Shenghao Li

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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 Zeyang 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   *2021 - 2023*
NeRF & LLVM Model Research Intern
Developed and trained large vision-language models based on the collected dataset; Designed 3D animatable 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).

Avatar Generation   *Oct 2021 - May 2023*
Advisor: Dr. Junjie Yan, *Minimax*

- Proposed a animatable NeRF for dynamic face and body reconstruction.