Brian Qiu

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Education

University of California, Santa Barbara   *Goleta, CA*

B.S. IN COMPUTER SCIENCE   *Sep. 2018 - Jun. 2022*

- **GPA: 3.8**
- Regents Scholar
- College of Engineering Honors Program

Experience

Cisco Systems   *San Jose, CA*

SOFTWARE ENGINEERING INTERN, NXOS DATA CENTER SWITCHING   *Jun. 2020 - Sep. 2020*

- Developed programs in C++ to access, modify, and debug the state of Cisco, Marvell, and Broadcom ASICs
- Implemented optimized software sequencing and leveraged hardware to decrease test times by 90%
- Integrated parallelized compression software into the data switch image building and bootup sequences, decreasing the bootup time by 20%
- Refactored legacy diagnostics software into a client-server model using Linux IPC mechanisms to increase flexibility and resolve thread conflicts
- Modified Linux kernel module to support eMMC device detection and filesystem mounting

Skills

Programming Languages

JAVA, JAVASCRIPT, C, C++, PYTHON

Technologies

LINUX, MYSQL, AWS, GIT, NEXT.JS REACT, EXPRESS, SPRING BOOT, TENSORFLOW, KERAS

Projects

AInime

A CONVOLUTIONAL NEURAL NETWORK TRAINED FOR ANIME CHARACTER RECOGNITION   *github.com/brianlqiu/AInime*

- **Technologies: Python, Jupyter, Tensorflow, Keras, Google Colab**
- Applied transfer learning on the Inception v3 and ResNet50 CNN architectures to classify over 90 unique anime characters
- Collected and processed a dataset of over 15,000 images using Python
- Trained using Tensorflow and Keras on a Google Colab kernel

Statstify

A WEB APP DESIGNED TO DELIVER SATISFYING PERSONALIZED SPOTIFY STATISTICS   *github.com/brianlqiu/statstify*

- **Technologies: Javascript, AWS, MySQL, Next.js, React, Express, Tailwind CSS, Chart.js, Spotify API**
- Designed and structured a MySQL database to store and retrieve user/musical data, hosted by Amazon Web Services
- Utilized Tailwind CSS and Chart.js to display data in a clean and minimalistic user interface
- Interfaced with the Spotify API to collect up-to-date user information and track metadata

Missile Defense

A REAL-TIME MULTIPLAYER ONLINE BROWSER GAME MODELED AFTER ATARI'S MISSILE COMMAND GAME   *cs48-s20-s1-t4-prod.herokuapp.com*

- **Technologies: Javascript, socket.io, Phaser.js, Next.js, React, Express, Heroku, Jest, Cypress, Storybook, Github Actions**
- Utilized the socket.io library to provide real-time bidirectional communication between the server and users
- Implemented Jest, Cypress, and Storybook testing frameworks alongside Github Actions to ensure product quality and automate workflows

RunnerML

AN AI TRAINED TO PLAY A SIMPLE OBSTACLE-BASED GAME USING AN EVOLUTIONARY ALGORITHM   *github.com/brianlqiu/RunnerML*

- **Technologies: Python, NEAT, Pygame**
- Tuned the hyperparameters for the NEAT (NeuroEvolution of Augmenting Topologies) Python library to create evolving artificial neural networks

Image Dataset Scraper

A PYTHON SCRIPT DESIGNED TO COLLECT LARGE IMAGE DATASETS FROM POPULAR IMAGE AGGREGATION WEBSITES

- **Technologies: Python, BeautifulSoup4, Selenium**
- Utilized headless Selenium browsers to automate site-browsing and BeautifulSoup4 to parse HTML