Hanjing YE

Curriculum Vitae

Department of Electrical and Electronic Engineering
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My Webpage

Education

2022–present **PhD candidate, Electrical and Electronic Engineering**, *Southern University of Science and Technology (SUSTech)*, Shenzhen.

2020–2022 : **Visisting student, Electrical and Electronic Engineering**, *SUSTech*, Shenzhen.

2019–2021 : **Master of Engineering, Mechanical and Electrical Engineering**, *Guangdong University of Technology (GDUT)*, Guangzhou.

2015–2019 : **Bachelor of Engineering, Mechanical and Electrical Engineering**, *GDUT*, Guangzhou.

Publications

† indicates equal contribution, and * indicates corresponding authorship.

Conference Proceedings

2024 Jieting Zhao, **Hanjing Ye,** Yu Zhan and Hong Zhang*, Human Orientation Estimation Under Partial Observation, Submitted to *2024 IEEE International Conference on Intelligent Robots and Systems (IROS)* – Submitted.

2024 Jingwen Yu, **Hanjing Ye,** Jianhao Jiao, Ping Tan and Hong Zhang*, GV-Bench: Benchmarking Local Feature Matching for Geometric Verification of Long-term Loop Closure Detection, Submitted to *2024 IEEE International Conference on Intelligent Robots and Systems (IROS)* – Submitted.

2023 **Hanjing Ye,** Jieting Zhao, Yaling Pan, Weinan Chen, Li He and Hong Zhang*, Robot Person Following Under Partial Occlusion, In *2023 IEEE International Conference on Robotics and Automation (ICRA)* – Published.

2023 Zhilong Tang**, Hanjing Ye** and Hong Zhang*, Multi-scale Point Octree Encoding Network for Point Cloud based Place Recognition, In *2023 IEEE International Conference on Intelligent Robots and Systems (IROS)* – Published.

2022 Weinan Chen†, **Hanjing Ye†,** Lei Zhu, Chao Tang, Changfei Fu and Hong Zhang*, Keyframe Selection with Information Occupancy Grid Model for Long-term Data Association, In *2022 IEEE International Conference on Intelligent Robots and Systems (IROS)* – Published.

2021 **Hanjing Ye,** Guangcheng Chen, Weinan Chen, Li He, Yisheng Guan and Hong Zhang*, Mapping While Following: 2D LiDAR SLAM in Indoor Dynamic Environments with a Person Tracker, In *2021 IEEE International Conference on Robotics and Biomimetics (ROBIO)* – Published.

Journal Articles

2024 **Hanjing Ye,** Jieting Zhao, Yu Zhan, Weinan Chen, Li He and Hong Zhang*, Person Re-Identification for Robot Person Following with Online Continual Learning, Submitted to *IEEE Robotics and Automation Letters* – Re-submitted.

2023 **Hanjing Ye**†**,** Weinan Chen†, Jingwen Yu, Li He, Yisheng Guan and Hong Zhang*, Condition-Invariant and Compact Visual Place Description by Convolutional Autoencoder, *ROBOTICA* – Published.

Research Experience

Shenzhen Key Laboratory of Robotics and Computer Vision, SUSTech

2021–present ***Robot Person Following (RPF)***.

- Developing a novel method for natural person following, including the creation of a dataset and an imitation learning framework to enhance the generalization of social understanding.
- Developing an active person recovery method integrating motion cues and person verification uncertainty in an unknown environment.
- Proposed a robust person re-identification framework capable of adapting to severe domain drifts through online continual learning.
- Proposed a vision-based RPF system to locate and follow an user, effectively handling partial occlusions using a joint-height-based geometric model.
- Developed an RPF-assisted 2D LiDAR SLAM system, streamlining the mapping process and reducing the impact of dynamic objects.

Advisor : **Dr. Hong Zhang**, *Chair Professor, Department of Electronic and Electrical Engineering, SUSTech*; Professor Emeritus, University of Alberta

Shenzhen Key Laboratory of Robotics and Computer Vision, SUSTech & Biomimetic and Intelligent Robotics Laboratory, GDUT

2019–2021 ***Visual Place Recognition (VPR)***.

- Introduced a keyframe selection strategy leveraging an information occupancy grid model. This approach, based on explainable deep learning descriptors and information gain theory, enhances long-term data association.
- Proposed a condition-invariant, compact visual place description for VPR, employing a convolutional-autoencoder-based reconstruction process to distill high-level representations.

Advisor : **Dr. Hong Zhang**, *Chair Professor, Department of Electronic and Electrical Engineering, SUSTech*; Professor Emeritus, University of Alberta

Teaching Assistant

Fall, 2022: **EE5346: Autonomous Robot Navigation**, SUSTech.

Spring, 2021: **EE346: Mobile Robot Navigation and Control**, SUSTech.