Shenghao Li

Robot Vision Lab, Department of Automation School of Electronic Information and Electrical Engineering Shanghai Jiao Tong University, Shanghai, China 200241



EDUCATION _

Shanghai Jiao Tong University, Shanghai

2020 - present

PhD in Control Science and Engineering

Advisors: Prof. Qunfei Zhao

East China University of Science and Technology

2017 - 2020

Master in Mechanical Engineering

Advisor: Prof. Shuang Liu

East China University of Science and Technology

2013 - 2017

Bachelor (Honours) in Mechanical Design, Manufacturing and Automation

Bachelor in English (Double Degree)

SELECTED PUBLICATIONS _____

Journel Publications

4. Sparse-to-Local-Dense Matching for Geometry-Guided Correspondence Estimation Shenghao Li, Qunfei Zhao, and Zevang Xia.

IEEE Transactions on Image Processing (T-IP), 2023

3. Representing Boundary-ambiguous Scene Online with Scale-encoded Cascaded Grid Distillation and Radiance Field Deblurring.

Shenghao Li, Zeyang Xia, and Qunfei Zhao.

IEEE Transactions on Circuits and Systems for Video Technology (T-CSVT), 2023.

2. Quantized Self-supervised Local Feature for Real-time Robot Indirect VSLAM.

Shenghao Li, Shuang Liu, Qunfei Zhao, and Qiaoyang Xia.

IEEE/ASME Transactions on Mechatronics (T-MECH), 2022.

1. Autonomous Exploration and Map Construction of a Mobile Robot Based on the TGHM Algorithm. Shuang Liu, Shenghao Li, Luchao Pang, Jiahao Hu, Haoyao Chen, and Xiancheng Zhang. Sensors. 2020.

Conference Publications

2. Self-supervised Feature Detection and Binary Description in Hamming Space for Mobile Platforms Shenghao Li, Guibao Zhang, and Qunfei Zhao.

IEEE International Conference on Real-time Computing and Robotics (RCAR), 2021

1. Automatic Container Code Localization and Recognition via an Efficient Code Detector and Sequence Recognition.

Shenghao Li, Shuang Liu, Qiaoyang Xia, Hui Wang, and Haoyao Chen,.

IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM), 2019.

Internship _____

Minimax
NeRF & LLVM Model Research Intern

2021 - 2023

Developed and trained large vision-language models based on the collected dataset; Designed 3D animitable avatars based on NeRF and Meshes.

Qualcomm 2019 - 2020

AI Intern

Developed network quantization with Tensorflow/Pytorch for mobile devices.

Oceanbotech 2017 - 2019

Robotics Intern

Developed VSLAM, object tracking, and object detection algorithms for a ROS based mobile platform.

SELECTED RESEARCH PROJECTS

Avatar Generation Oct 2021 - May 2023

Advisor: Dr. Junjie Yan, Minimax

- Proposed a animatable NeRF for dynamic face and body reconstruction.
- Developed a concept decoupler for large vision-language model training.

Vision-based Workpiece Pose Estimation

Sept 2020 - Dec 2021

Advisor: Prof. Qunfei Zhao, SHRIS

- Developed a 3D detector and a pose estimator to manipulate densely stacked workpieces with an RGB-D camera.
- Developed a detector for flat-placed workpieces with a line-scanning industrial camera.

SKILLS

- Programming: Python (Pandas, PyTorch, NumPy, Scikit-learn. etc.), C/C++.
- Miscellaneous: Linux, Shell (Bash/Zsh), LATEX (Overleaf Markdown), Microsoft Office, Git.
- Language: English (Professional Proficiency); German (Novice Proficiency); Chinese (Native Proficiency).