

TAO CHEN

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EDUCATION

- Carnegie Mellon University (CMU)**, Pittsburgh, PA 2017 - 2019
• Master of Science in Robotics (MSR), The Robotics Institute Overall GPA: 4.17/4.33
• Advisor: Prof. **Abhinav Gupta**
- Shanghai Jiao Tong University (SJTU)**, Shanghai, China 2012 - 2016
• Bachelor of Science in Mechanical Engineering and Automation Overall GPA: 3.94/4.3
• *Ranked first* in School of Mechanical Engineering, Class of 2016 Major GPA: 4.09/4.3
• *Awarded National Scholarship* (top scholarship in China) in 2013, 2014, and 2015
- Purdue University**, West Lafayette, IN Aug 2015 - Dec 2015
• Exchange Student (Global Engineering Alliance for Research and Education) Overall GPA: 4.0/4.0
• *Dean's List and Semester Honors* at College of Engineering

RESEARCH INTERESTS

- Robot Learning, Control, Manipulation, Motion Planning, Computer Vision

PUBLICATIONS

- **Tao Chen**, Saurabh Gupta, and Abhinav Gupta. Learning exploration policies for navigation. *International Conference on Learning Representations (ICLR)*, 2019.
- **Tao Chen**, Adithyavairavan Murali, and Abhinav Gupta. Hardware conditioned policies for multi-robot transfer learning. In *Advances in Neural Information Processing Systems (NIPS)*, 2018.
- **Tao Chen**, Renming Guan, Zhedong Han, Pei Zhang, Yangyu Gao, and Hua Shao. An Active Rehabilitation Device for Elbow Joints, *China Patent, CN105148460B*, 2017.

INDUSTRY EXPERIENCE

- Shanghai LingXian Robotics** July 2016 - July 2017
Full-stack Robotics Engineer Shanghai, China
- Developed an integrated RGBD SLAM system augmented with objection recognition, segmentation, motion planning, and automatic map exploration capabilities for mobile robots
 - Developed algorithms for making robots play table tennis with deep learning
 - Developed point cloud object segmentation algorithms for robotic grasping

RESEARCH EXPERIENCE

- Visual Robot Learning Lab, CMU** Aug 2017 - Present
Research Assistant Advisor: Prof. **Abhinav Gupta**
- Designed hardware-condition policies that transfer diverse skills between robots with different kinematic structures, degrees of freedom, and dynamics
 - Developed exploration policies for mobile agents to autonomously explore new house environments

Soft Robotics Lab, SJTU

Mar 2016 - June 2016

Research Assistant

Advisor: Prof. Guoying Gu

- Designed and fabricated a soft gripper for grasping delicate objects and a soft hand for rehabilitating dexterity of injured hands
- Analyzed the relationship between soft pneumatic network actuator's geometric parameters and actuation performance with FEM (Finite Element Method) and GCI (Grid Convergence Index)
- Ranked **Top 1%** (38 out of about 4000 theses) among all bachelor theses of SJTU

Product Engineering and Realization Laboratory (PEARL), Purdue

Aug 2015 - Dec 2015

Capstone Project

Advisor: Prof. John Nolfi

- Designed and Fabricated a tennis ball collecting robot, developed the whole control scheme for the robot

The Sixth People's Hospital of Shanghai & SJTU

Mar 2015 - June 2015

Team Leader

Advisor: Prof. Hua Shao

- Developed a healthcare product for the hospital, which aimed to rehabilitate injured elbows
- Managed the product development team, organized the design process and controlled production cost
- Awarded a **China Patent** for the invention

Texas Instruments-SJTU Technology Center, SJTU

Mar 2015 - June 2015

Team Leader

Advisor: Prof. Xiangzhong Fang

- Attended 2015 Robomaster Robotics Competition
- Designed and manufactured highly agile cars equipped with a two-DOF platform and a miniature gun barrel to accomplish a robotic battle arena style game
- Headed the mechanical design group, and organized the manufacturing

AWARDS AND HONORS

- National Scholarship (top-notch scholarship in China) 2013, 2014, and 2015
- Shanghai Outstanding Graduate (Top 3%) June 2016
- Best Bachelor Theses of Shanghai Jiao Tong University (Top 1%) June 2016
- Second Prize in 2015 Robomaster Robotics Competition of East China Area July 2015
- Third Prize in 2015 Robomaster Robotics Competition Final July 2015
- Second Prize in Fourth Shanghai Student Innovation Contest in Mechanical Engineering Apr 2015
- Third Prize in Seventh National Student Social Practice and Science Contest on Energy and Emission Reduction Aug 2014
- Merit Student of Shanghai Jiao Tong University (Top 3%) Oct 2013 and Oct 2014

SKILLS

Deep Learning:	PyTorch, TensorFlow, MXNet, Caffe
Programming:	C++, C, Python, Java, Matlab, Assembly Language for micro-controllers
Mechanical:	CAD, CAM, Capable of handling manufacturing machines
Electronics:	STM32, Arduino, PCB drawing, control and signal filtering
Robots:	Universal Robots UR10, Sawyer robot, NAO robot, Turtlebot, Shadow hand, Robotiq's adaptive robot gripper
OS:	Linux, ROS