

EDUCATION

- **San Jose State University** San Jose, CA
Master of Science in Computer Science Aug 2017 - May 2019
- **University of Bristol** Bristol, UK
Bachelor of Engineering in Computer Science and Electronics Aug. 2012 – June. 2015

EXPERIENCE

- **Nightingale Drones Intelligent Systems** Mountain View, CA
Part Time Software Engineer June 2018 - May 2019
Developed **80%** of the software and computer vision based perception capabilities of the industrys first security surveillance drone using *Git* on an Ubuntu based technological stack; helped the company penetrate new industries and secure more customers (including Fortune 500), through deployment of developed technologies.
 - **Online Machine Learning Full Stack:** Created a *node.js* server that automates collection of machine learning data through customer usage. Important frames are forwarded onto a *Javascript* front end annotation tool which is connected to *Mechanical Turk* and registers the image and metadata to *AWS S3* and *Mongo* respectively.
 - **Computer Vision Internal Tools:** Created multiple internal tools in *Python* that provide services such as image augmentation, conversion of label types and detection of duplicate and redundant data. Instrumental in the training process of the aforementioned machine learning models.
 - **Object Detection and Tracking:** Used a custom deep learning model on the *C++* darknet framework to cut down the computational load on the GPU by 66% on drone and improve the performance of a customer focused, car and human detector and tracker, to an F1 score of 0.82 and an accuracy of ± 1 meter. Was also used to identify rail cars through painted IDs and manage their GPS locations.
- **Soshall** London, UK (*remote*)
(Self Employed) Co-Founder/CTO May 2018 - Present
As one of the founding members of a social mobile application start-up (post seed round), architected and programmed most of the scalable technological stack powered through a *Google Firebase* backend. Deployed a *Docker* containerized *Elastic Stack* and a *node.js* + *Flask* based collaborative filter and *Tensorflow* based recommender engine micro-service, on *Google Cloud*.

RESEARCH AND PERSONAL PROJECTS

- **Semantic Segmentation based Make-Up Recommender Server:** Created a *Keras* U-Net (Fully Convolutional Network) based semantic segmentation pipeline to support segmentation API calls on a Flask server. Also includes API calls for using semantic segmentation to determine average skin tone.
- **Distributed NLP Genre Classification:** Created a *Spark* based distributed system that extracts spectral and temporal features through *TensorFlow* and classifies into a musical genre with a HAN (recurrent Neural Network based architecture with attention) implemented in *Keras*. Currently boasting an F1 score of 0.93.

PROGRAMMING SKILLS

Languages: Python, C++, Javascript, Shell, PHP

Technologies: TensorFlow, Keras, Flask, OpenCV, Spark, Node.js, Elastic Stack, Docker, numpy, Google Cloud

Skills: Computer Vision, Deep Learning, Data Pipelines, Data Structures, Algorithms, Natural Language Processing, Data Science, Full Stack Engineering, System Administration