# Hejia Zhang

2673 Menlo Avenue Unit 3 Room E · Los Angeles · CA 90007

hejiazha@usc.edu +1 (213) 477-0490

## 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: 3.63/4.0 *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 Zhang[2], Eric Heiden[2], 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 He[2], Ryan Julian[2], 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 Julian[2], Eric Heiden[2], 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
[2] Equal contribution

# PROFESSIONAL EXPERIENCE

### Seeta Technology Co., Ltd *Beijing, 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