Yiming Li

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Institute of Automation, Chinese Academy of Sciences, 95 Zhongguancun East Road, #100190, Beijing, China

EDUCATION

Institute of Automation, Chinese Academy of Sciences (CASIA), Beijing, China *Sep. 2019 - Present*

- M.Sc. in Control Theory and Control Engineering (GPA: 3.84/4.0)
- Research interest: 3D Vision, Robotic Perception and Manipulation, Dexterous Hand
- Main Courses: Deep Learning, Pattern Recognition, Computer Vision, Stochastic Processes, Matrix Theory, Reinforcement Learning, Principles of Operational Research

Tongji University, Shanghai, China *Sep. 2015 - Jun. 2019*

- B.Eng. in Mechanical Engineering (GPA: 4.46/5.0)
- Awarded **Excellent Graduates** of Shanghai and **Excellent Student** of Tongji University
- Awarded **National Encouragement Scholarship** and **First Prize of Tongji Scholarship** multiple times
- Main Courses: Robotics, Theoretical Mechanics, Fundamentals of Control Engineering

PROJECT EXPERIENCES

6-DoF Grasp Pose Learning in Clutter *Feb. 2020 - Present*

Research Intern at ByteDance AI Lab. Supervisor: Dr. Tao Kong

- Applied point cloud registration and object pose estimation technologies to grasp daily objects. Experiments were conducted on *Pybullet* simulation and deployed on the office assistant robot with the success rate > 80%
- Proposed a simultaneous 6-DoF grasp pose estimation method to jointly learn object-level, collision-free grasps from single-view point clouds in cluttered scenes (accepted by IROS 2021.) [Project] [Video]

Robotic Manipulation and Humanoid Hand Dexterous Grasping *Sep. 2019 - Present*

Undergraduate Research Assistant at CASIA RLIS Lab. Supervisor: Prof. Peng Wang

- Introduced self-supervised methods into human grasp affordances learning and proposed a differentiable HIT DLR hand layer to transfer grasps to humanoid hand for dexterous grasping (prepared to ICRA 2022.)
- Investigated reinforcement learning and evolution algorithms on robotic manipulation tasks. An autonomous developmental evolutionary learning framework is proposed for robots to adapt to the changing environment (accepted by ICDL 2021.)

Personal Urban Mobility Access (PUMA), PACE Competition *Sep. 2017 - Jan. 2019*

Leader of Electronic Group, PACE Vehicle Engineering Center, Tongji University. Supervisor: Prof. Zhigang Yang

- Designed an embedded driving control system for Portable Electrical Bicycle
- Developed a vision-based tracking module to make the vehicle follow pedestrians automatically

PUBLICATIONS

[1] **Yiming Li**, Tao Kong*, Ruihang Chu, Yifeng Li, Peng Wang* and Lei Li. " Simultaneous Semantic and Collision Learning for 6-DoF Grasp Pose Estimation." (submitted to RAL with IROS 2021, and accepted by IROS at present.)

[2] **Yiming Li**, Peng Wang*, Xiaofei Shen, Haonan Duan and Chenlin Zhou. "Autonomous Developmental Evolutionary Learning for Robotic Manipulation." (accepted by ICDL 2021)

[3] Yuchen Mo, Tao Kong, **Yiming Li**, and Lei Li. "VLMBench: Towards Benchmarking Visual-Language Robot Manipulation." (ICCV 2021 under review)

SELECTED HONORS

First Prize of RoboMaster Competition *Jul. 2018*
Meritorious Winner in Mathematical Contest In Modeling *Apr. 2018*
Second Prize of Mathematics Competition of Chinese College Students *Dec. 2017*

SKILLS

Programming	Python, C/C++, MATLAB, LaTeX	**Libraries**	Pytorch, PCL, Open3D, Opencv
Simulation	ROS, Pybullet, Mujoco, Blender	**Hardware**	STM32, Arduino
Design	SolidWorks, AutoCAD	**Language**	Chinese (Native), English