

Chuchu Chen

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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] Y. Yang, **C. Chen**, W. Lee, G. Huang" Decoupled Right Invariant Error States for Consistent Visual-Inertial Navigation (submitted)", *IEEE Robotics and Automation Letters (R-AL)*,2022.
- [J1] C. Wei*, **C. Chen***, H. G. Bert" Navigation Functions with non-Point Destinations and Moving Obstacles (submitted)", *IEEE Transactions on Robotics (TRO)*, 2022 *equally contributed

Conference Papers

- [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 Integrator for 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)"

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 International Conference on Intelligent Robots and Systems)

MED (Mediterranean Conference on Control and Automation)

Professional Membership

IEEE

IEEE Robotics and Automation Society

IEEE Control Systems Society