

## Skills

### Languages

Python  
R  
Go  
MATLAB  
C/C++

### Libraries

TensorFlow  
PyTorch  
NumPy  
Pandas  
SciPy  
Keras

### Query Languages

Presto  
Hive  
MySQL  
Postgres  
SQLite

### OSes

Linux  
macOS  
Windows

### Neuroscience

SPM  
Amazon MTurk  
Gorilla

## Contact

+1 (650) 450-3013  
rylanschaeffer@gmail.com  
linkedin.com/in/rylanschaeffer  
rylanschaeffer.github.io

## Education

### Harvard University

Sep 2019 - May 2021 (Expected)

Master of Engineering, Computational Science and Engineering

### University College London

Sep 2017 - Sep 2018

Master of Research, Cognitive Neuroscience

Distinction (British Equivalent of 4.0 GPA)

Founded and managed UCL Artificial Intelligence Journal Club (25 speakers in 9 months from DeepMind, OpenAI, Uber AI Labs, Toronto, MILA, Stanford, Berkeley, Princeton, Oxford, Cambridge, Imperial and more)

### University of California, Davis

Sep 2011 - Jun 2016

Bachelor of Science, Computer Science Engineering

Bachelor of Science, Computational Statistics

Outstanding Senior Award, Department of Computer Science and Engineering

University of California Regents Scholar

Designed and taught 3 courses: Cryptocurrency Technologies, History of CS, Davis Hacks

## Experience

### Uber

Oct 2018 - Sep 2019

Data Scientist, Time Series Forecasting and Anomaly Detection Platform

- Placed 3rd out of 217 teams in Uber's internal Machine Learning Hackathon.

- Added outlier removal preprocessing to Uber's anomaly detection production platform in Go, increasing accuracy from 67% to 81% (precision 0.957 to 0.917; recall 0.247 to 0.618).

- Guided long-range budget planning and identified future efficiency efforts for Uber's data, storage and compute platforms using statistical forecasting models (Theta, ETS, ARIMA).

- Enabled model routing for anomaly detection by refactoring Metric Reliability Service.

- Presented at Deep Learning Journal Club on recent advances in memory architectures.

- Discovered future projects by interviewing 15 internal teams to identify pain points.

### Wellcome Trust Centre for Human Neuroimaging

Sep 2017 - Sep 2018

Computational Cognitive Neuroscience Researcher

Proposed and executed two research projects under Dr. Stephen Fleming:

- Novel human behavioral experiment to test how the stability of beliefs influences subjectively reported confidence. Collected data via Gorilla and Amazon Mechanical Turk. Analyzed results using two-way mixed-effects repeated measures ANOVA and mixed-effects regression in R.

- Deep reinforcement learning experiment to explain diverse mammalian experimental results in the metacognition literature, including the dissociability of action from evaluation, the ubiquity of hyper-metacognitive sensitivity and the response-locked error-related negativity. Proposed and implemented a theoretically-grounded modification of the Advantage Actor-Critic architecture in TensorFlow.

### Thermo Fisher Scientific

May 2017 - Sep 2017

Deep Learning Research Intern

Demonstrated applicability of deep learning to DNA sequencing by researching, proposing, implementing, training and testing a sequence-to-sequence RNN-based architecture with 99.24% test accuracy. Identified missing TensorFlow functionality and implemented own solution. Constructed pipeline for converting MySQL data to TFRecords and creating queues for reading and batching data. Provisional patent filed.

### UC Davis Department of Computer Science

Sep 2015 - Jun 2016

Python Developer

Led team to develop an online testing platform for use in UC Davis classes. Deployed in two courses to approximately 75 undergraduates. Built server to push test problems client-side and to accept student submissions.

## Blog

Published explanations of exciting new papers in artificial intelligence research. Posts surpassed twenty thousand unique readers in a month and topped HackerNews. Examples:

- Neural Episodic Control by Pritzel et al.

- Neural Turing Machine by Graves et al.

- Early Visual Concept Learning with Unsupervised Deep Learning by Higgins et al.

- Overcoming Catastrophic Forgetting in Neural Networks by Kirkpatrick et al.

## Experience Continued

### Associated Students of UC Davis

**Apr 2014 - Feb 2015**

Chief Financial Officer & Chief Operating Officer

Authored and executed \$12 million budget of UC Davis student government. Solved \$100,000 structural annual deficit. Managed and improved operating efficiency of 26 businesses and services to better serve UC Davis undergraduates. Hired unit directors and new ASUCD staff advisor. Accomplishments include merging Campus Copies/Classical Notes with the Post Office to halve labor costs and restructuring Experimental Colleges and Whole Earth Festivals operating models for future stability.

### UC Davis Chancellor's Undergraduate Advisory Board

**Oct 2012 - Jun 2014**

Board Member

Researched, proposed and implemented a program to enable undergraduate students to design and teach courses on topics of their choosing to fellow undergraduates. Worked with Academic Senate and Administration. Subsequently taught three courses and helped seven students teach their courses.

## Teaching

### UC Davis Computer Science Department

**Jan 2016 - Jun 2016**

Undergraduate Student Instructor, Cryptocurrency Technologies

Designed and taught seminar to 23 students on leveraging distributed consensus protocols and cryptographic primitives to create decentralized digital cash. Covered advanced topics including Zerocoin, Enigma and the Bitcoin Lightning Network. Wrote programming assignments and grading scripts. Rated 4.3 out of 5 by students.

### UC Davis Computer Science Department

**Jan 2015 - Jun 2015**

Undergraduate Student Instructor, History of Computer Science

Designed and taught seminar to 15 students on the history of computer science, focusing on the historical convergence of electrical engineering and mathematical theory. Rated 4.72 out of 5 by students.

### UC Davis University Honors Program

**Jan 2014 - Jun 2014**

Undergraduate Student Instructor, Davis Hacks

Designed and taught seminar on optimizing the undergraduate experience at UC Davis.

## Awards and Honors

3rd Place, Uber (Internal) Machine Learning Hackathon	Mar 2019
1st Place, SunCode Hackathon (\$4000 Prize, 23 teams)	Apr 2017
UC Davis Department of Computer Science Outstanding Graduating Senior	Jun 2016
UC Davis College of Engineering Student Commencement Speaker	Jun 2016
Tau Beta Pi Engineering Honor Society	Jun 2013
Phi Kappa Phi Honor Society	Jun 2013
University of California Regents Scholarship	Sep 2011
Premier Distinction (2,990 points), National Forensic League	Jun 2011
Congressional Debate Champion, 2011 Tournament of Champions	May 2011
Eagle Scout, Boy Scouts of America	May 2011
Party Chairman, California Boys' State	Jun 2010

## Service

UC Davis College of Engineering Dean Recruitment Advisory Committee (Undergraduate Representative)

**Oct 2014 - Jun 2015**

UC Davis Chancellor's Ambassador

**Oct 2012 - Jun 2014**

KDVS Radio Host on Davis Now! A Current Events Talk Show

**Jul 2014 - Oct 2014**