

# Sophia Li

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justsophie.com – github.com/srli

## PROFESSIONAL EXPERIENCE

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### Olin College Robotics Lab

Needham, MA

*Research Assistant*

*Feb 2014 – present*

- Edwin, intuitive co-worker robots (current project)
  - Using Robotic Operating System (ROS) and Tkinter, wrote a package that allows easy setup and operation of poses and behaviors for an ST-R17 robotic arm, nicknamed “Edwin”
  - Used OpenCV to give Edwin the ability to play tic-tac-toe with a human operator using marker and paper
- Jimmy: Intel 20<sup>th</sup> Century Robots
  - Used ROS to write packages that allow general human robot interaction including face tracking, speech recognition, and posture generation
- Olin Trans-Atlantic Robot Tuna
  - Used OpenCV to create an underwater navigation system that uses structured light and QR codes for localization and object avoidance

### Amazon Robotics

North Reading, MA

*Software Intern*

*May 2016 – Aug 2016*

- Used AWS services (DynamoDB, SQS, S3) and Java to create a cloud-based service that uses distributed computer vision and supervised machine learning

### Apple Inc.

Cupertino, CA

*Camera Testing and Validation Intern*

*May 2015 – Aug 2015*

- Wrote software for LED integrating sphere for automating various camera validation tests
- Wrote a bash script for automating iPhone/iPad image capture/download

### Senior Capstone Program in Engineering (SCOPE)

Needham, MA

*Locus Robotics Team, Hired Student Assistant*

*Jan 2016 – May 2016*

- Wrote forward/inverse kinematics package for UR10 robot arm for collaboration with humans in factory settings

*Boeing Team, Hired Student Assistant*

*March 2015 – May 2015*

- Wrote indoor localization code for mobile robots using 2D fiducials

## PERSONAL PROJECTS

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### WALL-E

- Used OpenNI and NiTE to create a code infrastructure for gesture/posture recognition and the associated robotic responses to simulate the movie WALL-E robot as a personal interest project
- Implemented code infrastructure on mechanical platform to build mobile and reactive WALL-E. Demoed WALL-E to the delight of many elementary students, demonstrating achievement of convincing likeness to the movie

## EDUCATION

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### FRANKLIN W. OLIN COLLEGE OF ENGINEERING

Needham, MA

*Bachelor of Science Candidate, Robotics. Class of 2017*

*GPA: 3.74*

- Selected Prev. Classes: Software Systems, Logic, Discrete Math, Semiconductor Devices, Mechanical Dynamics
- Course Assistant: Software Design, Computational Robotics, Computer Architecture, Fund. Computer Science

## ADDITIONAL SKILLS

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- Programming languages known – Python, C++/C, Java, Matlab, OCaml, Verilog
- Experienced with OpenCV and various ROS packages for use in computer vision, indoor navigation
- Experienced with micro-controller C programming for Zybo Zync-700, Arbotix, and Arduino boards
- Experienced with AWS Java API and designing service-based programming architecture
- Fluent in spoken Mandarin Chinese, professional fluency in French
- Plays acoustic guitar, violin, and piano. Also likes to bake.

Thanks for reading, have a nice day!