

Jared J. Rulison

1801 Shattuck St #2-408
Berkeley, CA 94709
rulison.github.io

(650)-793-9512
rulison@berkeley.edu

EDUCATION

<i>University of California, Berkeley, Berkeley CA</i>	2017-2018
<ul style="list-style-type: none">• Masters of Science, Electrical Engineering and Computer Science - Expected Spring 2018.	
<i>University of California, Berkeley, Berkeley CA</i>	2013-2017
<ul style="list-style-type: none">• Bachelor of Science with Honors, Electrical Engineering and Computer Science - Spring 2017. GPA: 3.72.	
<i>Los Altos High School, Los Altos CA</i>	2009-2013

EXPERIENCE

Graduate Researcher: <i>UC Berkeley Prof. Stuart Russell Lab, Dept. of EECS</i>	October 2015-Present
<ul style="list-style-type: none">• (Began as undergraduate research assistant) Implementing models in and enhancing BLOG, a probabilistic programming language. Examples of problems modeled are video background subtraction and desktop workflow predictions. Improving language by implementing inference algorithms. Tools used include Python, Java, C++, BLOG.	
Software Engineering Intern: <i>Twitch.tv</i>	May-August 2016
<ul style="list-style-type: none">• Enhanced performance of video replication system and implemented metrics to measure performance increase. Tools used include Golang and Mode Analytics.	
Software Engineering Intern: <i>Google, Inc.</i>	May 2015-August 2015
<ul style="list-style-type: none">• In natural language processing research team prototyping an interface for talking to website and apps. Created experimental framework for crowd-sourcing datasets of natural language queries. Established baseline measurements on labeled datasets using context-free grammars. Tools used include Python, C++, and internal Google tools.	
Research Assistant: <i>UC Berkeley Prof. Laura Waller Lab, Dept. of EECS</i>	August 2013-May 2015
<ul style="list-style-type: none">• Assisted in building and programming CellScope, a portable Android-operated microscope. Optimized image processing techniques using the Android NDK. Co-authored "TODO" Tools used include Python, C++, and Arduino.	
Research Assistant: <i>Stanford Prof. Miriam Goodman Lab, Dept. of Molecular and Cellular Physiology</i>	June-August 2013
<ul style="list-style-type: none">• Wrote programs to streamline experiments for other researchers. Tools used include Arduino, VBScript, Python, and C.	
Quality Control Intern: <i>Intuitive Surgical, Inc in Mountain View</i>	July-August 2012
<ul style="list-style-type: none">• Improved machine training simulator by systematic testing of edge cases. Resulted in several reliability improvements to developed piece of software. Used Python.	

INDEPENDENT PROJECTS (find most at <http://www.github.com/Rulison>)

-
- **Image Transformation via Neural Network Inversion:** Partners and I used a classification convolutional neural network trained on the ImageNet database to transform an image of a given label such that the network classified it as a different desired label. We did this by performing gradient descent on the input image with loss functions specialized for regulating classification, textures, edges, and noise calculated on outputs at specific inner layers.
 - **Quick Twitch:** A Chrome extension that lists followed channels of a given Twitch username and shows if each is live or not. Worked around Google Javascript security restrictions by deconstructing Twitch Javascript API source code. Currently available in Chrome App Store.
 - **Auricle:** iPhone app for ear training. First component is a library of intervals that allows user to hear any interval. Second component is a quiz portion, which plays the interval and asks user for its identity. Tools used include Obj-C, Xcode.
 - **RSA Chat:** A Java networked chatroom GUI that demonstrates RSA encryption for education purposes. Demonstrates secure communication between two people and any number of interceptors (spectators).

COURSEWORK

-
- Graduate level: CS280 Computer Vision, CS281A Statistical Learning Theory (In Progress), CS294-112 Deep Reinforcement Learning (In Progress)
 - Upper division: CS161 Security, CS162 Operating Systems, CS168 Networking, CS170 Algorithms, CS184 Computer Graphics, CS186 Database Systems, CS188 Artificial Intelligence, CS189 Machine Learning, CS191 Quantum Computing

SKILLS

-
- Languages: Java, Python, Golang, C, C++, SQL (Proficient) TensorFlow, HTML/CSS/Javascript, iPhone/Obj-C (Familiar with)

LEADERSHIP

President: <i>Institute of Electrical and Electronic Engineers</i>	May 2015-May 2017
<ul style="list-style-type: none">• Oversaw operations of student branch, including the bi-annual Startup Fair, two student-led classes, company infossessions, and professional development workshops.	
Undergraduate Student Instructor: <i>CS61B, UC Berkeley</i>	August 2016-May 2017
<ul style="list-style-type: none">• Developed course materials and led discussions, labs, and office hours.	