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Chuchu Chen

Education

2020-Present **PhD Mechanical Engineering**, *University of Delaware, Newark, DE.*
Advisor: Dr. Guoquan(Paul) Huang, Dr. Bert Tanner

2021-Present **MS Computer & Information Science**, *University of Delaware, Newark, DE.*
Advisor: Dr. Guoquan(Paul) Huang

2017 **MS Mechanical Engineering**, *University of Delaware, Newark, DE.*
Advisor: Dr. Bert Tanner

2013 **BS Mechanical Engineering**, *Harbin Engineering University, Harbin, China* .

Professional Experience

2020-Present **Research Assistant** *University of Delaware*

[1] Multi sensor (including IMU, Lidar and camera) spatial and temporal online calibration

[2] Map based robot localization including Lidar, odometry, IMU and cameras

[3] Filter and graph based MAV parameter identification

[4] Preintegration methods for visual inertial navigation

[5] Navigation function for point robot in dynamic environment

2019-2020 **Teaching Assistant** *University of Delaware*

2019Fall MEEG 311-010: Vibration and Control

2020Spring MEEG 677: Estimation I

Publications

Journal Articles

[J2] C. Wei*, **C. Chen***, H. G. Bert" Navigation Functions with non-Point Destinations and Moving Obstacles ", Autonomous Robots, 2022 (*equally contributed)

[J1] Y. Yang, **C. Chen**, W. Lee, G. Huang" Decoupled Right Invariant Error States for Consistent Visual-Inertial Navigation", IEEE Robotics and Automation Letters (R-AL),2022.

Conference Papers

[C6] **C. Chen***, P. Geneva*,Yuxiang Peng,W.Lee and G. Huang" Monocular Visual-Inertial Odometry with Planar Regularities (accepted)", International Conference on Robotics and Automation (ICRA),2023.

[C5] **C. Chen**, Y. Yang, P. Geneva, W.Lee and G. Huang" Visual-Inertial-Aided Online MAV System Identification", IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS),2022.

[C4] **C. Chen**, Y. Yang, P. Geneva and G. Huang" FEJ2: A Consistent Visual-Inertial State Estimator Design", International Conference on Robotics and Automation (ICRA), 2022.

[C3] P. Geneva*, N. Merrill*, Y. Yang, **C. Chen**, W. Lee, and G. Huang" Versatile 3D Multi-Sensor Fusion for Lightweight 2D Localization", IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS),2020.

[C2] **C. Chen**, L. Li and H. G. Bert " Navigation Functions with non-Point Destinations and Moving Obstacles", American Control Conference (ACC), 2020.

[C1] Y. Yang, B. P. W. Babu, **C. Chen**, G. Huang, and L. Ren" Analytic Combined IMU Integratorfor Visual-Inertial Navigation", International Conference on Robotics and Automation (ICRA), 2020.

Technical Report

[T4] **C. Chen**, Y. Yang, W. Lee ,P. Geneva and G. Huang " Supplementary Materials: Visual-Inertial-aided Online MAV System Identification

[T3] **C. Chen**, Y. Yang, P. Geneva and G. Huang " Technical Report: FEJ2: A Consistent Visual-Inertial State Estimator Design

[T2] Y. Yang, **C. Chen**, W. Lee and G. Huang " Supplementary Materials: Decoupled Right Invariant Error States for Consistent Visual-Inertial Navigation

[T1] Y. Yang, **C. Chen**, and G. Huang " Supplementary Materials: Analytic Combined IMU Integration (ACI2)"

Public Dataset

[D4] P. Geneva, **C. Chen**, Y. Peng, W. Lee, C. Burgul and G. Huang " Small-scale indoor table AR visual-inertial datasets with 6DoF groundtruth `https://github.com/rpng/ar_table_dataset`

Academic Service

Journal Reviewer

RA-L IEEE Robotics and Automation Letters

TR-O IEEE Transactions on Robotics

Conference Reviewer

ICRA IEEE International Conference on Robotics and Automation

IROS IEEE/RSJ InternationalConference on Intelligent Robots and Systems

MED Mediterranean Conference on Control and Automation

Professional Membership

IEEE

IEEE Robotics and Automation Society

IEEE Control Systems Society