

Weicai Ye

Curriculum Vitae

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Education

- 2018–2023 **PhD, Computer Science, Zhejiang University (ZJU), China.**
(expected) Research Interests: 3D Vision, especially SLAM, 3D Reconstruction, Visual Localization and Scene Understanding. Supervised by **Prof. Guofeng Zhang** and **Prof. Hujun Bao**.
- 2014–2018 **Bachelor of Computer Software Engineering, University of Electronic Science and Technology of China (UESTC), China.**
National Encouragement Scholarship. Ranked 3rd of 111 Students.

Publications

* denotes equal contribution.

In Conference Proceedings

- 2022 **Weicai Ye**, Xingyuan Yu, Xinyue Lan, Yuhang Ming, Zhaopeng Cui, Hujun Bao, and Guofeng Zhang. DeFlowSLAM: Semi-Supervised Scene Motion Decomposition for Dynamic Dense SLAM. In *(Siggraph, under review)*, 2022.
- 2022 **Weicai Ye**, Xinyue Lan, Ge Su, Zhaopeng Cui, Hujun Bao, and Guofeng Zhang. Hybrid Tracker with Pixel and Instance for Video Panoptic Segmentation. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR, under review)*, 2022.
- 2022 Guanglin Li, Yifeng Li, Tao Kong, **Weicai Ye**, and Guofeng Zhang. Dynamic Objects Association and Registration without Continuous Observation. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS, under review)*, 2022.
- 2021 Tianxiang Zhang, Chong Bao, Hongjia Zhai, Jiazhen Xia, **Weicai Ye**, and Guofeng Zhang. ARCargo: Multi-Device Integrated Cargo Loading Management System with Augmented Reality. In *IEEE Cyber Science and Technology Congress (CyberSciTech)*, 2021.
- 2021 **Weicai Ye**, Hai Li, Tianxiang Zhang, Xiaowei Zhou, Hujun Bao, and Guofeng Zhang. SuperPlane: 3D Plane Detection and Description from a Single Image. In *IEEE Virtual Reality and 3D User Interfaces (VR)*, 2021.
- 2021 Xiangyu Liu, **Weicai Ye**, Chaoran Tian, Zhaopeng Cui, Hujun Bao, and Guofeng Zhang. Coxgraph: Multi-Robot Collaborative, Globally Consistent, Online Dense Reconstruction System. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2021, **Best Paper Finalist Award on Safety, Security, and Rescue Robotics in memory of Motohiro Kiso**.
- 2020 Hailin Yu, **Weicai Ye**, Youji Feng, Hujun Bao, and Guofeng Zhang. Learning Bipartite Graph Matching for Robust Visual Localization. In *IEEE International Symposium on Mixed and Augmented Reality (ISMAR)*, 2020.
- 2020 Hai Li*, **Weicai Ye***, Guofeng Zhang, Sanyuan Zhang, and Hujun Bao. Saliency Guided Subdivision for Single-View Mesh Reconstruction. In *International Conference on 3D Vision (3DV)*, 2020.

Journal Articles

- 2022 Hailin Yu, Youji Feng, **Weicai Ye**, MingXuan Jiang, Hujun Bao, and Guofeng Zhang. GAM: Improving Feature-based Visual Localization by Geometry-Aided Matching. *IEEE Transactions on Image Processing (TIP, under review)*, 2022.
- 2022 **Weicai Ye**, Xinyue Lan, Shuo Chen, Xingyuan Yu, Zhaopeng Cui, Hujun Bao, and Guofeng Zhang. PVO: Panoptic Visual Odometry for Consistent Video Editing. *ACM Transactions on Graphics (TOG, under review)*, 2022.
- 2022 Ge Su, **Weicai Ye**, Jianwei Yin, and Yongheng Shang. Uniform Clustering based Unsupervised Domain Adaptation for Semantic Segmentation. (*under review*), 2022.

Work Experience

3D Vision Researcher Intern, SenseTime Group Inc. Hangzhou, China

Jan,2018 – **3D Reconstruction of Indoor Scene of RGB-D Images.**

May,2018 Developed SemanticSLAM system which organically combines the traditional SLAM, semantic segmentation, and plane detection. Different modules cooperate with each other and effectively improve the quality of localization and mapping. The system allows room-scale indoor scenes reconstruction in real-time.

Advisor : **Dr. Hanqing Jiang**, Associate Research Director in SenseTime Group Inc., 3D Reconstruction Team, 3D Vision & Augmented Reality Dept. of Mobile Intelligent Group.

Software Engineer Intern, Baidu Inc. Beijing, China

Feb,2017 – **Video Search System.**

Jul,2017 Developed millisecond response video search services with colleagues that can support hundreds of millions of highly concurrent retrieval needs. Developed rearrangement strategies, such as video resolution and cross-modal fusion with colleagues, to improve the quality of video retrieval results. The system can retrieve videos related to a given text in real time and the service is available.

Awards & Honors

- 2021 **Best Paper Finalist Award on Safety, Security, and Rescue Robotics in memory of Motohiro Kiso**. in IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS**).
- 2019 **Zhijun He Outstanding Scholarship.**
- 2019 **Chiang Chen Industrial Charity Foundation Grant.**
- 2018 **Champion** of 2018 Cloudwalk Headcount Challenge with 31,500¥ Bonus.
- 2017 **Meritorious Winner** in Mathematical Contest Modeling.
- 2016 **First Prize** in Sichuan Province Contest District in China Undergraduate Mathematical Contest in Modeling.

Skills

Programming Python, C++, CUDA, JAVA, JavaScript/HTML/CSS, LATEX

Library & Engine PyTorch, TensorFlow, Caffe, Unity

Management Mentored 10+ Junior Researchers at ZJU, WHU, HUST and UCSD, etc.

Services

Conference reviewer: CVPR, AAAI, VR, ISMAR, IROS, BMVC, PRCV, CICA

Teaching Assistant

Spring, 2021: Computational Photograph