



Kevin Liu

2A Mechatronics Engineering

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Experience

Web Developer | P&P Optica (PPO)

September – December 2017

- Developed a web application to analyze and display detected foreign materials, quality gradings, and throughput data on food production lines passing through our real-time smart image processors
- Created a RESTful API using Django to process raw data, authorize users using JWTs, and load React pages
- Implemented a modular frontend framework using React to generate analytic dashboards easily
- Refactored communication protocol between asynchronous modules running on the product event loop for better code modularity and to decrease coupling

QA Automation Developer | Imagine Communications

January – April 2017

- Created video encoding, transcoding, and multiplexing module test suites in Groovy for continuous regression testing
- Built asset tracking tools with Python to streamline QA's reporting and documentation, increasing efficiency
- Wrote bash scripts to modify over 900 XML automation test suites for migration and compatibility with Linux

Projects

Quiz it! | Node.js, AWS Lambda, Google App Engine, Google Cloud Vision API, Quizlet API

Yale Hackathon Finalist (top 5 out of 300+ teams), Best Google Cloud Platform Hack, and Best Education Hack

Web app that generates fill-in-the-blank questions from pictures of text and stores them into Quizlet, for interactive studying with Alexa.

- Deployed a language processing engine to run in the cloud that creates questions around important keywords
- Developed Lambda function to asynchronously fetch Quizlet quizzes and manage quiz sessions

FalconW | Java

AI player to compete in MIT's Battlecode 2018. Uses A pathfinding and min-max algorithms to defeat competitor AIs*

- Designed unit pathfinding framework based around A* and breadth first searching
- Wrote modules for resource management, enemy threat parsing, and decision making

Receipt Relief | Java (Android), Google Vision API

Android app that scans paper receipts and documents the contents for budgeting

- Developed the scanning interface with Google Vision API to parse key information based on contextual cues
- Designed serializing module to store, retrieve, and filter data from storage.

2D CNC Plotter | C++

A CNC based robot capable of writing on a whiteboard and playing tic-tac-toe with users

- Created plotting framework to navigate the print-head, read via a color sensor, and write to the whiteboard
- Implemented an AI to analyze player moves and plan moves based on selected difficulty

Skills

Languages: Python, Javascript, C++, Java, Octave, HTML, CSS

Frameworks: Django, Django Rest Framework, Node.js, React, Flask

Platforms: AWS Lambda, Heroku, Firebase, Alexa, Google App Engine, AWS RDS

Tools: Git, Android SDK, ChartJS, PostgreSQL, DynamoDB

OS: Windows, Linux, Unix

Personal: Strong problem solving, Clear communication, Passion for technology, Trilingual

Hobbies: Volleyball, Basketball, Cooking, 3-D Printing, Video games

Education

University of Waterloo – Candidate for Bachelor of Mechatronics Engineering, Dean's List

September 2016 – Present