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, †Correponding author**]

- **Journals**
  - ***Guangyao Zhai***, *Yu Zheng, Ziwei Xu, Xin Kong, Yong Liu, Benjamin Busam, Nassir Navab, and Zhengyou Zhang. DA^2 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)** [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, Dianye 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 Pınar 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***, *Dianye 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** *Techinical 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** *Techinical 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, LaTeX

- **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*