

# Guoquan (Paul) Huang

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## Research Interests

- Robotics/XR** Sensing, localization, mapping, SLAM, perception, navigation, spatial computing  
**Vision/AI** 3D reconstruction, scene understanding, multi-modal perception, physical AI  
**Control** State estimation, nonlinear programming, optimal control, reinforcement learning

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## Education & Training

- 2012 – 2014 **Postdoctoral Associate**, *MIT CSAIL*, Cambridge, MA.  
Advisor: John J. Leonard
- 2012 **PhD Computer Science**, *University of Minnesota*, Minneapolis, MN.  
Advisor: Stergios I. Roumeliotis
- 2009 **MS Computer Science**, *University of Minnesota*, Minneapolis, MN.
- 2005 **Research Assistant (Electrical Engineering)**, *Hong Kong Polytechnic University*.  
Advisors: Ahmad B. Rad and Yiu-Kwong Wong
- 2002 **BS Automation (Electrical Engineering)**, *University of Science and Technology Beijing*.

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## Appointments & Positions

- 2025 – now **Professor**, *University of Delaware (UD)*, Newark, DE.
- 2020 – 2025 **Associate Professor**, *University of Delaware (UD)*, Newark, DE.
- 2014 – 2020 **Assistant Professor**, *University of Delaware (UD)*, Newark, DE.  
Department of Mechanical Engineering  
Department of Computer and Information Sciences  
Department of Electrical and Computer Engineering  
**Research Lab: Robot Perception and Navigation Group (RPNG)**.  
Web: <https://sites.udel.edu/robot>  
GitHub: <https://github.com/rpng>  
YouTube: <https://www.youtube.com/c/rpng-ud>
- 2025 – now **Board of Directors**, *Motorsport Games Inc. (Nasdaq: MSGM)*, Miami, FL.
- 2020 – now **Principal Scientist**, *Meituan USA*, San Mateo, CA.
- 2017 – 2022 **Adjunct Professor**, *Zhejiang University (ZJU)*, Hangzhou, China.
- 2016 – 2018 **Senior Consultant**, *Huawei 2012 Laboratories*, Toronto, Canada.
- 2014 – 2015 **Technical Consultant**, *DAQRI*, Los Angeles, CA.
- 2012 – 2014 **Postdoctoral Associate**, *MIT, CSAIL (Marine Robotics)*, Cambridge, MA.
- 2005 – 2012 **Research Assistant**, *University of Minnesota (UMN), MARS Lab*, Minneapolis, MN.
- 2003 – 2005 **Research Assistant**, *Hong Kong Polytechnic University (HKPU), EE Dept*, Hong Kong.

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## Teaching

- Spring 2026 **UD MEEG 677: Estimation I – Fundamentals of Estimation and Navigation.**
- Spring 2026 **UD MEEG 467: Senior Design Continuation.**
- Fall 2025 **UD MEEG 401: Senior Design.**
- Fall 2025 **UD MEEG 621/421: Linear Systems.**
- Spring 2025 **UD MEEG 677: Estimation I – Fundamentals of Estimation and Navigation.**
- Fall 2024 **UD MEEG 401: Senior Design.**
- Fall 2024 **UD MEEG 877: Estimation II – Perception and Estimation for Robotics.**
- Spring 2024 **UD MEEG 677: Estimation I.**
- Fall 2023 **UD MEEG 311: Control Systems.**
- Spring 2023 **UD MEEG 677: Estimation I.**
- Fall 2022 **UD MEEG 877: Estimation II – Visual-Inertial Navigation.**
- Spring 2020 **UD MEEG 677: Estimation I.**
- Fall 2019 **UD MEEG 311: Vibration and Control.**
- Spring 2019 **UD MEEG 677: Estimation I.**
- Fall 2018 **UD MEEG 621: Linear Systems.**
- Summer 2018 **ZJU CSC 3204006: Estimation Theory.**
- Spring 2018 **UD MEEG 678: Introduction to Autonomous Driving.**
- Fall 2017 **UD MEEG 311: Vibration and Control.**
- Spring 2017 **UD MEEG 877: Optimal State Estimation.**
- Spring 2017 **UD MEEG 467: Applied Controls, (co-teach).**
- Fall 2016 **UD MEEG 311: Vibration and Control.**
- Spring 2016 **UD MEEG 467: Applied Controls, (co-teach).**
- Fall 2015 **UD MEEG 311: Vibration and Control.**
- Spring 2015 **UD MEEG 624: Control of Dynamical Systems.**
- Spring 2015 **UD MEEG 467: Applied Controls, (co-teach).**
- Spring 2013 **MIT 2.004: Dynamics and Control II, (co-teach).**
- 2005 – 2009 **UMN CS 2031: Introduction to Numerical Computing (TA)**
- Fall 2006 **UMN CS 4011: Formal Languages and Automata Theory (TA)**

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## Advising

### PhD Students.

- 2014 – 2019 **Kevin Eckenhoff, ME PhD: Towards robust visual-inertial navigation.**  
Helwig Fellowship (2014-2019).  
Current: Research Scientist at Meta (Reality Labs).
- 2015 – 2021 **Yulin Yang, ME PhD: Aided Inertial Navigation System: Analysis and Algorithms.**  
University Doctoral Fellowship (2019-2020).  
Current: Computer Vision Engineer at Apple.
- 2015 – 2022 **Zheng Huai, ME PhD: Robocentric visual-inertial localization and mapping.**  
Current: Software Engineer at Google (ARCore).
- 2016 – 2021 **Xingxing Zuo, ZJU CSC PhD (co-advised with Liu): Lidar-inertial-camera fusion.**  
Current: Assistant Professor at Mohamed bin Zayed University of Artificial Intelligence (MBZUAI).

- 2017 – 2023 **Patrick Geneva**, *CS PhD: Efficient, consistent and persistent visual-inertial navigation.*  
 NASA DE Space Grant Graduate Fellowship (2019-2021), University Doctoral Fellowship (2021-2022).  
 Current: Computer Vision Engineer at Apple.
- 2017 – 2024 **Woosik Lee**, *ME PhD (ABD): Multi-sensor fusion for autonomous navigation.*  
 UD Summer Doctoral Award (2018).  
 Current: Computer Vision Engineer at Apple.
- 2019 – 2024 **Nathaniel Merrill**, *CS PhD: Leveraging deep learning for visual and visual-inertial SLAM.*  
 AAUP-UD Student Award (2019).  
 Current: Scientist at Quidient.
- 2019 – 2025 **Chuchu Chen**, *ME PhD: Rethinking the foundations of visual-inertial state estimation.*  
 Graduate College's Doctoral Fellowship for Excellence (2024-2025).  
 Current: Assistant Professor at George Washington University (GWU).
- 2015 – 2025 **James Maley**, *ECE PhD (ABD, part-time, co-advised with Zurakowski): Visual-inertial navigation.*  
 Current: Aerospace Engineer at Army Research Laboratory (ARL).
- 2021 – 2026 **Yuxiang Peng**, *ME PhD: Ultrafast visual-inertial navigation and perception.*  
 (expected) Next: Software Engineer at Google (ARCore).
- 2021 – now **Abhijeet Kulkarni**, *ME PhD (co-advised with Poulakakis): Perceptive locomotion.*
- 2021 – now **Chinmay Burgul**, *ME PhD (co-advised with Rekleitis): Underwater SLAM.*
- 2022 – now **Saimouli Katragadda**, *CS PhD: Vision language navigation.*
- 2023 – now **Shenghao Zhou**, *CS PhD: Spatial computing.*
- 2024 – now **Jesse Bloecker**, *ME PhD: Visual-inertial navigation for aerial vehicles.*  
 Helwig Fellowship (2024-2029), NASA DE Space Grant Graduate Fellowship (2026-2027)
- 2024 – now **Yuze Du**, *CS PhD: Multimodal perception.*

### MS Students.

- 2025 – 2026 **Andrew Bryceland**, *MS Robotics (4+1)*, Visual vavigation for MAVs.  
 Thereafter: ARL
- 2020 – 2022 **Wenxuan (Owen) Li**, *MS Robotics*, Sensor calibration.  
 Thereafter: Algorithm Engineer at Pimax
- 2017 – 2019 **Jesse Bloecker**, *ME MS*, Multi-camera visual-inertial odometry.  
 Thereafter: Research Engineer at ARL Autonomous System Divisions
- 2015 – 2016 **Junpeng Zhu**, *ME MS (4+1)*, SLAM on Turtlebots.  
 Thereafter: Engineer at Ladder Education Group

### Visiting Scholars.

- 2024 – now **Chang Chen**, *Pimax*, SLAM.
- 2020 – 2022 **Pengxiang Zhu**, *UC-Riverside*, Cooperative VINS.  
 Thereafter: Applied Scientist at Amazon 126 Lab
- 2017 **Wanlong Li**, *Huawei Noah's Ark Lab*, SLAM.  
 Thereafter: Engineer at Huawei
- 2016 **Dongxuan Li**, *Zhejiang University*, Camera-odometer calibration.  
 Thereafter: Senior Project Engineer at NetEase

### Undergraduates and HS Interns.

- 2026 – now **Shawn Saxon**, *ECE BS*, Aerial robots.  
Delaware Space Grant College and Fellowship
- 2024 – 2025 **Andrew Bryceland**, *ME BS*, Legged robots.  
2024 Summer Fellows Award
- Summer 2024 **Jeremy Hsu**, *HS Intern*, Mobile robots.  
Green Lemons: Pennsylvania FTC State Championship
- Summer 2024 **Jayden Thomas**, *ME BS*, Autonomous Landing.  
2024 NASA DE Space Grant Summer Research Internship
- Summer 2023 **Jonas Ho**, *UPenn ME BS*, Micro aerial vehicles.
- 2021 – 2022 **Frank Doyle**, *ME BS*, Visual-inertial navigation.  
Thereafter: Engineer at ARL
- 2020 – 2021 **Zachary Zarett**, *ME BS*, Visual-inertial navigation.
- 2018 – 2019 **Tianyi Weng**, *ME BS*, LiDAR SLAM.  
Thereafter: MS at John Hopkins University
- 2016 – 2019 **Nate Merrill**, *CS BS*, Deep learning for visual SLAM.  
Outstanding CIS Senior Award (2019); Thereafter: PhD in my group
- Summer 2018 **Sybil Roosen**, *HS Intern*, Autonomous driving.
- Summer 2018 **Christa Mumley**, *HS Intern*, Autonomous driving.
- Summer 2017 **Louise Victoria Cancino**, *ME BS*, Autonomous driving.
- Summer 2017 **Grace Gong**, *High-School Intern*, Autonomous driving.  
Thereafter: Undergraduate at Princeton
- 2015 – 2017 **Patrick Geneva**, *ME/CS/Math BS*, Robot perception and navigation.  
Thereafter: PhD in my group
- 2016 – 2017 **Jesse Bloecker**, *ME BS*, MAV navigation.  
Thereafter: MS in my group
- Winter 2017 **Cory Dodd**, *ME BS*, UGV navigation.
- Winter 2017 **Parth Modi**, *ME BS*, MAV navigation.
- Winter 2017 **Sahil Parikh**, *ME BS*, UGV navigation.
- Winter 2017 **Joseph Koch**, *ME BS*, UGV navigation.
- Summer 2016 **Joel Tylecki**, *ME BS*, MAV navigation.
- 2015 – 2016 **Huayu Fu**, *ECE BS*, SLAM on Turtlebots.  
Thereafter: MS at USC
- Summer 2015 **Arnav Prasad**, *HS Intern*, Visual SLAM.  
Thereafter: Undergraduate at UD

#### Students Mentored at MIT.

- 2014 **Mukul Singh**, *ME undergraduate*, Dense visual localization and mapping.
- 2014 **Henry Nassif**, *EECS undergraduate*, Multi-robot cooperative SLAM.
- 2013 **Robert Truax**, *ME MS graduate*, Cooperative localization and target tracking.
- 2013 **Yasir Latif**, *Visiting PhD (Univ. of Zaragoza)*, Loop closure of visual navigation.
- 2013 **Hongchuan Wei**, *Visiting PhD (Duke)*, Decentralized motion planning.

## Publications

**Google Scholar:** <https://scholar.google.com/citations?user=trMUyZIAAAAJ>

**ORCID:** <https://orcid.org/0000-0001-9932-0685>

Note: ‡ refers to students or advisees and † to visiting scholars who perform research in my group.

### Preprints.

- [X2] N. Merrill<sup>‡</sup>, and **G. Huang**, “Visual-Inertial SLAM as Simple as A, B, VINS”, 2024. <https://arxiv.org/abs/2406.05969>
- [X1] Z. Wen, Y. Zhang, B. He, Z. Cui, W. Dai, L. Zhou<sup>†</sup>, and **G. Huang**, “Selection Enhances Accuracy: Residual Classification by Sensitivity and Uncertainty Theory”, 2022. <https://arxiv.org/abs/2111.07723>

### Journal Articles.

- [J39] A. Kulkarni<sup>‡</sup>, **G. Huang**, and I. Poulakakis “Data-based Reductive Locomotion Models with Generalization: A Stochastic LIP MPC for Walking in Narrow Corridors”, *IEEE Transactions on Automation Science and Engineering (TASE)*, 2025. [submitted].
- [J38] C. Chen<sup>‡</sup>, Y. Peng<sup>‡</sup>, and **G. Huang**, “FEJ++: Extended FEJ-based Design Rules for Visual-Inertial Navigation”, *International Journal of Robotics Research (IJRR)*, 2025. [revised].
- [J37] Y. Peng<sup>‡</sup>, C. Chen<sup>‡</sup>, K. Wu, and **G. Huang**, “ $\sqrt{\text{VINS}}$ : Robust and Ultrafast Square-Root Filter-based 3D Motion Tracking”, *IEEE Transactions on Robotics (TRO)*, October 2025. doi:[10.1109/TRO.2025.3626607](https://doi.org/10.1109/TRO.2025.3626607).
- [J36] C. Li, M. He, C. Chen, J. Liu<sup>‡</sup>, X. Lyu, **G. Huang**, and Z. Meng, “GeoVINS: Geographic-Visual-Inertial Navigation System for Large-Scale Drift-free Aerial State Estimation”, *IEEE Transactions on Robotics (TRO)* (Special Issue on Visual SLAM), August 2025. doi:[10.1109/TRO.2025.3613467](https://doi.org/10.1109/TRO.2025.3613467)
- [J35] X. He, S. Bai, Z. Wang, B. Zhang, **G. Huang**, Y. Mao, and L. Li, “Pre-Planned Air Corridors or Dynamic 4D Trajectories? A Comparative Study of UTM ConOps”, Social Science Research Network (SSRN). June 2025. doi:[10.2139/ssrn.5284875](https://doi.org/10.2139/ssrn.5284875)
- [J34] W. Lee<sup>‡</sup>, P. Geneva<sup>‡</sup>, C. Chen<sup>‡</sup>, and **G. Huang**, “MINS: Efficient and Robust Multisensor-aided Inertial Navigation System”, *Journal of Field Robotics (JFR)*, March 2025. doi:[10.1002/rob.22546](https://doi.org/10.1002/rob.22546)
- [J33] P. Yin, J. Jiao, S. Zhao, L. Xu, **G. Huang**, H. Choset, S. Scherer, and J. Han, “General Place Recognition Survey: Towards the Real-world Autonomy Age”, *IEEE Transactions on Robotics (TRO)*, January 2025. doi:[10.1109/TRO.2025.3550771](https://doi.org/10.1109/TRO.2025.3550771)
- [J32] M. He, C. Chen, J. Liu, C. Li, X. Lyu, **G. Huang**, and Z. Meng, “AerialVL: A Dataset, Baseline and Algorithm Framework for Aerial-based Visual Localization with Reference Map”, *IEEE Robotics and Automation Letters (RA-L)*, 2024. doi:[10.1109/LRA.2024.3441491](https://doi.org/10.1109/LRA.2024.3441491)
- [J31] N. Merrill<sup>‡</sup>, P. Geneva<sup>‡</sup>, S. Katragadda<sup>‡</sup>, C. Chen<sup>‡</sup>, and **G. Huang**, “Fast and Robust Learned Depth-aided Monocular Visual-Inertial Initialization”, *International Journal of Robotics Research (IJRR)*, July 2024. doi:[10.1177/02783649241262452](https://doi.org/10.1177/02783649241262452)
- [J30] Z. Huai<sup>‡</sup>, and **G. Huang**, “A Consistent Parallel Estimation Framework for Visual-Inertial SLAM”, *IEEE Transactions on Robotics (TRO)*, July 2024. doi:[10.1109/TRO.2024.3433868](https://doi.org/10.1109/TRO.2024.3433868)
- [J29] Y. Yang<sup>‡</sup>, P. Geneva<sup>‡</sup>, and **G. Huang**, “Multi-Visual-Inertial System: Analysis, Calibration and Estimation”, *International Journal of Robotics Research (IJRR)*, January 2024. doi:[10.1177/02783649241245726](https://doi.org/10.1177/02783649241245726)

- [J28] Y. Yang<sup>‡</sup>, P. Geneva<sup>‡</sup>, X. Zuo<sup>‡</sup>, and **G. Huang**, “Online Self-Calibration for Visual-Inertial Navigation: Models, Analysis and Degeneracy”, *IEEE Transactions on Robotics (TRO)*, June 2023. doi:[10.1109/TRO.2023.3275878](https://doi.org/10.1109/TRO.2023.3275878)
- [J27] K. Baxevani, I. Yadav<sup>‡</sup>, Y. Yang<sup>‡</sup>, M. Sebok, H. Tanner, and **G. Huang**, “Resilient Ground Vehicle Autonomous Navigation in GPS-denied Environments”, *Guidance, Navigation and Control (GNC)*, November 2022. doi:<https://doi.org/10.1142/S2737480722500200>  
**[Best Paper Award]**
- [J26] X. Zuo<sup>‡</sup>, M. Zhang, Y. Chen, **G. Huang**, Y. Liu, and M. Li, “Visual-based Lifelong Kinematics and Pose Estimation for Skid-Steering Robots”, *IEEE Transactions on Automation Science and Engineering (TASE)*, October 2022. doi:[10.1109/TASE.2022.3214984](https://doi.org/10.1109/TASE.2022.3214984)
- [J25] Z. Huai<sup>‡</sup>, and **G. Huang**, “Square-Root Robocentric Visual-Inertial Odometry with Online Spatiotemporal Calibration”, *IEEE Robotics and Automation Letters (RA-L)*, July 2022. doi:[10.1109/LRA.2022.3191209](https://doi.org/10.1109/LRA.2022.3191209)
- [J24] J. Lv, X. Zuo<sup>‡</sup>, K. Hu, J. Xu, **G. Huang**, and Y. Liu, “Observability-Aware Intrinsic and Extrinsic Calibration of LiDAR-IMU Systems”, *IEEE Transactions on Robotics (TRO)*, June 2022. doi:[10.1109/TRO.2022.3174476](https://doi.org/10.1109/TRO.2022.3174476)
- [J23] L. Zhou<sup>‡</sup>, S. Wang, J. Yu, **G. Huang**, and M. Kaess, “PLC-LiSLAM: LiDAR SLAM with Planes, Lines and Cylinders”, *IEEE Robotics and Automation Letters (RA-L)*, June 2022. doi:[10.1109/LRA.2022.3180116](https://doi.org/10.1109/LRA.2022.3180116)
- [J22] Y. Yang<sup>‡</sup>, C. Chen<sup>‡</sup>, W. Lee<sup>‡</sup>, and **G. Huang**, “Decoupled Right Invariant Error States for Consistent Visual-Inertial Navigation”, *IEEE Robotics and Automation Letters (RA-L)*, January 2022. doi:[10.1109/LRA.2021.3140054](https://doi.org/10.1109/LRA.2021.3140054)
- [J21] K. Eickenhoff<sup>‡</sup>, P. Geneva<sup>‡</sup>, and **G. Huang**, “MIMC-VINS: A Versatile and Resilient Multi-IMU Multi-Camera Visual-Inertial Navigation System”, *IEEE Transactions on Robotics (TRO)*, February 2021. doi:[10.1109/TRO.2021.3049445](https://doi.org/10.1109/TRO.2021.3049445)
- [J20] X. Zuo<sup>‡</sup>, W. Ye, Y. Yang<sup>‡</sup>, R. Zheng, T. Vidal-Calleja, **G. Huang**, and Y. Liu, “Multi-modal Localization: Stereo over LiDAR Map”, *Journal of Field Robotics (JFR)*, January 2020. doi:[10.1002/rob.21936](https://doi.org/10.1002/rob.21936)
- [J19] X. Zuo<sup>‡</sup>, P. Geneva<sup>‡</sup>, Y. Yang<sup>‡</sup>, W. Ye, Y. Liu, and **G. Huang**, “Visual-Inertial Localization with Prior LiDAR Map Constraints”, *IEEE Robotics and Automation Letters (RA-L)*, 4(4): 3394–3401, 2019. doi:[10.1109/LRA.2019.2927123](https://doi.org/10.1109/LRA.2019.2927123)
- [J18] Y. Yang<sup>‡</sup>, and **G. Huang**, “Observability Analysis of Aided Inertial Navigation with Heterogeneous Features of Points, Lines and Planes”, *IEEE Transactions on Robotics (TRO)*, 35(6): 1399–1418, December 2019. doi:[10.1109/TRO.2019.2927835](https://doi.org/10.1109/TRO.2019.2927835)
- [J17] K. Eickenhoff<sup>‡</sup>, Y. Yang<sup>‡</sup>, P. Geneva<sup>‡</sup>, and **G. Huang**, “Tightly-Coupled Visual-Inertial Localization and 3D Rigid-Body Target Tracking”, *IEEE Robotics and Automation Letters (RA-L)*, 4(2): 1541–1548, 2019. doi:[10.1109/LRA.2019.2896472](https://doi.org/10.1109/LRA.2019.2896472)
- [J16] Y. Yang<sup>‡</sup>, P. Geneva<sup>‡</sup>, K. Eickenhoff<sup>‡</sup>, and **G. Huang**, “Degenerate Motion Analysis for Aided INS with Online Spatial and Temporal Sensor Calibration”, *IEEE Robotics and Automation Letters (RA-L)*, 4(2): 2070–2077, 2019. doi:[10.1109/LRA.2019.2893803](https://doi.org/10.1109/LRA.2019.2893803)
- [J15] Z. Huai<sup>‡</sup>, and **G. Huang**, “Robocentric Visual-Inertial Odometry”, *International Journal of Robotics Research (IJRR)*, 41(7): 667–689, 2022. doi:[10.1177/0278364919853361](https://doi.org/10.1177/0278364919853361)
- [J14] K. Eickenhoff<sup>‡</sup>, P. Geneva<sup>‡</sup>, and **G. Huang**, “Closed-form Preintegration Methods for Graph-based Visual-Inertial Navigation”, *International Journal of Robotics Research (IJRR)*, 38(5): 563–586, 2019. doi:[10.1177/0278364919835021](https://doi.org/10.1177/0278364919835021)

- [J13] F. Han, H. Wang, **G. Huang**, and H. Zhang, “Sequence-Based Sparse Optimization Methods for Long-Term Loop Closure Detection in Visual SLAM”, *Autonomous Robots (AURO)*, 42(7): 1323–1335, 2018. doi:[10.1007/s10514-018-9736-3](https://doi.org/10.1007/s10514-018-9736-3)
- [J12] **G. Huang**, “Particle Filtering with Analytically Guided Sampling”, *Advanced Robotics (AR)*, 31(17): 932–945, 2017. doi:[10.1080/01691864.2017.1378592](https://doi.org/10.1080/01691864.2017.1378592)
- [J11] **G. Huang**, “Towards Consistent Filtering for Discrete-Time Partially-Observable Nonlinear Systems”, *Systems & Control Letters (SCL)*, 106: 87–95, 2017. doi:[10.1016/j.sysconle.2017.06.006](https://doi.org/10.1016/j.sysconle.2017.06.006)
- [J10] Y. Latif, **G. Huang**, J. Leonard, and J. Neira, “Sparse Optimization for Robust and Efficient Loop Closing”, *Robotics and Autonomous Systems (RAS)*, 93: 13–26, 2017. doi:[10.1016/j.robot.2017.03.016](https://doi.org/10.1016/j.robot.2017.03.016)
- [J9] X. Z. Zhang, A. B. Rad, **G. Huang**, and Y. K. Wong, “An Optimal Data Association Method Based on the Minimum Weighted Bipartite Perfect Matching”, *Autonomous Robots (AURO)*, 40(1): 77–91, 2016. doi:[10.1007/s10514-015-9439-y](https://doi.org/10.1007/s10514-015-9439-y)
- [J8] **G. Huang**, K. Zhou, N. Trawny, and S. I. Roumeliotis, “A Bank of Maximum A Posteriori (MAP) Estimators for Target Tracking”, *IEEE Transactions on Robotics (TRO)*, 31(1): 85–103, 2015. doi:[10.1109/TRO.2014.2378432](https://doi.org/10.1109/TRO.2014.2378432)
- [J7] **G. Huang**, M. Kaess, and J. Leonard, “Consistent Unscented Incremental Smoothing for Multi-robot Cooperative Target Tracking”, *Robotics and Autonomous Systems (RAS)*, 69: 52–67, 2015. doi:[10.1016/j.robot.2014.08.007](https://doi.org/10.1016/j.robot.2014.08.007)
- [J6] **G. Huang**, A. I. Mourikis, and S. I. Roumeliotis, “A Quadratic-Complexity Observability-Constrained Unscented Kalman Filter for SLAM”, *IEEE Transactions on Robotics (TRO)*, 29(5): 1226–1243, 2013. doi:[10.1109/TRO.2013.2267991](https://doi.org/10.1109/TRO.2013.2267991)
- [J5] **G. Huang**, N. Trawny, A. I. Mourikis, and S. I. Roumeliotis, “Observability-based Consistent EKF Estimators for Multi-robot Cooperative Localization”, *Autonomous Robots (AURO)*, 30(1): 99–122, 2011. doi:[10.1007/s10514-010-9207-y](https://doi.org/10.1007/s10514-010-9207-y)
- [J4] **G. Huang**, A. I. Mourikis, and S. I. Roumeliotis, “Observability-based Rules for Designing Consistent EKF SLAM Estimators”, *International Journal of Robotics Research (IJRR)*, 29(5): 502–528, 2010. doi:[10.1177/0278364909353640](https://doi.org/10.1177/0278364909353640)
- [J3] **G. Huang**, A. B. Rad, Y. K. Wong, and Y. L. Ip, “Heterogeneous Multisensor Fusion for Mapping Dynamic Environments”, *Advanced Robotics (AR)*, 21(5): 661–688, 2007. doi:[10.1163/156855307780108268](https://doi.org/10.1163/156855307780108268)
- [J2] X. Z. Zhang, A. B. Rad, Y. K. Wong, **G. Huang**, Y. L. Ip, and K. M. Chow, “A Comparative Study of Three Mapping Methodologies”, *Journal of Intelligent and Robotic Systems (JIRS)*, 49(4): 385–395, 2007. doi:[10.1007/s10846-007-9143-z](https://doi.org/10.1007/s10846-007-9143-z)
- [J1] **G. Huang**, A. B. Rad, and Y. K. Wong, “A New Solution to Map Building in Dynamic Indoor Environments”, *International Journal of Advanced Robotic Systems (IJARS)*, 3(3): 199–210, 2006. doi:[10.5772/5737](https://doi.org/10.5772/5737)

#### **Book Chapters.**

- [B7] C. Chen<sup>‡</sup>, Y. Peng<sup>‡</sup> and **G. Huang**, “Visual-Inertial State Estimation with Decoupled Error and State Representations”, In *Algorithmic Foundations of Robotics XVI, Volume 2*, Springer Proceedings in Advanced Robotics. N. Amato, K. Driggs-Campbell, C. Ekenna, M. Morales, and J. O’Kane (Eds.), Springer, 2026. <https://link.springer.com/book/9783032099693>
- [B6] **G. Huang**, C. Le Gentil, T. Vidal-Calleja, D. Scaramuzza, F. Dellaert, and L. Carlone, “Inertial Odometry for SLAM”, In *SLAM Handbook*, L. Carlone, A. Kim, F. Dellaert, T. Barfoot, and D. Cremers (Eds.), 2025. <https://github.com/SLAM-Handbook-contributors/slam-handbook-public-release>

- [B5] X. Zuo<sup>‡</sup>, M. Zhang, Y. Chen, Y. Liu, **G. Huang**, and M. Li, “Visual-Inertial Localization for Skid-steering Robots with Kinematic Constraints”, In *Robotics Research*, Springer Proceedings in Advanced Robotics. T. Asfour, E. Yoshida, J. Park, H. Christensen, O. Khatib (Eds.), Springer, 2022. doi:[10.1007/978-3-030-95459-8\\_45](https://doi.org/10.1007/978-3-030-95459-8_45)
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- [C34] Y. Yang<sup>‡</sup>, J. Maley<sup>‡</sup>, and **G. Huang**, “Null-Space-based Marginalization: Analysis and Algorithm”, *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2017. pp. 1775–1782. doi:[10.1109/IROS.2017.8206592](https://doi.org/10.1109/IROS.2017.8206592)
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- [C32] D. Li<sup>‡</sup>, K. Eickenhoff<sup>‡</sup>, K. Wu, Y. Wang, R. Xiong, and **G. Huang**, “Gyro-Aided Camera-Odometer Online Calibration and Localization”, *American Control Conference (ACC)*, 2017. pp. 3579–3586. doi:[10.23919/ACC.2017.7963501](https://doi.org/10.23919/ACC.2017.7963501)
- [C31] K. Eickenhoff<sup>‡</sup>, P. Geneva<sup>‡</sup>, and **G. Huang**, “Direct Visual-Inertial Navigation with Analytical Preintegration”, *IEEE International Conference on Robotics and Automation (ICRA)*, 2017. pp. 1429–1435. doi:[10.1109/ICRA.2017.7989171](https://doi.org/10.1109/ICRA.2017.7989171)
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- [C29] K. Eickenhoff<sup>‡</sup>, P. Geneva<sup>‡</sup>, and **G. Huang**, “High-Accuracy Preintegration for Visual Inertial Navigation”, *International Workshop on the Algorithmic Foundations of Robotics (WAFR)*, 2016. pp. 1–16. [http://wafr2016.berkeley.edu/papers/WAFR\\_2016\\_paper\\_95.pdf](http://wafr2016.berkeley.edu/papers/WAFR_2016_paper_95.pdf)
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**[Best Paper Award Finalist].**
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**Workshop Papers.**

- [W8] S. Katragadda<sup>‡</sup>, C-Y. Wu, Y. Guo, X. Huang, **G. Huang**, and L. Ren, “Online Language Splatting”, *The CVPR Workshop on Open-World 3D Scene Understanding with Foundation Models (OpenSUN3D)*, 2025. <https://opensun3d.github.io/>; *The First CVPR Workshop on 3D Vision Language Models (VLMs) for Robotics Manipulation: Opportunities and Challenges*, 2025. <https://robo-3dvllms.github.io/>.
- [W7] Y. Yang<sup>‡</sup>, W. Lee<sup>‡</sup>, P. Osteen, P. Geneva<sup>‡</sup>, X. Zuo<sup>‡</sup>, and **G. Huang**, “iCalib: Inertial Aided Multi-Sensor Calibration”, *ICRA Workshop on Visual-Inertial Navigation Systems*, 2021. <http://udel.edu/~ghuang/icra21-vins-workshop>
- [W6] P. Geneva<sup>‡</sup>, K. Eickenhoff<sup>‡</sup>, W. Lee<sup>‡</sup>, Y. Yang<sup>‡</sup>, and **G. Huang**, “OpenVINS: An Open Platform for Visual-Inertial Research”, *IROS Workshop on Visual-Inertial Navigation: Challenges and Applications*, 2019. <http://udel.edu/~ghuang/iros19-vins-workshop>
- [W5] Y. Yang<sup>‡</sup>, and **G. Huang**, “Attack-Resilient Map-based Localization”, *RSS Workshop on Adversarial Robotics*, 2018. [http://hcr.mines.edu/2018-rss-workshop/abstracts/RSS18WS\\_attack-resilient\\_map-based\\_localization.pdf](http://hcr.mines.edu/2018-rss-workshop/abstracts/RSS18WS_attack-resilient_map-based_localization.pdf)
- [W4] K. Eickenhoff<sup>‡</sup>, I. Yadav, **G. Huang**, and H. Tanner, “Dynamic Target Interception in Cluttered Environments”, *ICRA RT-DUNE Workshop*, 2018. [https://manihsieh.com/wp-content/uploads/2018/06/UD\\_main.pdf](https://manihsieh.com/wp-content/uploads/2018/06/UD_main.pdf)
- [W3] P. Geneva<sup>‡</sup>, K. Eickenhoff<sup>‡</sup>, and **G. Huang**, “Asynchronous Multi-Sensor Fusion for 3D Mapping and Localization”, *Workshop on Planning, Perception and Navigation for Intelligent Vehicles*, 2017. <http://ppniv17.irccyn.ec-nantes.fr/session4/Geneva/paper.pdf>
- [W2] K. Eickenhoff<sup>‡</sup>, L. Paull, and **G. Huang**, “Decoupled, Consistent Node Removal and Edge Sparsification for Graph-based SLAM”, *RSS Workshop on Geometry and Beyond: Representations, Physics, and Scene Understanding for Robotics*, 2016. <https://rss16-representations.mit.edu/>
- [W1] Y. Latif, **G. Huang**, J. Leonard, and J. Neira, “Applying Sparse  $\ell_1$ -Optimization to Problems in Robotics”, *ICRA Long-Term Autonomy Workshop*, 2014. <https://sites.google.com/site/icra2014ltaworkshop/>

### Dissertations.

- [D2] **G. Huang**, “Improving the Consistency of Nonlinear Estimators: Analysis, Algorithms, and Applications”, PhD Thesis, Department of Computer Science and Engineering, University of Minnesota - Twin Cities, Sep 2012. <https://conservancy.umn.edu/handle/11299/146717>
- [D1] **G. Huang**, “Dynamic Data Transmission in Industrial Control Systems”, BS Thesis (in Chinese), Department of Automation, University of Science and Technology Beijing, China, Jul 2002.

### **Open Sources (selected)**

- $\sqrt{\text{VINS}}$  **Robust and Ultrafast Square-Root Filter-based 3D Motion Tracking**, *ICRA 2024, TRO 2025*.  
<https://github.com/rpng/sqrtVINS>
- LangSplat **Online Language Splatting**, *ICCV 2025*.  
[https://github.com/rpng/online\\_lang\\_splatting](https://github.com/rpng/online_lang_splatting)
- MINS **Efficient and Robust Multisensor-aided Inertial Navigation System**, *JFR 2025*.  
<https://github.com/rpng/mins>
- MVIS **Multi-Visual-Inertial System: Analysis, Calibration and Estimation**, *IJRR 2024*.  
<https://openmvis.com>
- OpenVINS **An Open Research Platform for Visual-Inertial Estimation**, *ICRA 2020*.  
[https://github.com/rpng/open\\_vins](https://github.com/rpng/open_vins)

- CPI **Closed-form Preintegration for Graph-based VINS**, *WAFR 2016, IJRR 2019*.  
<https://github.com/rpng/cpi>
- R-VIO **Robocentric Visual-Inertial Odometry**, *IROS 2018, IJRR 2022, RA-L 2022*.  
<https://github.com/rpng/r-vio>; <https://github.com/rpng/r-vio2>
- SUO-SLAM **Symmetry and Uncertainty-Aware Object SLAM**, *CVPR 2022*.  
<https://github.com/rpng/suo-slam>
- CALC **Deep Learning for Loop Closure**, *RSS 2018, IROS 2019*.  
<https://github.com/rpng/calc>; <https://github.com/rpng/calc2.0>
- OC-EKF **Observability-Constrained (OC)-EKF for 2D SLAM**, *IJRR 2010*.  
<https://github.com/rpng/ocekf-slam>

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## Invited Talks

- [T71] “State of the Field: Drone Autonomy”, Computing on the Fly: Navigating a Vision for the Future of Drone Computing – CRA Computing Community Consortium’s Visioning Workshop, Dec. 2025
- [T70] “Towards Multimodal Embodied Navigation”, West Virginia University, Nov. 2025
- [T69] “Embracing Language: From VINS to VILN”, IROS Workshop on Advancements for Intelligent Robotics in 4D Scenes: Localization, Reconstruction, Rendering, and Generation, Oct. 2025
- [T68] “Visual-Inertial Sensing, Estimation and Learning”, Yale University, Sept. 2024
- [T67] “Visual-Inertial Sensing, Estimation and Learning”, Lehigh University, Sept. 2024
- [T66] “Visual-Inertial Sensing, Estimation and Learning”, SUSTech, July 2024
- [T65] “Visual-Inertial Sensing, Estimation and Learning”, Hong Kong University, July 2024
- [T64] “Visual-Inertial Sensing, Estimation and Learning”, AI 2000 Forum, May 2024
- [T63] “Visual-Inertial Sensing, Estimation and Learning”, UD BIOMS seminar, Feb. 2024
- [T62] “Visual-Inertial Systems: Sensing, Estimation, Perception, and Navigation”, HK PolyU (AAE), 2023
- [T61] “Visual-Inertial Systems: Sensing, Estimation, Perception, and Navigation”, Tesla, Feb. 2023
- [T60] “Visual-Inertial Systems: Sensing, Estimation, Perception, and Navigation”, Wing, Feb. 2023
- [T59] “Visual-Inertial Systems: Sensing, Estimation, Perception, and Navigation”, UD Mobility, Jan. 2023
- [T58] “Visual-Inertial Estimation and Perception for Autonomous Vehicles”, IEEE ITSC 2022 Workshop: Intelligent Vehicle Meets Urban: Safe and Certifiable Navigation and Control for Intelligent Vehicles in Complex Urban Scenarios, October 2022
- [T57] “Visual-Inertial Systems”, Amazon Computer Vision Conference, August 2022
- [T56] “Visual-Inertial SLAM”, China SLAM Forum, July 2022
- [T55] “Visual-Inertial Systems: Estimation, Perception and Navigation”, International Summit Forum of Engineering Science and Technology on Beidou Navigation and Location Service in Intelligent Era and Beidou Intelligent Application Conference, July 2022
- [T54] “Visual-Inertial Estimation and Perception”, ICRA Workshop on Robotic Perception and Mapping: Emerging Techniques, May 2022
- [T53] “Visual-Inertial Systems: Estimation, Perception and Navigation”, Nankai Univ., Dec. 2021
- [T52] “Visual-Inertial SLAM and Spatial AI”, CAA Youth e-Summit, Jul. 2021
- [T51] “Visual-Inertial SLAM and Spatial AI”, China 3DV, Jul. 2021
- [T50] “Visual-Inertial Estimation and Perception”, CMU Robotics (AirLab SLAM Seminar), Jul. 2021
- [T49] “Visual-Inertial Estimation and Perception”, CAS Institute of Automation, May 2021

- [T48] “Visual-Inertial Estimation and Perception”, Shanghai Tech, April 2021
- [T47] “Visual-Inertial Estimation and Perception”, UC Berkeley (Semi-autonomous Seminar), Mar. 2021
- [T46] “Visual-Inertial SLAM”, Tsinghua University, Feb. 2021
- [T45] “Visual-Inertial State Estimation and Perception for Autonomous Vehicles”, HEU, Dec. 2020
- [T44] “Visual-Inertial Navigation”, The 3rd Chinese SLAM Summer School, Aug 2020 [Instructor]
- [T43] “Visual-Inertial Estimation and Perception”, UBTECH North America R&D Center, Jun 2020
- [T42] “Visual-Inertial State Estimation and Perception for Autonomous Vehicles”, UT Austin, Apr 2020
- [T41] “Visual-Inertial State Estimation and Perception for Autonomous Vehicles”, Georgia Tech, Mar 2020
- [T40] “Visual-Inertial State Estimation and Perception for Autonomous Vehicles”, Yale, Mar 2020
- [T39] “Visual-Inertial State Estimation and Perception for Autonomous Vehicles”, Purdue, Feb 2020
- [T38] “Visual-Inertial State Estimation and Perception for Autonomous Vehicles”, UIUC, Feb 2020
- [T37] “Visual-Inertial State Estimation and Perception for Autonomous Vehicles”, Google, Jan 2020
- [T36] “Visual-Inertial State Estimation and Perception”, John Hopkins Univ. (LCSR Seminar), Nov 2019
- [T35] “Visual-Inertial State Estimation”, UBTECH Robotics, Nov 2019
- [T34] “Visual-Inertial State Estimation”, Tsinghua University (Dept. Precision Instrument), Oct 2019
- [T33] “State Estimation and SLAM”, Chinese SLAM Tech Forum, Jul 2019 [Key Speaker]
- [T32] “Visual-Inertial State Estimation”, The 2nd Chinese SLAM Summer School, Jul 2019 [Instructor]
- [T31] “State Estimation and Autonomous Navigation”, Geekplus, Jun 2019
- [T30] “State Estimation and Autonomous Navigation”, Trifo, Apr 2019.
- [T29] “State Estimation and Autonomous Navigation”, Google ARCore, Apr 2019.
- [T28] “State Estimation and Autonomous Navigation”, Bosch Research, Apr 2019.
- [T27] “Towards Autonomous Navigation in the Wild”, Beijing Sineva, Dec 2018.
- [T26] “Towards Autonomous Navigation in the Wild”, Zhejiang University (CS), Jul 2018.
- [T25] “Towards Autonomous Navigation in the Wild”, HK Univ. of Science and Technology (RI), Jun 2018.
- [T24] “Towards Autonomous Navigation in the Wild”, Zhejiang University (CSC), Jun 2018.
- [T23] “Towards Autonomous Navigation in the Wild”, Zhejiang Sci-Tech University, Jun 2018.
- [T22] “Towards Secure, Efficient and Consistent Robot Navigation”, University of Michigan, Mar 2018.
- [T21] “Localization and Mapping for Autonomous Driving”, UD IDEA Network Faculty Social, Oct 2017.
- [T20] “Visual-Inertial Navigation”, NetEase Inc., Aug 2017.
- [T19] “Mapping and Localization in the Wild”, Zhejiang University (CSC), Aug 2017.
- [T18] “Visual-Inertial Perception”, Huawei Canada Research Center, Aug 2016.
- [T17] “Consistent Visual-Inertial Navigation”, Zhejiang University (CSC), Jul 2016.
- [T16] “Towards Consistent Robot Navigation”, Beijing Institute of Technology, Jan 2016.
- [T15] “Towards Consistent Robot Navigation”, Zhejiang University (CSC), Dec 2015.
- [T14] “Towards Consistent Robot Navigation”, University of Delaware (ECE), Dec 2015.
- [T13] “Towards Consistent Robot Navigation”, Army Research Laboratory (APG), Oct 2015.
- [T12] “Towards Consistent Robot Navigation”, University of Texas at Austin, Mar 2014.
- [T11] “Towards Consistent Robot Navigation”, University of Delaware, Mar 2014.
- [T10] “Towards Consistent Robot Navigation”, SUNY - Buffalo, Mar 2014.
- [T9] “Towards Consistent Robot Navigation”, University of Nevada, Mar 2014.
- [T8] “Towards Consistent Robot Navigation”, University of Michigan, Mar 2014.

- [T7] “Towards Consistent Robot Navigation”, Duke University, Feb 2014.
- [T6] “Towards Consistent Robot Navigation”, Google, Mountain View, CA, Dec 2013.
- [T5] “Improving the Consistency of Nonlinear Estimators”, MIT CSAIL, Nov 2012.
- [T4] “Consistency of Nonlinear Estimation in Robotics”, University of Macau, Jun 2012.
- [T3] “Consistency of Nonlinear Estimation in Robotics”, UM-SJTU JI, May 2012.
- [T2] “Consistency of Nonlinear Estimation in Robotics”, University of Tennessee, Mar 2012.
- [T1] “Observability-Constrained Consistent Estimators for Robot Localization”, Peking Univ., Jun 2011.

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## Awards & Honors

- 2025 **ACM Senior Member**, *ACM*.
- 2025 **2025 AI 2000 Most Influential Scholar Award Honorable Mention (Robotics)**, [AI Open Index](#).
- 2024 **Mid-Career Faculty Excellence in Scholarship Award (only 2 campus-wide)**, *Univ. of Delaware*.
- 2022-25 **Highly Ranked Scholars (#9 in navigation, #15 in robotics)**, [ScholarGPS](#).
- 2023-25 **AI 2000 Scholar**, [AMiner](#).
- 2024 **Best Paper Award Finalist (Robot Vision)**, *ICRA 2024*.
- 2023 **Meta Faculty Research Award**, *Meta (Reality Labs, Project Aria)*.
- 2020-25 **World’s Top 2% Scientists**, [Stanford University](#).
- 2023 **Best Student Paper Award Finalist**, *RSS 2023*.
- 2022 **Best Paper Award**, *Journal of Guidance, Navigation, and Control (GNC)*.
- 2022 **Google AI Faculty Research Award**, *Google*.
- 2022 **Best Paper Award (Navigation)**, *ICRA 2022*.
- 2022 **Excellent Reviewer**, *Journal of Guidance, Control, and Dynamics (JGCD)*.
- 2021 **Faculty Award for Excellence in Research and Entrepreneurship (Honorable Mention)**, *University of Delaware, College of Engineering*.
- 2021 **Best Paper Award Finalist (Robot Vision)**, *ICRA 2021*.
- 2020 **DoD/ARL SARA Award**, *US Army Research Laboratory*.
- 2020 **IEEE Senior Member**, *IEEE*.
- 2020 **Sigma Xi (Scientific Research Honor Society) Member**, *Sigma Xi*.
- 2019 **Champion for FPV Drone Racing VIO Competition**, *IROS 2019*.
- 2019 **Google AR/VR Faculty Research Award**, *Google*.
- 2018 **Google Daydream Faculty Research Award**, *Google*.
- 2018 **SATEC Robotics Delegation**, *Sino-American Technology & Engineering Conference (SATEC)*.
- 2017 **UD MakerGym Faculty Fellows**, *University of Delaware*.
- 2016 **NSF Research Initiation (CRII) Award**, *NSF*.
- 2015, 2023 **NASA DE Space Research Seed Award**, *NASA DE Space Grant Consortium*.
- 2015 **UDRF Research Award**, *University of Delaware Research Foundation*.
- 2013 **MIT Postdoctoral Association Travel Award**, *Office of MIT Vice President for Research*.
- 2012 **Chinese Government Award for Outstanding Self-Financed Students Abroad**, *CSC*.
- 2009 **Best Paper Award Finalist**, *RSS 2009*.
- 2006 **Academic Excellence Fellowship**, *University of Minnesota*.

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## Professional Service

- 2024 Israeli Science Foundation Reviewer
- 2023 Mentor for FIRST Tech Challenge (Team Green Lemons – PA FTC State Championship)
- 2023 Dutch Research Council (NWO) Reviewer
- 2015 – 2024 U.S. National Science Foundation (NSF) Panelist
- 2017 Canada Foundation for Innovation Reviewer
- 2016, 2018 Israeli Ministry of Science and Technology Reviewer
- 2014 – 2019 DE Homeland Security Advisory Council Unmanned Aerial Vehicle (UAV) Subcommittee

### Program Chair / Organizer:

- 2026 [ICRA 2026 Workshop on Multi-Modal Spatial AI](#)
- 2025 [Physical Intelligence Initiative \(PI2\) Workshop](#)
- 2025 [IEEE International Conference on Mobility: Operations, Services, and Technologies \(MOST\)](#)
- 2021 [ICRA 2021 Workshop on Visual-Inertial Navigation Systems](#)
- 2019 [ISMAR 2019 SLAM for AR Competition](#)
- 2019 [IROS 2019 Workshop on Visual-Inertial Navigation](#)

### Associate Editor:

- 2021 – now IEEE Transactions on Robotics (T-RO)
- 2018 – now IET Cyber-Systems and Robotics (CSR)
- 2019 – 2022 IEEE Robotics and Automation Letters (RA-L)
- 2017 – 2022 IROS (International Conference on Intelligent Robots and Systems)
- 2015 – 2022 ICRA (International Conference on Robotics and Automation)

### Guest Editor:

- 2024 – 2025 IEEE Transactions on Robotics (T-RO) [Special Issue on “Visual SLAM”](#)
- 2021 – 2022 Sensors [Special Issue on “State Estimation for Mobile Robotics”](#)

### Editorial Board:

- 2018 – now Virtual Reality and Intelligent Hardware
- 2016 – now Frontiers in Multi-Robot Systems

### Program Committee:

- 2014 – 2020 RSS (Robotics: Science and Systems Conference)
- 2017, 2019 IJCAI (International Joint Conference on Artificial Intelligence)
- 2018 AAAI (AAAI Conference on Artificial Intelligence)

### Session Chair:

- 2018 – 2023 IROS (International Conference on Intelligent Robots and Systems)
- 2018 – 2023 ICRA (International Conference on Robotics and Automation)
- 2013 ECMR (European Conference on Mobile Robots)
- 2004 RAM (IEEE Conference on Robotics, Automation and Mechatronics)

### Reviewer:

- Journal Reviewer TRO (IEEE Transactions on Robotics), IJRR (International Journal of Robotics Research), Science Robotics, TPAMI (IEEE Transactions on Pattern Analysis and Machine Intelligence), TASE (IEEE Transactions on Automation Science and Engineering), TAC (IEEE Transactions on Automatic Control), AURO (Autonomous Robots), JFR (Journal of Field Robotics) RAS (Robotics and Autonomous Systems), CVIU (Computer Vision and Image Understanding), SCL (Systems and Control Letters), JOE (IEEE Journal of Oceanic Engineering), etc.
- Conference Reviewer ICRA (IEEE International Conference on Robotics and Automation), IROS (IEEE/RSJ International Conference on Intelligent Robots and Systems), RSS (Robotics: Science and Systems Conference), ACC (American Control Conference), CDC (IEEE Conference on Decision and Control), MED (Mediterranean Conference on Control and Automation), ICCV (International Conference on Computer Vision), ECCV (European Conference on Computer Vision), CVPR (Computer Vision and Pattern Recognition), AAI (AAAI Conference on Artificial Intelligence), IJCAI (International Joint Conference on Artificial Intelligence), etc.

## University Service

- 2025 [PI2 Workshop](#) Co-organizer
- 2023 [UD AI Symposium](#) Planning Committee
- 2024 – now Graduate Student-Industry Partnership (GSIP) Committee
- 2022 – now ME Department Graduate Recruitment Committee
- 2017 – 2024 ME Faculty Search Committee
- 2016 – now ME Graduate Admission Committee
- 2015 – 2020 ME Department Undergraduate Curriculum Committee
- 2015 – 2016 ME Department Seminar Committee (*chair*)
- 2014 – now ME Department Publicity Committee (*chair, 2024–*)
- PhD Thesis Committee Konstantinos Karydis (UD ME 2015, Advisor: Tanner), Jianxin Sun (UD ME 2016, Advisor: Tanner), Prasanna Kannappan (UD ME 2016, Advisor: Tanner), Yiyi Liao (ZJU CSC 2018, Advisor: Liu), Sushant Veer (UD ME 2018, Advisor: Poulakakis), Qiaosong Wang (UD CS 2019, Advisor: Rasmussen), Adam Stager (UD ME 2020, Advisor: Tanner), Bilin Sun (UD CS 2020, Advisor: Rasmussen), Chunbo Song (UD CS 2021, Advisor: Rasmussen), Marc-Andre Begin (MIT AA 2022, Advisor: Hunter), Ashkan Zehfroosh (UD ME 2022, Advisor: Tanner), Hao Xu (HKUST ECE 2022, Advisor: Shen), Kunal Narkhede (UD ME 2023, Advisor: Poulakakis), Kleio Baxevani (UD ME 2024, Advisor: Tanner), Fangcheng Zhu (HKU MAE 2025, Advisor: Zhang), Weipeng Guan (HKU MAE 2025, Advisor: Lu), Yang Song (UTS Robotics 2025, Advisor: Huang), Tang Li (UD CS 2025, Advisor: Peng), Jesus Orozco (UD ME 2025, Advisor: Artemiadis), Zhaofeng Tian (UD CS 2025, Advisor: Shi), Shubham Kumbhar (UD ME 2025, Advisor: Artemiadis), Stergios Bachoumas (UD ME 2025, Advisor: Artemiadis), Yuankai (William) He (UD CS 2025, Advisor: Shi), Yanda Yang (UD ME 2025, Advisor: Das)
- MS Thesis Committee Saurabh Arora (UD ME 2016, Advisor: Tanner), Caili Li (UD ME 2017, Advisor: Tanner), Dian Jiao (UD ME 2017, Advisor: Tanner), Anthony Rossi (UD ME 2018, Advisor: Poulakakis), Benjamin Remer (UD ME 2019, Advisor: Malikopoulos), GilHwan Kim (UD ME 2020, Advisor: Poulakakis), Camryn Scully (UD MSR 2024, Advisor: Artemiadis), Yashwanth Tekumudi (UD MSR 2024, Advisor: Artemiadis), Dhruv Ashwinkumar Thanki (UD ME 2024, Advisor: Poulakakis)

## Professional Membership

- 2006 – now IEEE, IEEE Senior Member (2020)
- 2020 – now ACM, ACM Senior Member (2025)

2020 – now AAI

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## References

Available upon request.