Yue Huang

ROBOTICS · REINFORCEMENT LEARNING · LIFELONG LEARNING

Tsinghua University, State Key Laboratory of Intelligent Technology and Systems, Beijing, P.R.China.

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Education

Tsinghua University *Beijing, China*
VISITING STUDENT IN STATE KEY LABORATORY OF INTELLIGENT TECHNOLOGY AND SYSTEMS *May. 2018 - Present*
- Member of the reinforcement learning research group

Harbin Institute of Technology *Harbin, China*
M.S. IN COMPUTER SCIENCE AND TECHNOLOGY *Sep. 2017 - Jul. 2019*
- First Prize Scholarship of Harbin Institute of Technology

HeFei University of Technology *Hefei, China*
B.S. IN COMPUTER SCIENCE AND ENGINEERING *Sep. 2013 - Jul. 2017*
- Rank: 5/167
- First Prize Scholarship of HeFei University of Technology

Experience

Research Assistant, Tsinghua University, State Key Laboratory of Intelligent Technology and Systems (Advisor: Prof. Huaping Liu) *Beijing, China*
RESEARCH: IMITATION LEARNING, LIFELONG LEARNING AND ACTIVE PERCEPTION *May. 2018 - Present*
- Established an active perception framework based on visuomotor control imitation learning
- Established a Lifelong Imitation Learning framework via Dynamic Movement Primitives (LIL-DMPs)
- Established a multi-task imitation learning method via IRL from multi-intention demonstrations

Graduate student, HIT Research Center of Multi-agent Robot (Advisor: Prof. Songhao Piao) *Harbin, China*
RESEARCHER FOR <AUTONOMOUS ROBOTIC SLAM-BASED INDOOR NAVIGATION> *Mar. 2017 - May. 2018*
- Performed research on self-adaptive laser-based SLAM algorithms on ROS simulation environment and physical robots
- Performed research on the robust SLAM and navigation system via Hector and Cartographer algorithms
- Performed research on 2D/3D visual information fusion for bioinspired SLAM

Undergraduate student, Robotics and Intelligent Technology Lab (Advisor: Prof. Baofu Fang) *Hefei, China*
TEAM LEADER FOR HFUT ROBOCUP 3D SIMULATION TEAM *May. 2014 - Mar. 2017*
- Researched on bipedal locomotion and skill learning for both physical and simulation humanoid robots
- Performed research on multiagent positioning, movement and coordinate actions
- Performed research on ad hoc teamwork

Research Project

Multi-Modal Fusion Perception and Human-Robot Interaction for Robotic Manipulation, National Natural Science Foundation Key Project (U1613212) *Beijing, China*
RESEARCH MEMBER *May. 2018 - Present*
- Developed a robust multi-task imitation learning method via dynamic movement primitives
- Developed a multi-intention movement behaviors learning model in based on inverse reinforcement Learning algorithm
- Developed a lifelong unsupervised visuomotor learning framework with RL
- Implemented extensive experiments with Baxter, Widowx Arm, UR5 Arm, Mujoco, GYM, ROS and V-rep simulation environment
- Supplementary video: `https://youtu.be/-LdyWwnYYrY`

**Optimization of an Omnidirectional Humanoid Walk and Tracking Objects,
National University Student Innovation Project (NO.201510359080)**

Hefei, China

PRINCIPAL INVESTIGATOR

May. 2015 - May. 2017

- Implemented filter algorithms for tracking objects in a dynamic environment
- Optimization of an omnidirectional self-adaptive humanoid walk
- Researched adversarial attack learning system for multi-agent environment with evolutionary algorithms

Publication

- **Yue Huang**, Huaping Liu, and Fuchun Sun, "Lifelong Imitation Learning using Dynamic Movement Primitives," Submitted in International Conference on Robotics and Automation (ICRA), 2020
- Songhao Piao, **Yue Huang**, and Huaping Liu, "Online Multi-modal Imitation Learning via Lifelong Intention Encoding," IEEE International Conference on Advanced Robotics and Mechatronics (ICARM), 2019

Honors & Awards

2018	**First Prize**, Scholarship of Harbin Institute of Technology	*Harbin, China*
2017	**1/167**, Outstanding Students of HeFei University of Technology	*Hefei, China*
2017	**First Prize**, RoboCup ChinaOpen 2017 Soccer 3D Simulation League	*Rizhao, China*
2016	**First Prize**, Scholarship of HeFei University of Technology	*Hefei, China*
2014	**Champion**, Mathematical Contest in Modeling of HeFei University of Technology	*Hefei, China*

Academic Service

China Robot Competition | RoboCup China Open

China

TECHNICAL COMMITTEE CHAIR AND ORGANIZING COMMITTEE MEMBER

2015 - 2019

- Conducted the technical infrastruction of Simulation league in RoboCup ChinaOpen
- Organizer of technical challenge workshop in China Robot Competition
- Co-organizer of China Robot Competition and RoboCup ChinaOpen

RoboCup 3D Simulation League

Nagoya, Japan

TECHNICAL COMMITTEE MEMBER

June. 2016 - Aug. 2017

- Developed and maintained software for simulation platform in RoboCup 3D Simulation League
- Co-organizer of RoboCup 2017 3D Simulation League

RoboCup 3D Simulation League

Leipzig, Germany

TEAM LEADER OF HFUTENGINE SIMULATION LEAGUE TEAM

June. 2015 - June. 2017

- Participated on and led the HFUTEngine RoboCup robot 3D simulation soccer team
- Assisted in teaching course on Autonomous Multiagent Systems