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JERRY GUO

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Languages
Python, C#, C, C++, Java, JavaScript, SQL, VBA, Assembly
Tools and Frameworks
React, Django, OpenCV, Airflow, AWS, Thrift, Jenkins, Docker, Git

EXPERIENCES

Zynga — **Software Engineer Internship** — **Jan. 2020 – Apr. 2020**
Python, Airflow, AWS S3, Spark, Jenkins, Splunk, Docker

- Worked on machine learning team managing Zynga's low-latency + high-volume **data service** and maintaining **data store**'s high-throughput **ingestion pipelines**
- Built a real-time cluster management system to dynamically start up, terminate, and allocate **distributed clusters** based on load, reducing job runtimes by **10%**
- Streamlined a pipeline on **Airflow** allowing teams to schedule data ingestions up to **3x faster**
- Implemented automated checks and SQL dry runs to validate and benchmark queries using **Jenkins** and **Splunk**

Rippling — **Software Engineer Internship** — **May 2019 – Aug. 2019**
Python, JavaScript, React, Django, MongoDB, AWS EC2

- Worked on onboarding team building **user-facing core features** on Rippling's main product
- Led and shipped an E-Verify web platform to automatically determine US employment eligibility for over **70%** of Rippling customers
- Programmed **migration scripts** to standardize and reformat databases to government formats, allowing simpler API calls and saving **60+** developer hours
- Built a notifications system with in-app, SMS, and email notifications using **Mandrill** and **cron** jobs

Element AI — **Software Engineer Internship** — **Sep. 2018 – Dec. 2018**
Python, C++, JavaScript, React, Flask, Docker

- Designed a **Flask** interface to control a robotic arm and drone using Magic Leap (AR) goggles by transforming sensory inputs to motion vectors
- Programmed state-saving functionalities to allow the cluster scheduler to safely context switch
- Developed synthetic **OCR image generation scripts** using the Python imaging library to automatically produce millions of random data samples for recognition training

PROJECTS

Automated Sports Camera System
Python, OpenCV, TensorFlow, NVIDIA Jetson Nano

- Designed **image processing software** to find bounding boxes of a sports ball using a **KCF filter**
- Built a control system to calculate the required motion of the camera for ball tracking

Live Currency Arbitrage Detector
Python, Bootstrap, Flask

- Developed a web application which analyzes 1Forge's currency exchange API to check for arbitrage opportunities with over 2% returns
- Implemented the **Bellman-Ford algorithm** to detect negative weight cycles in directed graphs

EDUCATION

University of Waterloo, B.A.Sc. in Computer Engineering, *GPA 3.45* — Sep. 2016 – Present