship (Top 2%)** , *Ministry of Education of The People's Republic of China* — 2019

Additional Information

- **Hardware**: Linux server.
- **Scientific Tools**: MATLAB, SolidWorks, Linux, PyTorch, Blender
- **Programming Languages**: MATLAB, Python, C++, LaTeX.