

Zenghuang Fu

MSc Student, Institute of Automation, Chinese Academy of Sciences

📍 Beijing, China ✉ fuzenghuang24@ia.ac.cn 🌐 Zenghuang-Fu

Summary

- Master's student at the Institute of Automation, Chinese Academy of Sciences, advised by Weiliang Meng and Xiaopeng Zhang. My research interests are long-horizon credit assignment for agentic reinforcement learning, agentic search, self-evolving agents and AutoResearch, with a background in agentic memory, agentic RL and long-video understanding with multimodal LLMs. I am actively looking for PhD positions.

Education

MSc **Institute of Automation, Chinese Academy of Sciences**, Artificial Intelligence Beijing, China
 • Advised by [Weiliang Meng](#) and [Xiaopeng Zhang](#). Sept 2024 – June 2027

Awards and Honors

- **National First Prize**, China Undergraduate Mathematical Contest in Modeling (CUMCM), 2022
- **Meritorious Winner**, Mathematical Contest in Modeling (MCM/ICM), 2022
- **Provincial First Prize (Fujian)**, National Undergraduate Market Survey and Analysis Competition (Zhengda Cup), 2022

Publications

Robust detection in complex construction sites: HiPA-DETR with weather-aware and cross-domain generalization May 2026

Zenghuang Fu*, Jinming Yang*, Xiaofeng Han, Zhe Feng, MUYANG Zhang, Changwei Wang, Weiliang Meng†, Jiguang Zhang, Xiaopeng Zhang†
[10.1007/s00371-026-04486-y](https://arxiv.org/abs/10.1007/s00371-026-04486-y) (The Visual Computer)

Cognitive Scaffold: From Fluid Context to Crystallized Memory for Long-Horizon Deep-Research Agents July 2026

Qiuyuan Ai*, Zenghuang Fu*, Zhaoyang Li*, Ping Jiang, Haoyu Wu, Jie Song†, Guannan He†
[10.18653/v1/2026.acl-long.1170](https://arxiv.org/abs/10.18653/v1/2026.acl-long.1170) (ACL (Main))

WM-DETR: Dual-Branch Wavelet-Mamba and Sparse Attention for Robust Underwater Object Detection June 2026

Xiaofeng Han*, Shunpeng Chen*, Zenghuang Fu, Longzhao Huang, Shengpeng Xu, Jinming Yang, Yixian Kong, Changwei Wang, Weiliang Meng†, Xiaopeng Zhang†
[10.1016/j.eswa.2026.133148](https://arxiv.org/abs/10.1016/j.eswa.2026.133148) (Expert Systems with Applications)

Explicit temporal-semantic modeling for dense video captioning via context-aware cross-modal interaction Mar 2026

Mingda Jia, Weiliang Meng, Zenghuang Fu, Yiheng Li, Qi Zeng, Yifan Zhang, Ju Xin, Rongtao Xu, Jiguang Zhang, Xiaopeng Zhang†
[10.1609/aaai.v40i7.37450](https://arxiv.org/abs/10.1609/aaai.v40i7.37450) (AAAI)

HMR-1: Hierarchical Massage Robot with Vision-Language-Model for Embodied Health-care Mar 2026

Rongtao Xu*, Mingming Yu*, Xiaofeng Han*, Yu Zhang, Kaiyi Hu, Zhe Feng, Zenghuang Fu, Changwei Wang, Weiliang Meng†, Xiaopeng Zhang†
arxiv.org/abs/2603.08817 (arXiv preprint arXiv:2603.08817)

DMTrack: Deformable State-Space Modeling for UAV Multi-Object Tracking with Kalman Fusion and Uncertainty-Aware Association

Oct 2025

Zenghuang Fu*, Xiaofeng Han*, Mingda Jia, Qi Zeng, Muyang Zhang, Changwei Wang, Weiliang Meng†, Xiaopeng Zhang†

arxiv.org/abs/2510.17860 (arXiv preprint arXiv:2510.17860)

Multimodal fusion and vision-language models: A survey for robot vision

Aug 2025

Xiaofeng Han*, Shunpeng Chen*, Zenghuang Fu, Zhe Feng, Lue Fan, Dong An, Changwei Wang, Li Guo, Weiliang Meng†, Xiaopeng Zhang, Rongtao Xu†, Shibiao Xu

[10.1016/j.inffus.2025.103652](https://doi.org/10.1016/j.inffus.2025.103652) (Information Fusion)

Author Notes

- * denotes equal contribution (co-first author); † denotes corresponding author. Full author lists are on the [publications page](#).

Projects

Awesome-Long-Horizon-Credit-Assignment-for-Agentic-RL

A curated reading list of papers, methods and resources on long-horizon credit assignment for agentic RL.

- <https://github.com/Zenghuang-Fu/Awesome-Long-Horizon-Credit-Assignment-for-Agentic-RL>

DMTrack

Reference implementation of the DMTrack UAV multi-object tracker.

- <https://github.com/Zenghuang-Fu/DMTrack>

Research Interests

Agentic RL: Long-horizon credit assignment, agentic reinforcement learning

Agents: Agentic search, self-evolving agents, AutoResearch, agentic memory

Multimodal: Long-video understanding with multimodal LLMs, MLLM reasoning

Technical Skills

Programming: Python, PyTorch, C++

Language Skills

Chinese: Native speaker

English: Professional working proficiency