

# Shenghao Li

No.800, Dongchuan Road, Minhang District, Shanghai, China

☎ +8613641607845 | ✉ lch94102@163.com | 🏠 merical.github.io/ | 📦 Ww3F7TgAAAAJ

## Personal Profile

A PhD candidate in Control Science and Engineering from Shanghai Jiao Tong University. Current research interests include 3D vision, local feature learning, scene representation and understanding.

## Education

### Shanghai Jiao Tong University

PhD in Control Science and Technology

- Estimated graduation date: 12, 2023

Shanghai, China

Sept 2020 - Current

### East China University of Science and Technology

Master in Mechanical Engineering

- Graduated with Distinction

Shanghai, China

Sept 2017 - June 2020

### East China University of Science and Technology

Bachelor in Mechanical Design, Manufacturing, and Automation & English

- Graduated with Distinction

Shanghai, China

Sept 2013 - June 2017

## Publications

### UNDER REVIEW

Representing Unbounded Scene Online with Scale-encoded Cascaded Grid Distillation and Radiance Field Deblurring (Under Review)

Shenghao Li, Zeyang Xia, Qunfei Zhao

*IEEE Transactions on Circuits and Systems for Video Technology* (2023). IEEE, 2023

Sparse-to-Local-Dense Matching for Geometry-Guided Correspondence Estimation (Under Review)

Shenghao Li, Qunfei Zhao, Zeyang Xia

*IEEE Transactions on Image Processing* (2023). IEEE, 2023

### JOURNAL ARTICLES

Representing Unbounded Scene Online with Scale-encoded Cascaded Grid Distillation and Radiance Field Deblurring (Under Review)

Shenghao Li, Zeyang Xia, Qunfei Zhao

*IEEE Transactions on Circuits and Systems for Video Technology* (2023). IEEE, 2023

Sparse-to-Local-Dense Matching for Geometry-Guided Correspondence Estimation (Under Review)

Shenghao Li, Qunfei Zhao, Zeyang Xia

*IEEE Transactions on Image Processing* (2023). IEEE, 2023

Quantized self-supervised local feature for real-time robot indirect VSLAM

Shenghao Li, Shuang Liu, Qunfei Zhao, Qiaoyang Xia

*IEEE/ASME Transactions on Mechatronics* 27.3 (2021) pp. 1414–1424. IEEE, 2021

Autonomous exploration and map construction of a mobile robot based on the TGHM algorithm

Shuang Liu, Shenghao Li, Luchao Pang, Jiahao Hu, Haoyao Chen, Xiancheng Zhang

*Sensors* 20.2 (2020) p. 490. MDPI, 2020

### CONFERENCE PROCEEDINGS

Self-supervised Feature Detection and Binary Description in Hamming Space for Mobile Platforms

Shenghao Li, Guibao Zhang, Qunfei Zhao

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

Automatic Drug Box Recognition Based on Depth Camera

Changzheng Zhang, Qiaoyang Xia, Shenghao Li, Simeng Zhong, Shuang Liu

*2021 IEEE 11th Annual International Conference on CYBER Technology in Automation, Control, and Intelligent Systems (CYBER)*, 2021

Automatic container code localization and recognition via an efficient code detector and sequence recognition

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

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

## Internship

## MiniMax

Computer Vision Engineer

- AIGC with large vision-language models; 3D animatable avatars and 2D generative characters.

Shanghai, China

Oct 2021 - Current

## QualComm

AI Engineer

- Deep Learning Network Quantization with Tensorflow/Pytorch, SNPE Algorithm Optimization, Data Free Quantization Implementation, and state-of-art paper reading.

Shanghai, China

Jul 2019 - Jul 2020

## OceanBotech

Computer Vision Engineer

- VSLAM, object tracking, object detection and navigation algorithms for a ROS based artificial intelligence omnidirectional mobile platform.
- Nvidia Jetson platform development, Cuda and Opencv Programming.

Shanghai, China

Sept 2017 - May 2019

# University Projects

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## Avatar Generation

Shanghai Jiao Tong University

- NeRF-based animatable avatar reconstruction and manipulation.
- AIGC with large vision-language models.

Shanghai, China

Oct 2021 - Current

## Vision-based Workpiece Pose Estimation

Shanghai Jiao Tong University

- 3D Detection and pose estimation of densely stacked complex workpieces with an RGB-D camera.
- 2D Detection and pose estimation of flat workpieces with a line scanning industrial camera

Shanghai, China

Sept 2020 - Dec 2021

## Intelligent Mobile Platform

East China University of Science and Technology

- Optimize VSLAM System with Learned Local Feature for Scene Exploration;
- Design and deploy object detection, object tracking, face recognition algorithms;

Shanghai, China

Apr 2018 - Jun 2020

## Container Recognition and Security Check system

East China University of Science and Technology

- Container ID code detection with a recurrent convolutional neural network.
- Video-based container detection and abnormal detection with CNNs.

Shanghai, China

Jun 2018 - Sept 2019

# Skills

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**Programming** Python (Pandas, PyTorch, NumPy, Scikit-learn. etc.), C/C++.

**Miscellaneous** Linux, Shell (Bash/Zsh),  $\text{\LaTeX}$ (Overleaf Markdown), Microsoft Office, Git.

**Language** English (Professional Proficiency); Chinese (Native Proficiency)

References available upon request.