Jiawei He

📱 +86 13091372302 • ✉ jwhe2024@gmail.com • 🌐 jiaweihe.com

🐙 jiaweihe1996 • Ⓜ Jiawei He

Education

Institute of Automation, Chinese Academy of Sciences (CASIA)   **Beijing, China**
Doctor of Philosophy, Pattern Recognition and Intelligent Systems   *2019 - 2024 (Expected)*
Advisor: Prof. Zhaoxiang Zhang
GPA: 3.7/4.0

Xi'an Jiaotong University (XJTU)   **Xi'an, China**
Bachelor, Automation   *2015 - 2019*
Scores: 88.1/100 Ranking: 23/170

Research Interests

I am interested in AI4Science, especially for AI/robotics-supported self-driving labs. I am also interested in computer vision, deep learning, learning-based combinatorial optimization, video analysis, multiple object tracking, 3D perception and reconstruction, etc.

Peer-reviewed Publications

○ **Jiawei He**, Zehao Huang, Naiyan Wang, and Zhaoxiang Zhang. Learnable graph matching: A practical paradigm for data association. *IEEE TPAMI*, 2024

○ Yuqi Wang*, **Jiawei He***, Lue Fan*, Hongxin Li*, Yuntao Chen, and Zhaoxiang Zhang. Driving into the future: Multiview visual forecasting and planning with world model for autonomous driving. In *CVPR*, 2024

○ **Jiawei He**, Yuntao Chen, Naiyan Wang, and Zhaoxiang Zhang. 3d video object detection with learnable object-centric global optimization. In *CVPR*, 2023

○ **Jiawei He**, Zehao Huang, Naiyan Wang, and Zhaoxiang Zhang. Learnable graph matching: Incorporating graph partitioning with deep feature learning for multiple object tracking. In *CVPR*, 2021

○ Yingyan Li, Yuntao Chen, **Jiawei He**, and Zhaoxiang Zhang. Densely constrained depth estimator for monocular 3d object detection. In *ECCV*, 2022

○ Zhixiong Nan, Yang Feng, **Jiawei He**, Ping Wei, Linhai Xu, Hongbin Sun, and Nanning Zheng. Scene-guided region proposal re-ranking method for on-road vehicle candidate generation. In *IEEE Intelligent Vehicles Symposium*, 2019

Under-review Manuscripts

○ **Jiawei He**, Yuqi Wang, Yuntao Chen, and Zhaoxiang Zhang. Weakly supervised 3d object detection with multi-stage generalization. *arXiv preprint arXiv:2306.05418*, 2023

○ **Jiawei He**, Lue Fan, Yuqi Wang, Yuntao Chen, Zehao Huang, Naiyan Wang, and Zhaoxiang Zhang. Tracking objects with 3d representation from videos. *arXiv preprint arXiv:2306.05416*, 2023

○ Qitai Wang, **Jiawei He**, Yuntao Chen, and Zhaoxiang Zhang. Onetrack: Demystifying the conflict between detection and tracking in end-to-end 3d trackers. 2024

○ Yingyan Li, Lue Fan, **Jiawei He**, Wang Yuqi, Yuntao Chen, and Zhaoxiang Zhang. End-to-end planning with dynamic views for autonomous driving. 2024

Resaerch Experiences

Tusimple, Research intern in perception for autonomous driving
Mentored by Zehao Huang and Naiyan Wang   *2020 - 2022*
- Research topics: 2D/3D Multiple Object Tracking, Camera-based 3D Object Detection

Institute of Artificial Intelligence and Robotics, XJTU, Research intern
X-Plan research project for undergraduate students   *2018 – 2019*
- Research topics: Object Detection, Semantic Segmentation

Professional Services

Conference Reviewer
- ICLR 2023, CVPR 2023-2024, ECCV 2022-2024, ICCV 2023, ACCV 2024

Journal Reviewer
- IJCV, TIP, TNNLS, TCSVT, Information Fusion

Teaching Assistance

University of Chinese Academy of Sciences
- Spring 2024, B2511008Y-02: Pattern Recognition and Machine Learning (Lecturer: Zhaoxiang Zhang)
- Spring 2023, B2511008Y: Pattern Recognition and Machine Learning (Lecturer: Zhaoxiang Zhang)

Presentations

Reconstruction-based 3D Perception
CRIPAC Summer Symposium   *July 16, 2023*
- Outstanding presentation finalist (12/68)