

# Bianca Yang

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## **Education:**

**Caltech** — Computer Science

**June 2019 (Expected)**

## **Skills:**

Programming Languages: Python, C++, Bash

Software Frameworks: Matlab, ROS

Other: 3D Printing, Laser Cutter, Water Jet, Mill

## **Experiences:**

**Student, ME 110 (Special Laboratory Work in Mechanical Engineering)** **March 2019 - Present**

- Building an autonomous hexapod that can follow human targets around obstacles and over rough terrain like stairs. Using ROS, Solidworks.

**Student, ME/CS/EE 134 (Autonomy)** **Jan 2019 - March 2019**

- Built a 5DOF robotic arm that uses a webcam powered by OpenCV to detect blocks and stack them into a pyramid shape. Developed kinematics from scratch and used ROS framework. See video and writeup [here](#).

**Student Researcher, Caltech, Perona Lab** **Oct 2018 - Present**

- Researching machine learning techniques which can minimize power usage of hierarchical sensor systems that track infrequent events.
- Current implementation is a Raspberry Pi with a camera, ultrasonic distance sensor, PIR motion sensor, 8x8 IR grid, and proximity sensor.

**Software Engineer, Caltech DARPA Subterranean Challenge Team** **Oct 2018 - April 2019**

- Researching efficient methods to collapse information about rough terrain into a cost map that could be used by motion planners to guide a ground robot.

**Cloud + AI Software Engineering Intern, Microsoft** **Jul 2018 - Sept 2018**

- Improved scheduling times and monitoring of distributed GPU system for deep learning jobs by introducing blacklisting to prevent jobs from repeatedly attempting to schedule against unusable nodes.
- Improved resource utilization and machine status tracking in web portal using Angular/[ASP.net](#)/Typescript.

**Machine Learning Researcher, Caltech CS159 Course** **March 2018 - June 2018**

- Evaluated various network architectures for multi-task reinforcement learning of variants on inverted cartpole/pendulum with A3C as the baseline algorithm. Read our report [here](#).

**Machine Learning Consultant, Virtualities** **Jan 2017 - June 2018**

- Developed machine learning suite to improve efficiency of consulting projects.
- Created distributed grid search framework for faster training and evaluation of machine learning models.

**eCommerce Marketing Manager, Efficient Living**

**Jun 2015 - Dec 2017**

- Expanded Japanese business through Fulfillment by Amazon and managed digital marketing campaign to drive sales.
- Launched online retail business for whiskey lovers.

**Awards:**

**3rd Place, SoCal Citadel Data Open**

**Oct 2018**

**Hobbies:**

**Student Pilot, Caltech/JPL Flying Club Member (AACIT)**