# Shenghao Li

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## Education

**Shanghai Jiao Tong University** *Shanghai, China*

PhD in Control Science and Technology *Sept 2020 - Current*

- Estimated graduation date: Dec 2023

**East China University of Science and Technology** *Shanghai, China*

Master in Mechanical Engineering *Sept 2017 - June 2020*

- Graduated with Distinction

**East China University of Science and Technology** *Shanghai, China*

Bachelor in Mechanical Design, Manufacturing, and Automation & English *Sept 2013 - June 2017*

- Graduated with Distinction

## Publications

### Under Review Articles

Representing Unbounded Scene Online with Scale-encoded Cascaded Grid Distillation and Radiance Field Deblurring
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
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
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
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** *Shanghai, China*

Computer Vision Engineer *Oct 2021 - Current*

- AIGC with large vision-language models; 3D animitable avatars and 2D generative charactors.

**QualComm** *Shanghai, China*

AI Engineer *Jul 2019 - Jul 2020*

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

**OceanBotech** *Shanghai, China*

Computer Vision Engineer *Sept 2017 - May 2019*

- 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.

## University Projects

**Avatar Generation** *Shanghai, China*

Shanghai Jiao Tong University *Oct 2021 - Current*

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

**Vision-based Workpiece Pose Estimation** *Shanghai, China*

Shanghai Jiao Tong University *Sept 2020 - Dec 2021*

- 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

**Intelligent Mobile Platform** *Shanghai, China*

East China University of Science and Technology *Apr 2018 - Jun 2020*

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

**Container Recognition and Security Check system** *Shanghai, China*

East China University of Science and Technology *Jun 2018 - Sept 2019*

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

## 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); Chinese (Native Proficiency)

**References available upon request.**