Curriculum Vitae

Tong Qin

Contact Information

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Education Background

09/2015-09/2019 (expected) **Hong Kong University of Science and Technology**, Hong Kong
PhD at Aerial Robotics Group, Robotics Institute, Dept. ECE
Adviser: Shaojie Shen
Research Interests: visual SLAM, sensor fusion, visual-inertial system, autonomous driving, virtual reality and augmented reality
Citations: 108

09/2011-08/2015 **Zhejiang University**, China
Bachelor at Dept. Control Science and Engineering
GPA: 3.93/4.0 (88.8/100)
Ranking: 4/132

Research Experience

09/2015-present **Visual-inertial systems (VINS)**
By assisting cameras with Inertial Measurement Unit (IMU), visual-inertial systems achieve high-accurate 6-DoF state estimations, which are of great importance for autonomous applications.

09/2015-present **Autonomous flight on unmanned aerial vehicle (UAV)**
Equipping the UAV with various intelligent algorithm, it can achieve self-localization, environmental perception, obstacle avoidance and autonomous flight in complicated environment.

05/2018-present **Multiple sensor fusion**
Fusing global sensors (GPS, Magnetometer, barometer…) with local sensors (IMU, camera, Lidar, wheel odometry…), multi-sensor fusion can achieve robust and accurate pose estimation in various environment.

Honors

2018	IROS2018 **Best Student Paper Award**
2015	The first prize in International Aerial Robotics Competition
2014	National Scholarship of China (Top 2%)
2014	First-Class Scholarship for Outstanding Student, Zhejiang University (Top 3%)
2014	The second prize in Robot contest, Zhejiang University
2013 2012	Excellent Students Awards, Zhejiang University
2012	The first prize in Physical Innovation Contest, Zhejiang province

Journal Publications

[1] **Tong Qin**, Peiliang Li, and Shaojie Shen. "VINS-MONO: A Robust and Versatile Monocular Visual-Inertial State Eestimator." IEEE Transactions on Robotics (TRO), 2018

[2] Lin Yi, Fei Gao, **Tong Qin**, Wenliang Gao, Tianbo Liu, William Wu, Zhenfei Yang, and Shaojie Shen. "Autonomous Aerial Navigation Using Monocular Visual-Inertial Fusion." Journal of Field Robotics (JFR), 2017

Conference Publications

[3] **Tong Qin** and Shaojie Shen. "Online Temporal Calibration for Monocular Visual-Inertial Systems." IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2018 (Best Student Paper)

[4] **Tong Qin**, Perliang Li, and Shaojie Shen. "Relocalization, Global Optimization and Map Merging for Monocular Visual-Inertial SLAM." IEEE International Conference on Robotics and automation (ICRA), 2018

[5] **Tong Qin** and Shaojie Shen. "Robust Initialization of Monocular Visual-inertial Estimation on Aerial Robots." IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2017

[6] Peiliang Li, **Tong Qin**, and Shaojie Shen, "Stereo Vision-based Semantic 3D Object and Ego-motion Tracking for Autonomous Driving", European Conference on Computer Vision (ECCV), 2018

[7] Kejie Qiu, **Tong Qin**, Hongwen Xie, and Shaojie Shen, "Estimating Metric Poses of Dynamic Objects Using Monocular Visual-Inertial Fusion." IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2018

[8] Peiliang Li, **Tong Qin**, Botao Hu, Fengyuan Zhu, and Shaojie Shen, "Monocular Visual-Inertial State Estimation for Mobile Augmented Reality." IEEE International Symposium on Mixed and Augmented Reality (ISMAR), 2017

[9] Haofei Wang, Jimin Pi, **Tong Qin**, Shaojie Shen, and, Bertram E Shi, "SLAM-based Localization of 3D Gaze Using a Mobile Eye Tracker", ACM Symposium on Eye Tracking Research & Applications (ETRA), 2018

Teaching Experience

Teaching Assistant at Dept. ECE, HKUST
ELEC 1100: Introduction to Electro-Robot Design
ELEC 5660: Introduction to Aerial Robotics

Public Tools

VINS-Mono: https://github.com/HKUST-Aerial-Robotics/VINS-Mono (1000 Star)
VINS-Mobile: https://github.com/HKUST-Aerial-Robotics/VINS-Mobile (700 Star)