

Guangyao Zhai

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Education

- **Technical University of Munich (TUM)** *Munich · Germany* Nov. 2021 – Ongoing
PhD student in robot vision.
 - Affiliated with Computer Vision Group at the Chair for CAMP&AR, Department of Informatics
 - Supervisor: Prof. Dr. Nassir Navab / Mentor: Dr. Benjamin Busam
- **Zhejiang University** *Hangzhou · China* Sep. 2018 – Jun. 2021
MSc in Control Science and Engineering
 - Affiliated with APRIL Lab, College of Control Science and Engineering
 - Supervisor: Prof. Dr. Yong Liu
- **Northwestern Polytechnical University** *Xi'an · China* Sep. 2014 – Jun. 2018
BEng in Automation, Academic Record Percentage: 87/100

Selected Research

[*Equal contribution, †Corresponding author]

• Journals

- **Guangyao Zhai**, Yu Zheng, Ziwei Xu, Xin Kong, Yong Liu, Benjamin Busam, Nassir Navab, and Zhengyou Zhang. *DA² Dataset: Toward Dual-Arm Dexterity-Aware Grasping*. **IEEE Robotics and Automation Letters** [\[link\]](#)
- **Guangyao Zhai**, Liang Liu, Linjian Zhang, and Yong Liu. *PoseConvGRU: A Monocular Approach for Visual Ego-motion Estimation by Learning*. **Pattern Recognition (2020)** [\[link\]](#)

• Conferences

- HyunJun Jung*, **Guangyao Zhai***[†], et al. *HouseCat6D–A Large-Scale Multi-Modal Category Level 6D Object Pose Dataset with Household Objects in Realistic Scenarios*. **IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2024)** **Highlight (11.9% of the accepted papers)** [\[link\]](#)
- Yamei Chen, Yan Di, **Guangyao Zhai**[†], Fabian Manhardt, Chenyangguang Zhang, Ruida Zhang, Federico Tombari, Nassir Navab, and Benjamin Busam. *SecondPose: SE(3)-Consistent Dual-Stream Feature Fusion for Category-Level Pose Estimation*. **IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2024)** [\[link\]](#)
- **Guangyao Zhai**, Xiaoni Cai, Dianyue Huang, Yan Di, Fabian Manhardt, Federico Tombari, Nassir Navab, and Benjamin Busam. *Sg-bot: Object rearrangement via coarse-to-fine robotic imagination on scene graphs*. **IEEE International Conference on Robotics and Automation (ICRA 2024)** [\[link\]](#)
- **Guangyao Zhai**, Evin Pinar Örnek, Shun-Cheng Wu, Yan Di, Federico Tombari, Nassir Navab, and Benjamin Busam. *CommonScenes: Generating Commonsense 3D Indoor Scenes with Scene Graphs*. **Thirty-seventh Conference on Neural Information Processing Systems (NeurIPS 2023)** [\[link\]](#)
- Dekai Zhu*, **Guangyao Zhai***, Yan Di, Fabian Manhardt, Hendrik Berkemeyer, Tuan Tran, Nassir Navab, Federico Tombari, Benjamin Busam. *IPCC-TP: Utilizing Incremental Pearson Correlation Coefficient for Joint Multi-Agent Trajectory Prediction*. **IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2023)** [\[link\]](#)
- **Guangyao Zhai**, Dianyue Huang, Shun-Cheng Wu, HyunJun Jung, Yan Di, Fabian Manhardt, Federico Tombari, Nassir Navab, and Benjamin Busam. *MonoGraspNet: 6-DoF Grasping with a Single RGB Image*. **IEEE International Conference on Robotics and Automation (ICRA 2023)** [\[link\]](#)

• Preprints

- **Guangyao Zhai**, Zhen Zhang, Xin Kong, and Yong Liu. *Efficient Pedestrian Following by Quadruped Robots*. **IEEE International Conference on Robotics and Automation Workshop (ICRAW 2021)** [\[link\]](#)

☆ For full research: [\[Google Scholar\]](#) / [\[ResearchGate\]](#)

Teaching Experience

- **Modern Computer Vision Methods Seminar** *Technical University of Munich* WS 2022/23
Tutor on the topic of robotic grasping.
– Course link: www.cs.cit.tum.de/camp/teaching/seminars/modern-computer-vision-methods-ws-2022-23/
- **MA Thesis Supervision** *Technical University of Munich*
Object pose estimation on foundational models. (WS 2023/24)
– Student: Ms. Yamei chen. Material: One CVPR'24 paper [\[link\]](#).
Robotic manipulation guided by holistic scene understanding. (SS 2023)
– Student: Ms. Xiaoni Cai. Material: One ICRA'24 paper [\[link\]](#).
Motion prediction in the autonomous driving field. (WS 2022/23)
– Student: Mr. Dekai Zhu. Material: One CVPR'23 paper [\[link\]](#).

Work Experience

- **Tencent** *Shenzhen · China* Apr. 2021 – Oct. 2021
Research Intern / **Tencent Robotics X, TEG**
– Designed a dual-arm robotic optimal grasping algorithm. [\[link\]](#)
- **Huawei** *Shanghai · China* Apr. 2020 – Aug. 2020
Research Intern / **Noah's Ark Laboratory, 2012 Laboratories**
– Designed a 3D Multi-Object Tracking framework based on LiDAR. [\[link\]](#)

Skills

- **Programming:** Python, C++, MATLAB, L^AT_EX
- **Framwork:** Robot Operating System (ROS), PyTorch

Awards and Honors

- **Awards**
 - **National Scholarship for Postgraduates** *Ministry of Education of the P. R. China* 2020
(The highest prize for postgraduates in China's Mainland)
 - **Academic Scholarship** *Zhejiang University* 2019
 - **Second Prize Scholarship × 3** *Northwestern Polytechnical University* 2014 – 2017
- **Honors**
 - **CAA Outstanding Master's Thesis** *Chinese Association of Automation* 2022
 - **Zhejiang Outstanding Master's Thesis** *Zhejiang Postgraduate Education Society* 2022
(Top-99 Master's thesis selected from all fields of study in Zhejiang Province, China)
 - **Best Extended Abstract Award Finalist** *ICRA 2021: 5th Full-day Workshop on Legged Robots* 2021
 - **“Triple-A” Master Student** *Zhejiang University* 2019 – 2020
 - **Outstanding Master Student** *Zhejiang University* 2019 – 2020

Additional Information

- **Review Experience**

- IEEE Transactions on Automation Science and Engineering (T-ASE)
- IEEE Robotics and Automation Letters (RA-L)
- International Conference on Robotics and Automation (ICRA)
- International Conference on Intelligent Robots and Systems (IROS)

- **Language Skills**

- Mandarin *native*
- English *IELTS 6.5 (Listening: 6.5 Reading: 7 Speaking: 6.5 Writing: 6.5)*

- **Interests**

- Passionate about swimming (practicing for five years), fitness and cooking.

- **Values and Methodology**

- *Quality · Diligence · Self-reflection*