

Jiaxin Zhang

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Strong background in: SLAM/3D vision/Deep Learning

Employment

Algorithm Engineer, Horizon Robotics, Beijing, China Feb 2020 – Jan 2024

- Developed a high-accuracy monocular visual odometry algorithm (ICRA 2021) [1].
- Built auto-labeling system for autonomous driving (ICRA 2024) [2]
 - Support both LiDAR-based and pure-vision mode.
 - 10k KM driving data throughput per day.
 - Maintain the driving dataset at PB level.

Algorithm Engineer Intern, Horizon Robotics, Cupertino, CA Summer, 2019

- Designed an eye gaze data collection pipeline for Driver Monitoring Systems (DMS).
- Developed a real-time eye gaze estimation algorithm based on deep learning for single IR camera.

Education

Boston University, College of Engineering Boston, MA, USA

Master of Science in Electrical and Computer Engineering Sept 2018 - Feb 2020

- Natural Noise Generator based on WaveGAN.

University of Science and Technology of China, School of the Gifted Young Hefei, China

Bachelor of Science in Physical Electronics Sept 2014 - June 2018

- Binary-CNN Acceleration using FPGA (Xilinx ZedBoard).

University of Notre Dame, College of Engineering South bend, IN, USA

Undergraduate Summer Research Summer, 2017

- Binary-deconvolution for GAN acceleration [5].

Publication

[1] **Zhang, J.**, Sui, W., Wang, X., Meng, W., Zhu, H., & Zhang, Q. (2021). Deep Online Correction for Monocular Visual Odometry. International Conference on Robotics and Automation (ICRA 2021).

[2] **Zhang J**, Chen S, Yin H, Mei R, Liu X, Yang C, Zhang Q, Sui W. A Vision-Centric Approach for Static Map Element Annotation. International Conference on Robotics and Automation (ICRA 2024).

[3] **Zhang, J.**, Sui, W., Zhang, Q., Chen, T., Yang, C. Towards Accurate Ground Plane Normal Estimation from Ego-Motion. Sensors 2022, 22, 9375.

[4] Mei R, Sui W, **Zhang J**, Zhang Q, Peng T, Yang C. Rome: Towards large scale road surface reconstruction via mesh representation. IEEE Transactions on Intelligent Vehicles.

[5] Liu, J., **Zhang, J.**, Ding, Y., Xu, X., Jiang, M., & Shi, Y. (2020). Binarizing Weights Wisely for Edge Intelligence: Guide for Partial Binarization of Deconvolution-Based Generators. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 39(12), 4748-4759.

Skills

Programing Languages: Python, C++

Frameworks: PyTorch, OpenCV, ROS, Eigen, PCL

Keywords: SLAM, SfM, MVS, NeRF, Depth Estimation