Shenghao Li

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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 *Shanghai, China*

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

- Estimated graduation date: 12, 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

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 *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.