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Robotics Lab
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Research Interests

Autonomous systems	Simultaneous localization and mapping, perception, navigation, sensor fusion
Artificial intelligence	Machine learning, Deep learning, programming by demonstration

Education

2016.6   **PhD**, *Zhejiang University*, Supervisor: Jun Wu, Rong Xiong.
Thesis: Long term localization and mapping for mobile robots

2011.6   **BS**, *Zhejiang University of Technology*, Supervisor：Gang Li.

2011.6   **BS**, *Zhejiang University of Technology*, Supervisor: Tiejun Chen.

Experience

2020.1-   **Associate Professor**, *Department of control science and engineering.*
Zhejiang University, China, QS53

2018.10-2019.12   **Lecturer**, *Department of control science and engineering.*
Zhejiang University, China, QS53

2017.9-2018.9   **Post-doctoral**, *Department of control science and engineering*, Supervisor: Rong Xiong.
Zhejiang University, China, QS53

2016.10-2018.9   **Co-Founder and Chief Technology Officer**.
iPlusbot, Hangzhou, China

2014.9-2015.6   **Visiting research student**, *School of medicine*, Supervisor: Bruce Ling.
Stanford University, US

2013.7-2013.9   **Visiting research student**, *Center of autonomous systems*, Supervisor: Shoudong Huang.
University of technology, Sydney, Australia

2014.9-2016.12   **Consultant on data mining**.
HBISolutions Inc, Palo Alto, US

2015.1-2016.12   **Consultant on data mining**.
Paly Inc, Palo Alto, US

2014.9-2016.12   **Research Assistant**, *Department of information*, Supervisor: Gang Li.
Zhejiang University of Technology, China

Teaching

2020.9-11	**co-Instructors**, *Robotics*, Department of control science and engineering, co-Instructors: Jun Wu. Zhejiang University, China
2020.3-6	**Instructors**, *Introduction to mobile robots*, Department of control science and engineering. Zhejiang University, China
2019.9-11	**co-Instructors**, *Robotics*, Department of control science and engineering, co-Instructors: Jun Wu. Zhejiang University, China
2019.3-6	**co-Instructors**, *Introduction to mobile robots*, Department of control science and engineering, co-Instructors: Chunlin Zhou. Zhejiang University, China
2013.9-2013.11	**Teaching Assistant**, *Introduction to mobile robots*, Department of control science and engineering, Instructors: Rong Xiong. Zhejiang University, China
2013.9-2013.11	**Teaching Assistant**, *Artificial intelligence*, Department of control science and engineering, Instructors: Yong Liu. Zhejiang University, China
2011.3 – 2011.6	**Teaching Assistant**, *Wavelet analysis*, Department of information, Instructors: Gang Li. Zhejiang University of Technology, China
2010.9-2011.2	**Teaching Assistant**, *Signals and systems*, Department of information, Instructors: Liping Chang. Zhejiang University of Technology, China

Projects

Project 1	**High accurate and robust AGV in warehouse**, *National Key R&D Program of China*, Zhejiang University, PI.
Project 2	**Visual localization in long-term changing environment**, *National Nature and Science Foundation of China*, Zhejiang University, PI.
Project 3	**Robust navigation for campus package delivery robot**, *Alibaba DAMO Academy*, Zhejiang University, PI.
Project 4	**Navigation and manipulation for mobile charging robot**, *Huawei*, Zhejiang University, PI.
Project 5	**Light-weighted visual localization for home service robot**, *Huawei*, Zhejiang University, PI.
Project 6	**Large scale 3D reconstruction for outdoor augmented reality**, *Netease*, Zhejiang University, PI.
Project 7	**Air-ground collaborative localization and mapping**, *China Academy of Space Technology*, Zhejiang University, PI.
Project 8	**Multi-camera inertial system: calibration, localization and mapping**, *Fundamental Research Funds for the Central Universities*, Zhejiang University, PI.
Project 9	**High payload AGV system in harbor environment**, *National Key R&D Program of China*, Zhejiang University, Co-PI.
Project 10	**Perception, navigation and learning for autonomous driving cars**, *Chery*, Zhejiang University, Co-PI.

Publications

[1] Yin, Huan; Chen, Runjian; **Wang, Yue**; Xiong, Rong; ,Rall: end-to-end radar localization on lidar map using differentiable measurement model,IEEE Transactions on Intelligent Transportation Systems,,,2021,IEEE

[2] Xu, Xuecheng; Yin, Huan; Chen, Zexi; Li, Yuehua; **Wang, Yue**; Xiong, Rong; ,Disco: Differentiable scan context with orientation,IEEE Robotics and Automation Letters,6,2,2791-2798,2021,IEEE

[3] Hua, Weitong; Zhou, Zhongxiang; Wu, Jun; Huang, Huang; **Wang, Yue**; Xiong, Rong; ,Rede: End-to-end object 6d pose robust estimation using differentiable outliers elimination,IEEE Robotics and Automation Letters,6,2,2886-2893,2021,IEEE

[4] Wang, Yunkai; Zhang, Dongkun; Wang, Jingke; Chen, Zexi; Li, Yuehua; **Wang, Yue**; Xiong, Rong; ,Imitation learning of hierarchical driving model: From continuous intention to continuous trajectory,IEEE Robotics and Automation Letters,6,2,2477-2484,2021,IEEE

[5] Fu, Bo; Han, Fuzhang; **Wang, Yue**; Jiao, Yanmei; Ding, Xiaqing; Tan, Qimeng; Chen, Lei; Wang, Minhang; Xiong, Rong; ,High-Precision Multicamera-Assisted Camera-IMU Calibration: Theory and Method,IEEE Transactions on Instrumentation and Measurement,70,,1-17,2021,IEEE

[6] Liu, Lina; Liao, Yiyi; **Wang, Yue**; Geiger, Andreas; Liu, Yong; ,Learning steering kernels for guided depth completion,IEEE Transactions on Image Processing,30,,2850-2861,2021,IEEE

[7] Chen, Runjian; Yin, Huan; Jiao, Yanmei; Dissanayake, Gamini; **Wang, Yue**; Xiong, Rong; ,Deep Samplable Observation Model for Global Localization and Kidnapping,IEEE Robotics and Automation Letters,6,2,2296-2303,2021,IEEE

[8] Chen, Zexi; Guo, Jiaxin; Xu, Xuecheng; Wang, Yunkai; Huang, Huang; **Wang, Yue**; Xiong, Rong; ,PREGAN: Pose Randomization and Estimation for Weakly Paired Image Style Translation,IEEE Robotics and Automation Letters,6,2,2209-2216,2021,IEEE

[9] Jiao, Yanmei; **Wang, Yue**; Ding, Xiaqing; Fu, Bo; Huang, Shoudong; Xiong, Rong; ,2-Entity Random Sample Consensus for Robust Visual Localization: Framework, Methods, and Verifications,IEEE Transactions on Industrial Electronics,68,5,4519-4528,2020,IEEE

[10] Pan, Yiyuan; Xu, Xuecheng; Ding, Xiaqing; Huang, Shoudong; **Wang, Yue**; Xiong, Rong; ,GEM: online globally consistent dense elevation mapping for unstructured terrain,IEEE Transactions on Instrumentation and Measurement,70,,1-13,2020,IEEE

[11] Luo, Qianhui; Ma, Huifang; Tang, Li; **Wang, Yue**; Xiong, Rong; ,3d-ssd: Learning hierarchical features from rgb-d images for amodal 3d object detection,Neurocomputing,378,,364-374,2020,Elsevier

[12] Ma, Huifang; **Wang, Yue**; Xiong, Rong; Kodagoda, Sarath; Tang, Li; ,DeepGoal: Learning to drive with driving intention from human control demonstration,Robotics and Autonomous Systems,127,,103477,2020,North-Holland

[13] Yin, Huan; **Wang, Yue**; Tang, Li; Ding, Xiaqing; Huang, Shoudong; Xiong, Rong; ,3d lidar map compression for efficient localization on resource constrained vehicles,IEEE Transactions on Intelligent Transportation Systems,22,2,837-852,2020,IEEE

[14] Yang, Tong; Miro, Jaime Valls; Lai, Qianen; **Wang, Yue**; Xiong, Rong; ,Cellular decomposition for nonrepetitive coverage task with minimum discontinuities,IEEE/ASME Transactions on Mechatronics,25,4,1698-1708,2020,IEEE

[15] Zhao, Jiaheng; Zhao, Liang; Huang, Shoudong; **Wang, Yue**; ,2D laser SLAM with general features represented by implicit functions,IEEE Robotics and Automation Letters,5,3,4329-4336,2020,IEEE

[16] Tang, Li; **Wang, Yue**; Ding, Xiaqing; Yin, Huan; Xiong, Rong; Huang, Shoudong; ,Topological local-metric framework for mobile robots navigation: a long term perspective,Autonomous Robots,43,1,197-211,2019,Springer US

[17] Yin, Huan; **Wang, Yue**; Ding, Xiaqing; Tang, Li; Huang, Shoudong; Xiong, Rong; ,3d lidar-based global localization using siamese neural network,IEEE Transactions on Intelligent Transportation Systems,21,4,1380-1392,2019,IEEE

[18] Fu, Bo; **Wang, Yue**; Ding, Xiaqing; Jiao, Yanmei; Tang, Li; Xiong, Rong; ,LiDAR-camera calibration under arbitrary configurations: Observability and methods,IEEE Transactions on Instrumentation and Measurement,69,6,3089-3102,2019,IEEE

[19] Ding, Xiaqing; **Wang, Yue**; Xiong, Rong; Li, Dongxuan; Tang, Li; Yin, Huan; Zhao, Liang; ,Persistent stereo visual localization on cross-modal invariant map,IEEE Transactions on Intelligent Transportation Systems,21,11,4646-4658,2019,IEEE

Honorships

2021.1	**Excellent Staff Award in Department of Control Science and Engineering ZJU.**
2020.7	**IEEE RCAR2020 Best Paper Award.**
2019.12	**Second Prize in Young Teachers Teaching Competition of ZJU.**
2019.7	**IEEE RCAR2019 Best Student Paper Finalist.**
2018.7	**IEEE CYBER2018 Best Student Paper Finalist.**
2014.6	**Excellent student scholarship by China Scholarship Concil.**
2012.9	**Excellent postgraduate student scholarship by Zhejiang University.**
2011.6	**Excellent undergraduate student by Education department of Zhejiang Province.**
2008.9-2010.9	**Excellent undergraduate student scholarship by Zhejiang University of Technology.**

Academic services

Editor and Associate Editor

- Associate Editor for IROS
- Associate Editor for ICRA
- Guest Topic Editor for Frontiers in Robotics and AI

Reviewer for Journals	• IEEE Robotics and Automation Letters
	• IEEE Transactions on Robotics
	• IEEE Transactions on Mechatronics
	• IEEE Transactions on Automation Science and Engineering
	• IEEE Transactions on Instrumentation and Measurement
	• IEEE Transactions on Cognitive and Developmental Systems
	• International Journal of Advanced Robotic and Systems
	• Neurocomputing

References

[1] **Rong Xiong**, *Professor*, Department of control science and engineering, Zhejiang University.
rxiong@zju.edu.cn

[2] **Yong Liu**, *Professor*, Department of control science and engineering, Zhejiang University.
yongliu@iipc.zju.edu.cn

[3] **Shoudong Huang**, *Associative Professor*, Centre for Autonomous Systems, University of Technology Sydney.
Shoudong.Huang@uts.edu.au

[4] **Bruce Ling**, *Assistant Professor*, Medicine School, Stanford University.
bxling@stanford.edu

[5] **Gang Li**, *Professor*, Department of Information, Zhejiang University of Technology.
ieligang@zjut.edu.cn