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/CS/EE 134   **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 module with a camera, ultrasonic distance sensor, PIR motion sensor, 8x8 IR grid, and proximity sensor for deployment in the lab.

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, Virtualitics   **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.

Co-President and Board Member, Caltech Student Investment Fund   **Oct 2015 - June 2018**
- Wrote value investing based curriculum to prepare fund members to manage $750K endowment.
- Managed annual disbursements and arranged annual speaker series.

eCommerce Marketing Manager, Efficient Living   **Jun 2015 - Dec 2017**

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

Quantitative Research Associate, Fuller & Thaler Asset Management   **Jul 2017 - Sept 2017**
- Created natural language processing algorithm to analyze financial news and SEC filings to improve returns.

<u>Awards:</u>
3rd Place, SoCal Citadel Data Open   **Oct 2018**

<u>Hobbies:</u>
Student Pilot, Caltech/JPL Flying Club Member (<u>AACIT</u>)