

Zhijie Yan

📞 +86 134-7931-4873 | 📩 yanzhijie@buaa.edu.cn | 🏷️ bjhyzj.github.io | 🎓 Google Scholar

EDUCATION

Master in Mechanical Engineering, Beihang University

Supervisor: Prof. Zuoxu Wang

- Rank: 1 / 186

Beijing, China

Sept 2023 – Jun 2026

Software Engineering, Jiangxi University of Finance and Economics

Supervisor: Dr. Jifu Chen

- GPA: 93.48 / 100, Rank: 5 / 436

Jiangxi, China

Sept 2019 – Jun 2023

RESEARCH INTEREST

My long-term research goal is to develop intelligent **Mobile Manipulation** systems that autonomously perform household tasks in dynamic indoor environments, with a focus on robust perception, motion planning, and safe interaction.

- Dynamic 3D Scene Representation:** Real-time updating of **3D Scene Graphs in dynamic environments**.
- Whole-body Control:** Robust and safe **mobile manipulation** for efficient task completion in everyday environments.
- Imitation Learning:** Let robots become familiar with **various skills** in life.

PUBLICATIONS († DENOTES CORRESPONDING AUTHOR.)

JOURNAL ARTICLES

Dynamic Open-Vocabulary 3D Scene Graphs for Long-term Language-Guided Mobile Manipulation

Zhijie Yan, Shufei Li, Zuoxu Wang[†], Lixiu Wu, Han Wang, Jun Zhu, Lijiang Chen, Jihong Liu

IEEE Robotics and Automation Letters (**RA-L, JCR-Q1, IF: 5.3**), 2025

DREAM: Dynamic Resilient Spatio-Semantic Memory with Hybrid Localization for Mobile Manipulation

Zhijie Yan, Shufei Li, Ze Zhang, Xin Liu, Yuhang Zheng, Zuoxu Wang[†]

IROS 2025 HRII Workshop (**Best Paper Award**), 2025; IEEE/ASME Transactions on Mechatronics (**Under Review**)

IndVisSGG: VLM-based scene graph generation for industrial spatial intelligence

Zuoxu Wang, Zhijie Yan, Shufei Li[†], Jihong Liu

Advanced Engineering Informatics (**ADVEI, JCR-Q1, IF: 9.9**), 2025

VLM-MSGGraph: Vision Language Model-enabled Multi-hierarchical Scene Graph for robotic assembly

Shufei Li, Zhijie Yan, Zuoxu Wang[†], Yiping Gao

Robotics and Computer-Integrated Manufacturing (**RCIM, JCR-Q1, IF: 11.4**), 2025

CONFERENCE PAPERS

INT2: Interactive Trajectory Prediction at Intersections

Zhijie Yan, Pengfei Li, Zheng Fu, Shaocong Xu, Yongliang Shi, Xiaoxue Chen, Yuhang Zheng, Yang Li, Tianyu Liu, Chuxuan Li, Nairui Luo, Xu Gao, Yilun Chen, Zuoxu Wang, Yifeng Shi, Pengfei Huang, Zhengxiao Han, Jirui Yuan, Jiangtao Gong, Guyue Zhou, Hang Zhao, Hao Zhao[†]

International Conference on Computer Vision (**ICCV**), 2023

ManufVisSGG: A Vision-Language-Model Approach for Cognitive Scene Graph Generation in Manufacturing Systems

Zhijie Yan, Zuoxu Wang[†], Shufei Li, Mingrui Li, Xinxin Liang, Jihong Liu

International Conference on Automation Science and Engineering (**CASE**), 2024

Long-term Interactive Driving Simulation: MPC to the Rescue

Zhengxiao Han, Zhijie Yan, Yang Li, Pengfei Li, Yifeng Shi, Nairui Luo, Xu Gao, Yongliang Shi, Pengfei Huang, Jiangtao Gong, Guyue Zhou, Yilun Chen, Hang Zhao, Hao Zhao[†]

CAAI International Conference on Artificial Intelligence (**CICAI**), 2023

Large Language Models Powered Context-aware Motion Prediction

Xiaojie Zheng, Lixiu Wu, **Zhijie Yan**, Yuanrong Tang, Hao Zhao, Chen Zhong, Bokui Chen, Jiangtao Gong[†]

International Conference on Intelligent Robots and Systems (IROS), 2024

TOD3Cap: Towards 3D Dense Captioning in Outdoor Scenes

Bu Jin, Yupeng Zheng[†], Pengfei Li, Weize Li, Yuhang Zheng, Sujie Hu, Xinyu Liu, Jinwei Zhu, **Zhijie Yan**, Haiyang Sun, Kun Zhan, Peng Jia, Xiaoxiao Long, Yilun Chen, Hao Zhao

European Conference on Computer Vision (ECCV), 2024

INTERNSHIP EXPERIENCE

Feb 2025 – July 2025: Research Intern, Reinforcement Learning Group, **NoetixRobotics**, Beijing, China

Jul 2022 – Nov 2023: Research Intern, DISCOVER LAB, AIR, **Tsinghua University**, Beijing, China

AWARDS

National Scholarship

National-level scholarship, 2025

Best Paper Award at IROS 2025 HRII Workshop

International-level scholarship, 2025

First Prize Scholarship for Graduate Students (1/186)

School-level scholarship, 2025

China College Students' Self-Reliance Star

National-level scholarship, 2022

The Second Prize of the 23rd China Robot and Artificial Intelligence Competition

Ministry of Education national-level competition award, 2021

The Second Prize of the 14th China College Students' Computer Design Competition

Ministry of Education national-level competition award, 2021

SKILLS

PROGRAMMING : Python / C++ / Java, Web (JavaScript, HTML/CSS), ROS/ROS2

TOOLS : PowerPoint, Ubuntu, Vscode, SolidWorks, Genesis, Isaac sim, Mujoco, Isaacgym