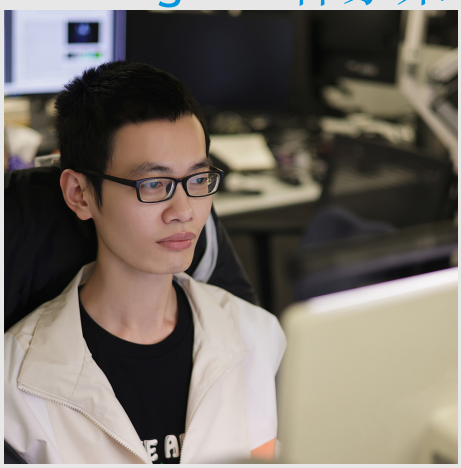
Jiarong Lin 林家荣



Ph.D. degree in **Robotics**
Sensor fusion; 3D reconstruction

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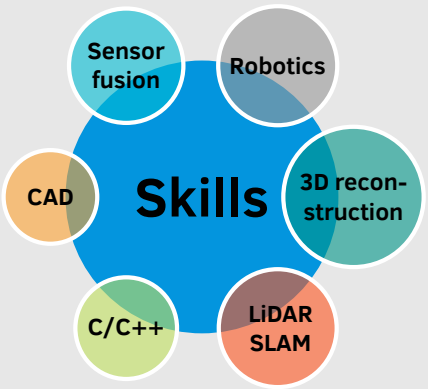
Ziv-Lin-LJR

Skills



Github (All 7.8 K★)

fast-lio2	★ 2063
r3live	★ 1764
loam_livox	★ 1369
r2live	★ 690
ImMesh	★ 475
STD	★ 423
Others works	★ 972

Education

2019 - 2023 (Expected) **Ph.D. in Robotics** — **The University of Hong Kong (HKU)**
Hong Kong SAR, China
Specialization: Robotics; LiDAR SLAM; Sensor fusion.
Supervisor: Fu Zhang

2018 - 2019 **Ph.D. student** — **The Hong Kong University of Science and Technology (HKUST)**
Hong Kong SAR, China
Specialization: Robotics; UAV control; Deep reinforcement learning

2011 - 2015 **B.S.** — **University of Electronic Science and Technology of China (UESTC)**
Cheng Du, China
Specialization: Optical Information Science and Technology

Work Experience

2015-2018 **Employees** — **Da Jiang Innovations (DJI)**
Computer vision engineer

- **Phantom 4, Mavic, Inspire 2, and Spark**: In these projects, I am mainly responsible for the vision calibration modules, and have built a factory production line for automatic massive drone production.
- **Mavic Air, Spark, Tello, Mavic pro II**: In these projects, I am responsible for gesture control and visual marker detection algorithms.

2014 **Internship** — **Da Jiang Innovations (DJI)**
Computer vision engineer

- **RoboMaster robotics competition**: Join as a member of the company's team. I developed the embedded control system of the shooting robots.
- **DJI Guidance**: In this project, I am responsible for the self-testing modules, and have developed a self-calibration program for online calibrating the stereo-camera automatically.

Research Experience

2019 - 2023 **Ph.D. in Robotics** — **The University of Hong Kong (HKU)**
MARS LAB

- **LiDAR slam**: I worked on developing the localization and mapping algorithms based on LiDAR sensors, especially for those LiDARs (i.e. MEMS and solid-state LiDAR) with small FoV.
- **LiDAR-Inertial-Visual sensors fusion**: Worked on the research on sensor fusion, which tightly-coupled fuse LiDAR, IMU, and camera sensors to achieve the robust, real-time state estimation and mapping.

2018 - 2019 **Ph.D. Student** — **The Hong Kong University of Science and Technology (HKUST)**
Robotics Institude

- **Motion planning and control of UAV**: I worked on developing the autonomous drones navigation systems, including the efficient motion planning and robust control of UAVs.
- **Deep reinforcement learning for robotics**: I worked on deep learning for robotics, and have proposed a framework based on reinforcement learning to improve the performance of imitation learning for robotics.

Publications

I am the **first author** of **9** paper, including **2×T-RO**, **1×T-PAMI** (in revision), **1×RA-L** ***journal***, and **3×ICRA**, **2×IROS** ***conference paper***. For a detailed list of my publications, please go to the next page or **click here to my Google Scholar**.

Jiarong lin

The University of Hong Kong
Verified email at hku.hk - Homepage

Robotics LiDAR SLAM Sensor fusion 3D reconstruction

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TITLE	CITED BY	YEAR
Fast-lio2: Fast direct lidar-inertial odometry W Xu, Y Cai, D He, J Lin, F Zhang IEEE Transactions on Robotics 38 (4), 2053-2073	379	2022
Loam livox: A fast, robust, high-precision LiDAR odometry and mapping package for LiDARs of small FoV J Lin, F Zhang 2020 IEEE International Conference on Robotics and Automation (ICRA), 3126-3131	272	2020
R^{3}LIVE: A Robust, Real-time, RGB-colored, LiDAR-Inertial-Visual tightly-coupled state Estimation and mapping package J Lin, F Zhang 2022 International Conference on Robotics and Automation (ICRA), 10672-10678	133	2022
R ^{2} LIVE: A Robust, Real-Time, LiDAR-Inertial-Visual Tightly-Coupled State Estimator and Mapping J Lin, C Zheng, W Xu, F Zhang IEEE Robotics and Automation Letters 6 (4), 7469-7476	127	2021
A fast, complete, point cloud based loop closure for lidar odometry and mapping J Lin, F Zhang arXiv preprint arXiv:1909.11811	55	2019
A decentralized framework for simultaneous calibration, localization and mapping with multiple LiDARs J Lin, X Liu, F Zhang 2020 IEEE/RSJ International Conference on Intelligent Robots and Systems …	39	2020
Flying through a narrow gap using neural network: an end-to-end planning and control approach J Lin, L Wang, F Gao, S Shen, F Zhang 2019 IEEE/RSJ International Conference on Intelligent Robots and Systems …	34	2019
Full attitude control of an efficient quadrotor tail-sitter VTOL UAV with flexible modes W Xu, H Gu, Y Qing, J Lin, F Zhang 2019 International Conference on Unmanned Aircraft Systems (ICUAS), 542-550	16	2019
R^{3}LIVE++: A Robust, Real-time, Radiance reconstruction package with a tightly-coupled LiDAR-Inertial-Visual state Estimator J Lin, F Zhang arXiv preprint arXiv:2209.03666	15	2022
Std: Stable triangle descriptor for 3d place recognition C Yuan, J Lin, Z Zou, X Hong, F Zhang 2023 IEEE International Conference on Robotics and Automation (ICRA), 1897-1903	13	2023
MARSIM: A light-weight point-realistic simulator for LiDAR-based UAVs F Kong, X Liu, B Tang, J Lin, Y Ren, Y Cai, F Zhu, N Chen, F Zhang IEEE Robotics and Automation Letters 8 (5), 2954-2961	9	2023
Immesh: An immediate lidar localization and meshing framework J Lin, C Yuan, Y Cai, H Li, Y Ren, Y Zou, X Hong, F Zhang IEEE Transactions on Robotics	8	2023
Fast 3D Sparse Topological Skeleton Graph Generation for Mobile Robot Global Planning X Chen, B Zhou, J Lin, Y Zhang, F Zhang, S Shen 2022 IEEE/RSJ International Conference on Intelligent Robots and Systems …	5	2022
A screen-based method for automated camera intrinsic calibration on production lines W Gao, J Lin, F Zhang, S Shen 2019 IEEE 15th International Conference on Automation Science and …	2	2019
Occupancy Grid Mapping Without Ray-Casting for High-Resolution LiDAR Sensors Y Cai, F Kong, Y Ren, F Zhu, J Lin, F Zhang IEEE Transactions on Robotics	1	2023
MARS-LVIG dataset: A multi-sensor aerial robots SLAM dataset for LiDAR-visual-inertial-GNSS fusion H Li, Y Zou, N Chen, J Lin, X Liu, W Xu, C Zheng, R Li, D He, F Kong, ... The International Journal of Robotics Research, 02783649241227968		2024
BTC: A Binary and Triangle Combined Descriptor for 3D Place Recognition C Yuan, J Lin, Z Liu, H Wei, X Hong, F Zhang IEEE Transactions on Robotics		2024

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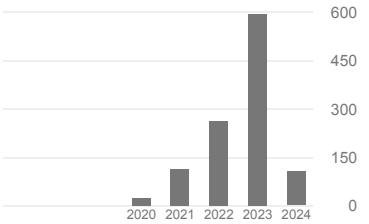
Citations	1108	1107
h-index	10	10
i10-index	10	10



Co-authors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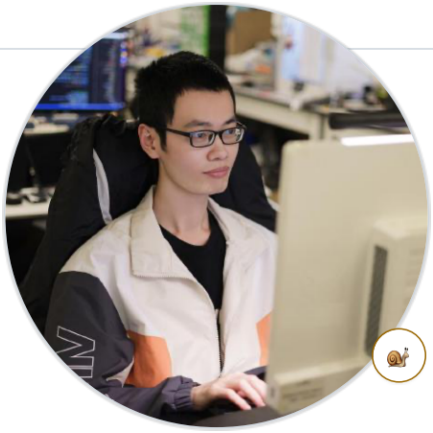
Associate Professor, Zhejiang U…



Jiarong.Lin

ziv-lin

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HKU, MaRS LAB

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Achievements

ziv-lin / README.md

I am Jiarong Lin (林家荣), a Ph.D. candidate at The University of Hong Kong (HKU)🏫. My research interests lie in the areas of Simultaneous Localization and Mapping (SLAM), 3D reconstruction, and Multi-Sensor Fusion. I am the **first author** of **9 paper**, including **2×T-RO**, **1×T-PAMI** (in revision), **1×RA-L *journal***, and **3×ICRA**, **2×IROS *conference paper***. For a detailed list of my publications, please go to the next page or click here to my Google Scholar.

In addition to my academic pursuits, I am also an active open-source contributor😊. **I have been greatly benefited from open-source communities, and correspondingly, I have dedicated my contributions to this community as well.** I have made all the code for my publications available on GitHub, where it has received over **7.8k stars**⭐ from the community. Some of my most popular works include R3LIVE (★1.8k), FAST-LIO (★2.1k), loam-livox (★1.4k), R2LIVE (★0.7k), and ImMesh🆕(★0.5k).

I am dedicated to producing high-quality research and making meaningful contributions to both academics and industry.

Jiarong.Lin's GitHub Stats

Total Stars Earned:	14.5k
Total Commits (2024):	1.5k
Contributed to (last year):	3

A++

Pinned

r3live

A Robust, Real-time, RGB-colored, LiDAR-Inertial-Visual tightly-coupled state Estimation and mapping package

C++ ☆ 1.8k 390

FAST_LIO

A computationally efficient and robust LiDAR-inertial odometry (LIO) package

C++ ☆ 2.1k 718

loam_livox

A robust LiDAR Odometry and Mapping (LOAM) package for Livox-LiDAR

C++ ☆ 1.4k 430

r2live

R2LIVE: A Robust, Real-time, LiDAR-Inertial-Visual tightly-coupled state Estimator and mapping package

C++ ☆ 690 190

ImMesh

ImMesh: An Immediate LiDAR Localization and Meshing Framework

C++ ☆ 476 37

STD

A 3D point cloud descriptor for place recognition

C++ ☆ 423 51