

Hejia Zhang

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EDUCATION

University of Southern California

Los Angeles, USA

M.S. IN COMPUTER SCIENCE, GPA: 4.0/4.0

01/2018 – Present

Zhejiang University

Hangzhou, China

B.E. IN BIOENGINEERING, GPA: 3.62/4.0

09/2013 – 07/2017

Honor Second-Class Scholarship for Outstanding Merits, Zhejiang University

2013 – 2014

Third-Class Scholarship for Outstanding Merits, Zhejiang University

2015 – 2016

ACADEMIC EXPERIENCE

Robotic Embedded Systems Laboratory (Prof. Gaurav S. Sukhatme)

Graduate Research Assistant, University of Southern California

02/2018 – Present

- Conducting peer-reviewed research on robotics and machine learning (see publications)
- Designing and developing robot learning environments for Sawyer robot, in simulation and on the real robot
- Developing open-source deep reinforcement learning framework *Garage*¹
- Supporting diagnosis and repair of hardware problems on RESL's PR2 robot, reached out to research groups from several universities for potential solutions

Institute of Biosystem Automation and Information Technology (Prof. Hui Fang)

Undergraduate Research Assistant, Zhejiang University

02/2016 – 06/2017

- Developed real-time point cloud data processing software, responsible for GUI, data-processing modules
- Prototyped novel systems for rapidly detecting the ATP content of plants (see patents)

PUBLICATIONS

- Hejia Zhang², Eric Heiden², Ryan Julian, Zhangpeng He, Joseph J. Lim, and Gaurav S. Sukhatme. **Auto-conditioned Recurrent Mixture Density Networks for Complex Trajectory Generation**. *Submitted to International Conference on Robotics and Automation (ICRA)*, 2019.
- Zhanpeng He², Ryan Julian², Eric Heiden, Hejia Zhang, Stefan Schaal, Joseph J. Lim, Gaurav S. Sukhatme, Karol Hausman. **Simulator Predictive Control: Using Learned Task Representations and MPC for Zero-Shot Generalization and Sequencing**. *To be presented at NIPS 2018 Deep RL workshop*.
- Ryan Julian², Eric Heiden², Zhangpeng He, Hejia Zhang, Stefan Schaal, Joseph J. Lim, Gaurav S. Sukhatme, Karol Hausman. **Scaling simulation-to-real transfer by learning composable robot skills**. *To be presented at International Symposium on Experimental Robotics (ISER)*, 2018.

PATENTS

- Fang, Hui; Zhang, Hejia; Zhang, Xuzhou; He, Yong. 2017. **Method for rapidly detecting content of ATP of plant leaf**. CN107515211A, filed Dec 26, 2017. Patent Application

¹<https://github.com/rlworkgroup/garage>

²Equal contribution

PROFESSIONAL EXPERIENCE

FireVision Technology Co., Ltd

Hangzhou, China

Software Engineer

06/2017 – 12/2017

- Developed and maintained face recognition cloud platform which accepts and processes user management, face feature management and face recognition requests from hundreds of different organizations
- Implemented online data annotation platform which allows non-technical users to clean and annotate unlabeled data
- Developed GPU accelerated video decoding modules which significantly improves video decoding speed and reduces CPU usage
- Developed face recognition access control system which has been employed in a lot of schools and companies
- Supervised and managed software development interns

EXTRA CURRICULUM EXPERIENCE

2016 ASABE Robotics Student Design Competition

Designer & Programmer, Orlando, USA

03/2016 – 06/2016

- Designed and developed robot software, responsible for perception, computer vision and path planning modules
- Designed a manipulator that can grab the ping-pong ball and suck the ball into a storage compartment inside the robot

2015 National Intelligent Agricultural Equipment Innovation Competition for College Students

Designer & Programmer, Jiangsu, China

10/2015 – 12/2015

- Designed and developed robot software, responsible for perception and path planning modules

SKILLS

Programming Languages: C/C++ Python Matlab Linux Shell Scripting CUDA

Code Version Control: SVN Git

Machine Learning Development Framework: TensorFlow Pytorch

Robotics Development Framework: Robot Operating System (ROS)

Robot Simulator: Gazebo MuJoCo

Computer Vision Libraries: OpenCV Point Cloud Library (PCL)

Robot Design Software: Blender AutoCAD 3ds Max

Network Programming Libraries: Poco (C++) Tornado (Python) Mosquitto Boost.Asio