

Qinjie Lin

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EDUCATION

Department of Computer Science, Northwestern University

09/2018 - Present

✧ Master of Science, Computer Science

Advisor: Han Liu GPA: **3.87/4.0**

Department of Computer Science and Engineer, South China University of Technology

09/2014 - 06/2018

✧ Bachelor of Engineering, Computer Science and Technology

Advisor: Sheng Bi GPA: **3.74/4.0** Ranking: 12/162(10%)

PUBLICATIONS

✧ **Collision-free Navigation of Human-centered Robots via Markov Games**

Guo Ye, **Qinjie Lin***, Tzung-Han Juang, Han Liu*

Submission to The 2020 International Conference on Robotics and Automation. (ICRA)

✧ **Indoor Mapping Using GMapping on Embedded System**

***Qinjie Lin**, Zhaowu Ke, Sheng Bi*, Sirui Xu, Yuhong Liang, Fating Hong, Liqian Feng,*

Published on IEEE International Conference on Robotics and Biomimetics. (ROBIO)

✧ **Learning to Plan in High Dimensions via Neural Exploration-Exploitation Trees**

*Binghong Chen, Bo Dai, Le Song, Han Liu, **Qinjie Lin**, Guo Ye*

Accepted to The 2020 International Conference on Learning Representations. (ICLR)

✧ **Optimization of Robot Path Planning Parameters Based on Genetic Algorithm**

*Yuhong Liang, Fating Hong, **Qinjie Lin**, Liqian Feng, Sheng Bi*

Published on IEEE International Conference on Real-time Computing and Robotics. (RCRA)

✧ **A Global Localization System for Mobile Robot Using LIDAR Sensor**

Liqian Feng, Sheng Bi, Min Dong, Fating Hong, Yuhong Liang, **Qinjie Lin** and Yunda Liu*

Published on The 9th IEEE International Conference on CYBER Technology in Automation, Control, and Intelligent Systems (IEEE-CYBER)

SELECTED EXPERIENCE

Research Assistant @MAGICS Lab, Northwestern University

01/2019 - Present

✧ Conducted several Robotics projects including but not limited to:

Collision-free Navigation of Human-centered Robots: Exploit Markov games as a framework for collision-free navigation of human-centered robots. Develop a path-following type adversarial training strategy to learn a robust decentralized collision avoidance policy. Demonstrate the effectiveness of learnt collision avoidance on non-adversarial and adversarial scenarios. Deploy the learnt policy on a real mobile robot equipped with only one low cost 2D LIDAR. Submit the work on **2020 ICRA**.

Motion Plan on high-dimension spaces via NEXT: Propose a meta path planning algorithm named Neural Exploration-Exploitation Trees (NEXT) for learning from prior experience for solving new path planning problems in high dimensional continuous state and action spaces. Exploit a novel neural architecture and integrated NEXT into a UCB-type algorithm. Demonstrate the effectiveness of algorithm on robots of different Dofs. Conduct a real-world case study on controlling robot arms to move objects on a shelf. The work has been accepted on **2020 ICLR**.

- ✧ Conducted several Robotics projects including but not limited to:

Robot's Autonomous Navigation Technology Based on Cheap Laser Sensors: Propose adopting the genetic algorithm to select more properly parameters for local path planning of mobile robot. Publish the work on the **2017 RCRA**.

Mapping Technology of the Embedded Platform-based Intelligent Robot: Improve performance in time consumption and CPU consumption by designing and implementing a mapping system based on Embedded platform. Publish the work on **2017 ROBIO**.

COMPUTER SKILLS

- ✧ Computer languages: Python, Matlab, C++, C, R Java, Android,
- ✧ Skills: Linux, ROS, PyTorch, Tensorflow, Github, Gazebo, Pybullet, OpenRave, V-Rep

