

# Xinwei Guo

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## SUMMARY

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Deep learning researcher specializing in Lidar-camera fusion, sensor calibration and 3D perception systems. Over 3 years of industry experience in lidar companies and 2+ years research experience in the academic field. Skilled in Pytorch, ROS, and OpenCV for autonomous vehicle applications. Researched and developed the domain adaptation problem of autonomous vehicle sensor calibration errors under different weather conditions, and achieved nearly 50% improvement in calibration robustness.

## SKILLS

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<b>Programming</b>	Python, C++
<b>Frameworks</b>	PyTorch, TensorFlow
<b>Dataset</b>	KITTI, nuScenes, MSU-4S, Waymo
<b>Tools</b>	Git, Docker, Linux, VSCode, MATLAB toolbox

## WORK EXPERIENCE

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### Ouster (Suzhou) Intelligent Technology Co., Ltd.

Dec 2022 – Jul 2023

#### Customer Success Engineer

- Analyzed product logs to diagnose post-sale technical issues, guided customers through troubleshooting, and arranged RMA replacements when needed.
- Supported FAEs in on-site LiDAR deployment, calibration and performance evaluation for autonomous driving and smart city applications.
- Worked with the U.S. headquarters to document field problems and ensure the regional support matched the solutions developed by R&D.

### Suteng (Robosense) Innovation Technology Co., Ltd.

May 2021 – Nov 2022

#### Technical Support Engineer

- Assisted overseas customers with technical issues including driver configuration, ROS integration across fields in autonomous vehicles, drones, and delivery robots.
- Analyze competitor products and refine technical solutions.
- Developed a PTP packet analysis tool for rapid error localization, improving diagnostic efficiency.
- Represented the company in the National LiDAR Performance Competition (2nd place)
- Awarded as Quarterly and Annual Best Employee.

### ZVISION Technologies Co., Ltd.

Nov 2020 – Apr 2021

#### Technical Support Engineer

- Provide explanation of LiDAR product details and address technical questions.
- Deploy test vehicles and evaluate the new LiDAR models' performance under real-world conditions.
- Participate in dataset collection and processing.
- Conduct competitive product analysis.

## EDUCATION

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### Michigan State University

Aug 2023 – Present

*M.S in Electrical and Computer Engineering (Expected May 2026)*

Research Focus: Deep Learning, Sensor Fusion, and LiDAR–Camera Calibration.

Advisor: Professor Hyder Radha

### Purdue University

Aug 2014 – May 2016

*M.S in Mechanical Engineering*

Advisor: Professor James Braun

### Xi'an Jiaotong University

Sep 2007 – Jul 2011

*Bachelor of Mechanical Engineering and Automation*

## PROJECTS

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### Survey of Sensor Fusion and Calibration for Autonomous Vehicles

Sep 2023 – May 2024

*Independent Research, Michigan State University*

- Reviewed and experimentally evaluated LiDAR–camera calibration methods, comparing their reported errors and quantifying how misalignment impacts 3D object detection and perception accuracy.
- Built a benchmarking framework to test representative algorithms under different error magnitudes, linking calibration accuracy to downstream 3D detection performance.
- Published related findings in the IEEE ITSC 2024 conference.

### Domain-Adaptive LiDAR–Camera Calibration Network (DA-LCCNet)

May 2024 – Present

*Independent Research, Michigan State University*

- Analyzed and tested the LCCNet architecture under different datasets and weather conditions to identify performance degradation caused by domain shift.
- Designed and implemented a domain adaptation module within the LCCNet framework to improve robustness under cross-domain calibration scenarios.
- Achieved over 50% reduction in the downstream 3D detection error compared to the baseline LCCNet; manuscript under preparation for IEEE IV 2026.

## PUBLICATIONS

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Guo X, Kent D, Lu X, et al. A Taxonomization and Comparative Evaluation of Targetless Camera-Lidar Calibration for Autonomous Vehicles[C]//2024 IEEE 27th International Conference on Intelligent Transportation Systems (ITSC). IEEE, 2024: 4040-4045.

Guo X, et al. Domain Adaptive LiDAR-Camera Calibration Network (DA-LCCNet) for Autonomous Driving under Changing Weather Conditions.

Manuscript in preparation for IEEE IV 2026.