

LI, Yixuan

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EDUCATION

Zhejiang University, Hangzhou, China

Sept 2020–Present

Morningside Cultural China Scholar

Major: Electronic Engineering, **GPA:** 3.94/4.0

Supervisor: Professor [Haoliang Qian](#) (Zhejiang Univ.)

Coursework: Electromagnetic Fields & Waves (93), Fundamentals of Optoelectronics (96), Quantum Mechanics (95), RF Circuits and Systems (96), Numerical Analysis (95)

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,” 2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS**), Detroit, USA, 2023. **Oral Presentation.** [[PDF](#)]
- 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,” 2023 IEEE/CVF International Conference on Computer Vision (**ICCV**), Paris, France, 2023. [[PDF](#)]

HONORS AND AWARDS

National Scholarship (Top 0.2% nationwide) (2 Times)

Dec 2021 & Dec 2022

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

Dec 2021 & Dec 2022

Second place, ICRA 2022 General Place Recognition Competition (Co-hosted by Carnegie Mellon University)

Oct 2022

RESEARCH EXPERIENCE

Multilayer Structure for Dispersion-Engineered Nonlinear Waveguide | Nonlinear Optics Oct 2023–Present

- Working on a project in nonlinear optics with Professor [Martin Fejer](#) to implement a multilayer structured waveguide based on LiNb to control the group velocity dispersion in second-order nonlinear interactions.

Tunable Nonlinear Edge Detection | Nanophotonics & Quantum Optics

Feb 2023–Jun 2023

- Proposed a multilayer structured thin film based on metallic quantum wells to perform edge detection, whose effect varies accordingly by tuning the pump light intensity.
- Simulated reflected image of the film based on Fresnel diffraction under both coherent and incoherent incident light.

Image-to-Point Cloud Cross-Modal Localization | Robotics

Dec 2022–Feb 2023

- Suggested a framework for cross-modal localization between LiDAR (point cloud) and camera (image), exploring a relatively uncharted area of research.
- Implemented the overall pipeline, including monocular and stereo depth estimation, point cloud generation, bird’s-eye view projection, feature extraction and aggregation.
- Delivered oral presentation and presented poster at the IROS 2023 conference in Detroit, USA.

LiDAR-Based Localization | Robotics Open-source at GitHub [zjuluolun/BEVPlace](#), ★104

Jul 2022–Dec 2022

- Proposed a rotation-invariant network BEVPlace for LiDAR-based localization problems in autonomous driving.
- Developed a position estimation method by mapping the feature distance to the geometric space.
- Outperforms the state-of-the-art methods, is robust to view variation, and generalizes well to previously unseen environments. Benefits various applications, including loop closure detection, global localization, and SLAM.

PERSONAL EXPERIENCE

Co-organizer, the Morningside Scholars’ Academic Visit to the U.S.

Aug–Sept 2023

Visited 50+ guests from academic and political sectors, including Presidents of MIT, Harvard, Yale, AAAS, etc.

Second Place, Zhejiang University badminton competition women’s single

May 2022

Involved actively in many sports activities, including orienteering, soccer, badminton, etc.

Volunteer at Electrical Volunteer Association in Zhejiang University

Oct 2020–Present

Offered free computer repair services for all school faculty and students

SKILLS

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

Programming Languages: Python, MATLAB, C, Java, Verilog | Language: TOEFL 108