

LI, Yixuan

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EDUCATION

Zhejiang University, Hangzhou, China
Major: Electronic Engineering
GPA: 3.94/4.0

Sep 2020 – present

RESEARCH EXPERIENCE

Tunable Nonlinear Edge Detection | Photonics

Jun 2022 – Nov 2022

- Proposed a periodic structured thin film that can perform edge detection, whose effect can be changed by varying light intensity. By constructing metal quantum wells, the reflectivity of the film varies according to different incident angles.

Holographic Optical Storage and Information Hiding Based on Optical Neural Networks | Photonics

Sep 2022 – Jan 2022

- Involved in implementing the framework of information encoding and decoding using a digital micromirror device (DMD). Involved in the simulation process of compression storage of information using PyTorch.

LiDAR-based Localization | Robotics <https://github.com/zjuluolun/BEVPlace>

Jul 2022 – Dec 2022

- Proposed a rotation-invariant network for LiDAR-based localization problem in autonomous driving. Developed a position estimation method based on mapping the feature distance to the geometric distance. This method is robust to view variation with good generalization ability.

Image-to-point cloud Cross-modal Localization | Robotics

Dec 2022 – Feb 2023

- The motivation is to combine the strengths of LiDAR and cameras, the two types of sensors widely used in localization. We gave an initial attempt to localize an image in a point cloud map, by converting both the images and point clouds to the same modality of Bird's-eye view image.

PUBLICATIONS

- Y. Li**, S. Zheng, Z. Yu, B. Yu, S.-Y. Cao, L. Luo, and H.-L. Shen, "I2p-rec: Recognizing images on large-scale point cloud maps through bird's eye view projections," Accepted to **IROS'23**
- L. Luo, S. Zheng, **Y. Li**, Y. Fa, B. Yu, S. Cao, and H. Shen, "Bevplace: Learning lidar-based place recognition using bird's eye view images," Accepted to **ICCV'23**

HONORS AND AWARDS

National Scholarship (Top 0.2% nation-wide) (2 Times)

Dec 2021 & Dec 2022

Zhejiang University Scholarship – First Prize (Top 3%) (2 Times)

Dec 2021 & Dec 2022

Second place of ICRA 2022 General Place Recognition Competition

Oct 2022

SKILLS

Tools: \LaTeX , Linux shell, PyTorch, OpenCV, COMSOL Multiphysics

Programming Languages: Python, MATLAB, C, Java, Verilog.