RYLAN SCHAEFFER

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github.com/RylanSchaeffer/

EDUCATION

University of California, Davis   June 2016

Bachelor of Science, Computer Science Engineering

Bachelor of Science, Statistics

University of California Regents Scholar

GPA: 3.5 / 4.0

SKILLS

Languages: Python, C++, R, MATLAB, SQL (Postgres, SQLite), Java
Operating Systems: Linux, Windows

EXPERIENCE

Python Developer, Adversarial Neural Cryptography   12/2016-Present

Implemented symmetric encryption as described in "Learning to Protect Communications with Adversarial Neural Cryptography" using Keras. Switched to TensorFlow due to difficulties with Keras custom loss functions. Currently communicating with authors because results fail to replicate.

Python Developer, Udacity Self-Driving Car Nanodegree   2/2017-Present

Implemented traffic lane line detector using OpenCV. Implemented rudimentary Tensorflow-like neural network library. Currently working on traffic sign classifier using a convolutional neural network.

Python Developer, Professional Sports Betting Project   1/2016-4/2016

Developed data pipeline to profit from online daily fantasy sports websites. Scraped and cleaned National Basketball Association data, then leveraged data to predict individual player performance using XGBoosting. Formalized lineup selection as an integer programming problem and implemented solver that outperformed industry-standard in 47% of cases and tied in 50% of cases.

Python Developer, Undergraduate Researcher for Prof. Norm Matloff   9/2015-6/2016

Led team of six undergraduates to develop 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.

Instructor, Bitcoin and Cryptocurrencies Undergraduate Course   12/2015-6/2016

Designed and taught undergraduate course 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.

MATLAB Developer, Undergraduate Researcher for Prof. Benjamin Shaw   1/2015-6/2015

Developed and implemented image analysis algorithm to determine the radius of soot-obscured fuel droplets combusting aboard ISS for NASA using circular hough transforms and interpolating values for noisy images. Reduced labeling time from 2.5 years to one week.

C++ Developer, Virtual Operating System   4/2015-6/2015

Implemented virtual operating system on top of professor-provided virtual machine, including a command line interface, piping, redirection, scheduling, memory pooling and FAT image mounting.

Chief Financial Officer/Chief Operating Officer, Associated Students of UC Davis   4/2014-2/2015

Authored ASUCD's $12 million budget. 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:

-Merged Campus Copies/Classical Notes with the Post Office to halve labor costs

-Restructured Experimental College's and Whole Earth Festival's operating models for future stability

-Reformed auditing procedures and added enforcement mechanism to unit director reports

HONORS AND SERVICE

Outstanding Senior Award, Department of Computer Science and Engineering	6/2016
College of Engineering Dean Recruitment Advisory Committee	10/2014-6/2015
Champion, 2011 Tournament of Champions, Congressional Debate	5/2011
Eagle Scout, Boy Scouts of America	5/2011
Party Chairman, California Boys' State	6/2010