

## Education

### University of California, Berkeley | 4.0 GPA

Aug 2017 - Present

Major: B.S. in Electrical Engineering and Computer Science

- Regents and Chancellors Scholarship, Engineering's Dean's List - top 10%, HKN EECS Honors organization
- CS Coursework: Data Structures, Algorithms, Info Systems I & II, Computer Architecture, Operating Systems
- Math Coursework: Machine Learning, Artificial Intelligence, Discrete Math, Probability, Real Analysis
- Stanford Summer Courses: Client-side Internet Technologies, Differential Equations for Engineers.

## Experience & Research

### Citadel | Software Engineering Intern

June 2019 - Aug 2019

- Developed C++ proxy and API to improve job monitoring, leveraged KDB for testing multi-server trading systems
- Created APIs for trade messages, then unified them with query systems under a new central platform for traders.
- Explored techniques for reducing RAM usage of large model training libraries, causing peak reduction of 75%

### Intel AI Products Group | Artificial Intelligence Intern

May 2018 - Aug 2018

- Created demo projects for Intel OpenVino Model Optimizer with AWS DeepLens device, published tutorial.
- Explored gradient based model explanations in image-classification and NLP problems for generalized local estimations of differentiable models. Assessed explainability of adversarial generation via fast gradients.
- Documented workflows for AWS EC2, S3, and SageMaker for training and tuning largescale networks.

### UC Berkeley Auto Lab | Research Assistant

Feb 2019 - Present

- Integrating object detection models (SSD) with fully convolutional grasp quality networks for one shot object recognition and grasp planning. Designing, testing, and implementing multiple architectures in tensorflow.
- Extending DexNet 2.0 simulator data collection across policy and supervisor to support bounding boxes.

### UC Berkeley RISE Lab | Research Assistant

Jan 2019 - Present

- Leading model curation team for [modelzoo.live](http://modelzoo.live) project for RISE Lab's Clipper machine learning inference system.
- Creating dockized server containers to serve object detection, image classification, and text generation models.

### Switchboard | Android Developer (Contracted)

Jan 2018 - Aug 2018

- Developed professional Android voice messaging application for a Berkeley SkyDeck startup Switchboard.
- Managed client connection to custom API for user feed/status/notifications and multi-user audio recording and streaming with TokBox video chat REST API. Integrated with pre-existing iOS and Web App.
- Routed user events using SocketIO connection. Implemented socket guaranteed delivery with ack messages.

### UC Berkeley Romps Group | Research Apprentice

Jan 2018 - Dec 2018

- Implemented Raspberry Pi based system for collection of humidity/pressure data and SQL Storage over serial.
- Proposed plan for 100m oscillating atmospheric helikite for measuring qualities of low cumulus clouds.

### Stanford Dept. Political Science | Research Assistant

Jun 2016 - Aug 2016

- Utilized Python's Natural Language Toolkit to parse and clean 1.3 Terabytes of Corporate 10K, 10Q filings
- Formed bigram datasets used to predict corporate donation tendencies based on language usage or keywords
- Created web-based visualizer using JavaScript, SQL, and Google Charts API to allow researchers to view changes in word frequency over time, filtered by industry or location using schema like that of Google n-grams

## Activities & Projects

### Launchpad At Berkeley | AI / ML Developer

Jan 2018 - Present

- Implementing mixture density and recurrent networks for reinforcement learning in compressed environments.
- Utilized the OpenAI reptile and MAML algorithms for meta reinforcement learning with Policy gradients.
- Designed method for unique object tracking in video with YOLOnet, nearest neighbors, and regression models.

### Teaching Assistant | CS 70 Probability and Discrete Math

August 2018 - Present

- TA Fall 2019, teaching weekly sections and holding office hours. Reader Sp19, CS Mentor Fa 18

## Skills

**Programming:** Java, Python, C, Tensorflow, Keras, Android, SQL, Unix, HTML/CSS, Javascript, AWS, Docker, Firebase

**Engineering:** Arduino / MSP Circuits, SolidWorks CAD, mill lathe & 3D printer fab, diff eq, multivar calc, stats, physics