

Justin Yu

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Education

University of California, Berkeley

Berkeley, CA

B.S. IN ELECTRICAL ENGINEERING AND COMPUTER SCIENCE, GPA: 3.97

Aug. 2018 - May 2022 (expected)

- Coursework 📄: Data Structures, Algorithms, Machine Learning, Probability, Operating Systems* (*=current)

SKILLS

Languages Python, Java, C/C++, Javascript, HTML/CSS; (less experienced) SQL

Technologies Git, Docker, Cloud, Python ML (tensorflow/pytorch, sklearn, pandas), Reinforcement Learning, Robotics (ROS), Anaconda

Experience

Amazon.com (Canvas Technology)

Boulder, CO (Remote)

SOFTWARE DEVELOPMENT ENGINEERING INTERN (AUTONOMOUS MOBILITY TEAM)

May 2020 - Aug. 2020

- Built a debugging tool that used **unsupervised learning techniques** to extract meaningful patterns in cart failure modes.
- Automated analysis of cart logs pulled from trouble tickets, spanning **3 months of data** in **3 Amazon fulfillment centers**.
- Decreased debugging time per ticket by an **average of 250%** compared to prior manual debugging workflows.

Robotic AI and Learning Lab (Berkeley AI Research)

Berkeley, CA

UNDERGRADUATE RESEARCHER

Feb. 2019 - Present

- Researching real world robotic learning of in-hand manipulation with deep reinforcement learning under Prof. Sergey Levine.
- Prototyping reward learning and representation learning methods in simulated and hardware environments.

Berkeley EECS

Berkeley, CA

TEACHING ASSISTANT

Jan. 2020 - Present

- Teaching EECS16B, an electrical engineering intro course covering linear algebra, differential equations, controls, and signals.
- Maintained overall teaching effectiveness score of **4.64/5** in Spring 2020 according to anonymous end-of-semester surveys.

Extracurricular

Computer Science Mentors

Berkeley, CA

CONTENT MENTOR

Jan. 2019 - May 2020

- Leading content creation, teaching junior mentors, and teaching small sections for Berkeley's EECS16B.
- 5/5 average rating from students in Spring 2019 and Fall 2019.

Blockchain at Berkeley

Berkeley, CA

LEAD INSTRUCTOR AND ORGANIZER, EDUCATION DEPARTMENT

Sep. 2018 - Dec. 2019

- Lead lecturer for the **world's first and most popular** undergraduate course on blockchain. 📄
- Led content creation, course management, and coordinating with guest speakers for a class around 60 students in Fall 2019.

Projects 📄

Consensus Simulation 📄

FLASK, JAVASCRIPT, SOCKETIO, HTML/CSS

Feb. 2019 - Apr. 2019

- Simulated a decentralized network of nodes in a blockchain using a chatroom message passing backend to analyze the effects of network size, latency, and voting power under Proof-of-Work Nakamoto (longest chain) consensus.

Pothole Detection 📄

FIREBASE, TENSORFLOW, GOOGLE CLOUD PLATFORM, SWIFT, JAVASCRIPT

LAHacks 2019

- Created an iOS + web app that allows easy crowdsourcing of infrastructure damage (such as potholes), including geolocation heatmaps. Used pretrained deep learning models to automatically detect and report damages.

Publications

Henry Zhu, **Justin Yu**, Abhishek Gupta, Dhruv Shah, Kristian Hartikainen, Avi Singh, Vikash Kumar, Sergey Levine. "The Ingredients of Real World Robotic Reinforcement Learning". Accepted as a spotlight presentation to *International Conference on Learning Representations (ICLR)*, 2020. 📄

Ryan Huang, Michael Vronsky, Daniel Wang, **Justin Yu**, Joanne Yuan. "A Mathematical Analysis of Food Waste Production and Redistribution". In *Society for Industrial and Applied Mathematics Student Journal*, 2018. 📄