

EDUCATION

- Stanford University** Stanford, CA
Prospective Major: Computer Science *Sep. 2018 – Present*
 - Relevant Coursework:** CS 236: Deep Generative Models, CS 107: Computer Organization & Systems, Math 61CM: Linear Algebra & Real Analysis
- Thomas Jefferson High School for Science and Technology** Alexandria, VA
Computer Systems Research; GPA: 4.51 *Sep. 2014 – June 2018*

EXPERIENCE

- Communications Engineering Branch, National Institutes of Health** Bethesda, MD
Engineering Intern *June 2017 – Aug. 2017*
 - Research:** Classifying Alzheimer's from fMRI Data using Convolutional Networks
 Built Inception-ResNet-v2 model to diagnose Alzheimer's from f-MRI images. Five-way classifier stratifies patients into stages of cognitive impairment more accurately than previous algorithms.

LEADERSHIP

- TJHSST Machine Learning Club** Alexandria, VA
Co-founder and Captain *Sep. 2016 – June 2018*
 - Teaching:** Wrote and presented 100+ pages of lectures on machine learning, from neural networks and backpropagation to object detection and instance segmentation. Developed weekly Kaggle InClass competitions, giving students the opportunity to apply lecture material to real-world datasets.
 - Outreach:** Procured sponsorships from Intel, Yext, and TJ Partnership Fund for computational resources.

PROJECTS

- Automating Identification of Terrorist Recruitment on Social Media** *Aug. 2016 – July 2017*
 - Research:** Worked with friend to create algorithm for detecting terrorist propaganda accounts on social media. We use convolutional networks to analyze images for flags and logos and synthesize data from captions to classify accounts with over 90% accuracy.
 - Talks:** Presented research at Raytheon BBN and the National Security Agency.
- Team Smite, MIT Battlecode 2018:** Worked in team of 4 in this month-long competition that combines battle strategy, software engineering, and AI. Wrote pathfinding, combat, and communications algorithms and heuristics in Java. Won \$1750 in prize money and placed 9th overall.
- Towards Fast Generative Compression:** Modifying the pix2pixHD generator to improve inference time while retaining image quality. Experimented with dense blocks, normalization techniques, and downsampling methods. Final project for CS 236.
- Mask SSD:** Applying the Single Shot Detector to instance segmentation.
- TitrationGL:** WebGL titration simulator. Designed to replace aging browser-based labs used in chemistry classes when materials are too expensive or dangerous.

AWARDS

- Regeneron STS Scholar *2018*
- Intel International Science and Engineering Fair Finalist *2017*
- Siemens Competition Semifinalist *2016*

SKILLS

- Languages:** Python, Java, C, HTML, CSS, Javascript, L^AT_EX
- Libraries:** Pytorch, Keras, Tensorflow, three.js
- Technologies:** Google Compute Engine, Google Analytics