

# Shayan Sadigh

Email: [ssadigh@ucsb.edu](mailto:ssadigh@ucsb.edu)

Website: <https://shayanpersonal.github.io/>

Github: <https://github.com/ShayanPersonal>

## Education

<b>Major:</b>	Computer Science, <b>B.S. + M.S.</b>	<b>GPA:</b>	B.S. 3.60 / M.S. 3.85
<b>School:</b>	University of California, Santa Barbara	<b>Years:</b>	2013 - 2017 / 2017 - 2018

## Overview

### Languages

Top: Python, C, C++

Others: Javascript, Java, C#, x86, Ruby, SQL, MATLAB

### Areas of Focus

Deep learning, Computer vision, NLP, Computer networks, Security, Software engineering

### Toolbelt (Deep learning)

Pytorch, Tensorflow, Keras, CNNs and RNNs for NLP / object recognition, GANs, attention mechanisms, cloud GPUs (AWS + Google Cloud), GTX 1080 ti custom build

### Toolbelt (Networks / Security / Other)

Wireshark, libpcap, Scapy, OWASP ZAP, Burp Suite, Bash, Git, Github, MVC frameworks for web apps

## Selected Independent Activities

**Kaggle Winner:** Won **10th place** in **\$1.5 million Passenger Screening Challenge** as solo competitor. #1 featured machine learning contest on kaggle.com for 6 months. Created custom neural network where viewpoints are fed to ResNet CNN with spatial pyramid pooling and fused by LSTM with attention. Name on leaderboards is Moejoe.

**GaucheMap** (300+ users): Published popular Chrome extension for UCSB students. Uses javascript, web scraping.

**Piazza.com Vulnerabilities:** Discovered and reported multiple severe web vulnerabilities on Piazza.com.

**Mobile Wifi Hijacker:** Modified rooted Android phone into WiFi "hijacker" that man-in-the-middles nearby devices.

## Work Experience

### Palo Alto Networks ([paloaltonetworks.com](http://paloaltonetworks.com))

### Dataplane Software Engineer Intern (2017)

- Increased productivity by developing internal Python script for parsing PCAPNG packet capture format.
- Improved debuggability by redesigning team's lab. Set up subnets, network routes, and racked devices.
- Worked in C to implement PCAPNG packet captures on flagship PAN firewalls.

### Thermo Fisher Scientific ([fei.com](http://fei.com))

### Software Engineer Intern (2016)

- Improved usability of product by coding new installer in C# for Hyperion Scanning Probe Microscope.
- Documented system bringup, backup and restore procedures for new Hyperion system.

### UCSB Brain Initiative ([brainucsb.com](http://brainucsb.com))

### Lead Web Developer (2015)

- Planned and developed website for new UCSB department with campus researchers and web designer.
- Wrote all backend logic (Node.js) and much of frontend design (HTML / CSS / Javascript).

## Recent Course Projects

**Real-time Path Tracing by Denoising with Convolutional Neural Networks:** Proposed and implemented real-time path tracer by repurposing Feature Pyramid Networks of Lin et al. (2017) for denoising.

**Homomorphic Encryption on Neural Networks:** Implemented homomorphically encrypted neural networks with Vector Homomorphic Encryption of Zhou and Wornell.

**Exploring Seq2Seq For Generating Human-Like Responses on Internet Forums:** Trained a deep learning agent to predict responses to Reddit posts with Seq2Seq neural network of Sutskever et al.

**Twitter Sentiment Analysis with Neural Networks:** Educational paper detailing how to apply deep learning to the sentiment analysis task by creating a neural network in Numpy and again in Keras.

