RYLAN SCHAEFFER

Skills

Languages
Python
R
Go
MATLAB
C/C++

Libraries
TensorFlow
PyTorch
NumPy
Pandas
SciPy
Keras

Query Languages
Presto
Hive
MySQL
Postgres
SQLite

Operating Systems
Linux
macOS
Windows

Neuroscience Tools
SPM
Amazon MTurk
Gorilla

Contact

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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.

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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

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