

Jiawei He

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Education

Institute of Automation, Chinese Academy of Sciences (CASIA)

Doctor of Philosophy, Pattern Recognition and Intelligent Systems

Advisor: Prof. Zhaoxiang Zhang

GPA: 3.7/4.0

Beijing, China

2019 - 2024 (Expected)

Xi'an Jiaotong University (XJTU)

Bachelor, Automation

Scores: 88.1/100 Ranking: 23/170

Xi'an, China

2015 - 2019

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

Research 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)