

# Chuchu Chen

130 Academy Street, SPL328 Newark  
DE 19716, USA  
☎ (+1) 3026903036  
✉ ccchu@udel.edu

## 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

- [C4] **C. Chen**, Y. Yang, P. Geneva and G. Huang" FEJ2: A Consistent Visual-Inertial State Estimator Design (submitted)", IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS),2020.
- [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**

- [T3] **C. Chen**, Y. Yang, P. Geneva and G. Huang " Supplementary Materials: 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)"

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### **Academic Service**

#### **Conference Review**

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)

RA-L (IEEE Robotics and Automation Letters)

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### **Professional Membership**

IEEE

IEEE Robotics and Automation Society

IEEE Control Systems Society