

Jiankun Wang

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Education

- **B.Eng. Shandong University** 09/2011–06/2015
○ *School of Control Science & Engineering* GPA: 91.19/100 Rank: 1/310
- **Ph.D. The Chinese University of Hong Kong** 08/2015 – 07/2019
○ *Advisor: Prof. Max Q.-H. Meng* Dept. of Electronic Engineering
Research field: Motion and path planning, Human Robot Interaction
- **Visiting Student Researcher Stanford University** 07/2018 – 12/2018
○ *Advisor: Prof. Oussama Khatib* Dept. of Computer Science
Research field: Robotics, Motion planning and control
- **Postdoc The Chinese University of Hong Kong** 08/2019 – Present
○ *Advisor: Prof. Max Q.-H. Meng* Dept. of Electronic Engineering
Research field: Motion and path planning, Human Robot Interaction

Preprints

- **Real-time Decision Making and Path Planning for Robotic Autonomous Luggage Trolley Collection at Airports**
Jiankun Wang and Max Q.-H. Meng
Submitted to IEEE Transactions on Systems, Man and Cybernetics: Systems
- **GMR-RRT*: Sampling-based Humanlike Path Planning Using Gaussian Mixture Regression**
Jiankun Wang, Tingguang Li, Baopu Li and Max Q.-H. Meng
Submitted to IEEE Transactions on Automation Science and Engineering
- **Kinematic Constrained Bi-directional RRT with Efficient Branch Pruning for Robot Path Planning**
Jiankun Wang, Baopu Li and Max Q.-H. Meng
Submitted to Expert Systems with Applications
- **Path Planning for Nonholonomic Multiple Mobile Robot System with Applications to Robotic Autonomous Luggage Trolley Collection at Airports**
Jiankun Wang and Max Q.-H. Meng
Submitted to 2020 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)

Journal Publications

- 8. **EB-RRT: Optimal Motion Planning for Mobile Robots**
Jiankun Wang, Max Q.-H. Meng and Oussama Khatib
IEEE Transactions on Automation Science and Engineering, 2020
- 7. **Neural RRT*: Learning-based Optimal Path Planning**
Jiankun Wang, Wenzheng Chi, Chenming Li, Chaoqun Wang and Max Q.-H. Meng
IEEE Transactions on Automation Science and Engineering, Early Access Article, 2020.
- 6. **Optimal Path Planning using Generalized Voronoi Graph and Multiple Potential Functions**
Jiankun Wang and Max Q.-H. Meng
IEEE Transactions on Industrial Electronics, Early Access Article, 2020.
- 5. **Socially Compliant Path Planning for Robotic Autonomous Luggage Trolley Collection at Airports**
Jiankun Wang and Max Q.-H. Meng
Sensors, 2019, 19(12).
- 4. **Safe and Robust Mobile Robot Navigation in Uneven Indoor Environments**
Chaoqun Wang*, Jiankun Wang*, et al.
Sensors, 2019, 19(13).
* indicates equal contribution.

- 3. **Finding a High-Quality Initial Solution for the RRTs Algorithms in 2D Environments**
Jiankun Wang, Wenzheng Chi, Mingjie Shao and Max Q.-H. Meng
Robotica, 2019, 37(10).
- 2. **Risk-DTRRT-Based Optimal Motion Planning Algorithm for Mobile Robots**
Wenzheng Chi, Chaoqun Wang, Jiankun Wang, and Max Q.-H. Meng
IEEE Transactions on Automation Science and Engineering, 2018, 16(3).
- 1. **Efficient Object Search With Belief Road Map Using Mobile Robot**
Chaoqun Wang, Jiyu Cheng, Jiankun Wang, Xintong Li and Max Q.-H. Meng
IEEE Robotics and Automation Letters, 2018, 3(4).

Conference Publications

- 6. **SARL: Deep Reinforcement Learning based Human-Aware Navigation for Mobile Robot in Indoor Environments**
Keyu Li, Yangxin Xu, Jiankun Wang and Max Q.-H. Meng
2019 IEEE International Conference on Robotics and Biomimetics (ROBIO).
- 5. **Tropicistic RRT*: An Efficient Planning Algorithm via Adaptive Restricted Sampling Space**
Jiankun Wang, Xintong Li, Wenzheng Chi and Max Q.-H. Meng
2018 IEEE International Conference on Information and Automation (ICIA).
- 4. **Risk-Informed-RRT*: A Sampling-based Human-friendly Motion Planning Algorithm for Mobile Service Robots in Indoor Environments**
Wenzheng Chi, Jiankun Wang and Max Q.-H. Meng
2018 IEEE International Conference on Information and Automation (ICIA).
- 3. **Motion Artifact Reduction in PPG Signals based on Periodic Component Factorization**
Frank Powen Lo, Xintong Li, Jiankun Wang and Max Q.-H. Meng
39th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'2017)
- 2. **Continuous Systolic and Diastolic Blood Pressure Estimation utilizing Long Short-term Memory Network**
Frank Powen Lo, Xintong Li, Jiankun Wang, Jiyu Cheng and Max Q.-H. Meng
39th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'2017)
- 1. **An Improved RRT Algorithm Incorporating Obstacle Boundary Information**
Jiankun Wang, Xintong Li and Max Q.-H. Meng
2016 IEEE International Conference on Robotics and Biomimetics (ROBIO).

Honors And Awards

- **Reaching Out Award of CUHK** 2018 – 2019
Award for exchange student
- **Global Scholarship Programme for Research Excellence** 2018 – 2019
*Award for **Excellent** exchange student*
- **Hong Kong Ph.D. Fellowship** 2015 – 2019
***Highest** scholarship for students study in Hong Kong. Selection based on: academic excellence, research ability and potential, communication and interpersonal skills, as well as leadership abilities.*
- **Outstanding Graduate of Shandong Province (top 0.5%)** 2015 – 2016
***Highest** award for graduates in Shandong Province*
- **The President Scholarship of Shandong University (top 0.2%)** 2014 – 2015
***Highest** award for students in Shandong University*
- **Outstanding Student of Shandong Province (top 0.5%)** 2014 – 2015
***Highest** award for students in Shandong Province*
- **First Prize – International Underwater Robot Competition** 2014 – 2015
Award for winners in underwater robot competition

- **Champion – China Robot Competition** 2013 – 2014
○ *Highest award in Robot Competition, China*
- **National Scholarship (top 2%)** 2012 – 2013
○ *Highest national wide scholarship for undergraduate students in China*
- **First-class Scholarship of Shandong University (top 5%)** 2012 – 2014
○ *Award for outstanding students*

Personal Activities

- **Reviewer of Journals**
 - IEEE Transactions on Cybernetics
 - IEEE Transactions on Industrial Electronics
 - SCIENCE CHINA Information Science
 - Applied Science
 - IEEE Access
- **Reviewer of Conferences**
 - IEEE International Conference on Robotics and Automation (ICRA 2020)
 - IEEE International Conference on Robotics and Biomimetics (ROBIO 2019,2018)
 - IEEE Conference on Information and Automation (ICIA 2018,2017,2016)
 - IEEE Conference on Automation and Science Engineering (CASE 2018)
 - IEEE Conference on Advanced Robotics (ICAR 2017)
- **Teaching Assistant at CUHK**
 - BMEG4103: Biomedical Modeling. Fall 2015-2016
 - BMEG3420: Medical Robotics. Spring 2016-2017
 - Develop a new course integrating robot and vision. Fall 2016-2017
 - Special TA: Interview, Photographer and General Affairs. Spring 2017-2018
 - ENGG1100: Engineering Design. Spring 2018-2019

Skills

- **Programming skills:** C/C++, MATLAB, Python, LaTeX.
- **Robot Frameworks:** ROS, Gazebo, MoveIt.
- **Tools:** Linux Shell, Visual Studio, OpenFrameworks.
- **Sports:** Basketball, Table Tennis.