Chitula Chipimo

Email: cchipimo@gmail.com | Boston, MA

Summary:

Server-side engineer. I write code in Python, Node.js, and SQL for the WHOOP performance optimization platform

Skills:

Java, C/C++, Python, Node.js, SQL, AWS, Docker, Windows/Mac/Linux, Piano, French

Education:

University of Massachusetts Amherst, Amherst, MA **May 2015**
Computer Systems Engineering (BS), Computer Science (Minor)

Professional Experience:

WHOOP Inc., Back End Software Engineer, Boston, MA **Fall 2015—Present**

- Implemented WHOOP's order processing pipeline from scratch. Processed several thousand orders worth $250k+ from purchase to shipment, using server-less architecture. Integrated Shopify, Salesforce, AWS Lambda, API Gateway, SQS, SNS, and warehouse APIs
- Implemented an extensive suite of API server tests, using *Cucumber* and Python *Behave*, for TDD
- Implemented cloud storage layer for WHOOP Strap status-packets, using AWS S3 and Erlang
- Developed a REST API for password access to the online WHOOP Store, using AWS DynamoDB and Node.js
- Replaced the WHOOP platform's algorithm for randomly generating invite-codes, to avoid possibly sending out codes with offensive words to customers, using PostgreSQL and Node.js
- Performed load-testing of API servers, to help ensure the platform's scalability expectations were met

Other Relevant Experience:

Home Automation Project (Ember), Boston, MA **Summer 2016—Present**

- Created an automated, cloud-connected lighting system to improve the availability of light in my studio
- Simulated circuit designs for high-power RGB LEDs in PSpice, then fabricated circuit boards
- Developed a C++ worker to render custom visual effects and presets, using an ARM microcontroller
- Wrote a Node.js REST web server on a Raspberry Pi to communicate with the microcontroller via Serial UART
- Integrated with Amazon Echo for voice control, and wrote an Angular.js app to operate lighting system remotely
- Sourced parts from global distributors for cost-effective production

Senior Capstone Project (Viano), Amherst, MA **Fall 2014—Spring 2015**

- Created a portable MIDI device that projects a playable piano image onto any flat, opaque surface and allows users to play/record music seamlessly via Apple's GarageBand over Bluetooth
- Led my team of 4 to design, fabricate, integrate, and deliver the completed prototype on schedule
- Developed core firmware in C++ for accurate finger-tracking, touch-event handling, and MIDI note-generation to all run efficiently on a Raspberry Pi
- Wrote real-time computer vision app to achieve finger-tracking at speeds of up to 15 chords/sec
- Wrote custom piano-keyboard library to handle all touch-events and MIDI note-creation tasks
- Won double first place out of 21 senior teams in final demo – top *Faculty* and *People's Choice* awards

Software Engineering Internship at Lutron Electronics, Coopersburg, PA **Summer 2014**

- Developed the specification, implementation, and test plan for the Scene Save feature on Lutron's Caséta Smart Bridge, a mass-market lighting product among the Internet of Things
- Initiated specification and implementation for a system processor's firmware update mechanism
- Wrote a coding-standards document for the system's C++ code base, to help ensure code quality

Firefighting Robotics Challenge (Blue Panther), Hartford, CT **Fall 2011—Spring 2015**

- Developed a fully autonomous firefighting-robot to seek out a flame and extinguish it with CO_2
- Led my team of 3 to design, build, and program the robot for an international robotics competition
- Researched and sourced hardware components including chassis, motors, processors, and sensors
- Designed and implemented the hardware/software interface to allow communication between multiple sonars, infrared-sensors, DC motor drivers, rotary encoders, and servos
- Designed and implemented PD motor controllers in C++, integrated with open-source libraries
- Mentored two new firefighting robot teams in a UMass independent project course
- Won first place out of 83 teams in the 2014 Trinity College International Firefighting Robot Contest, and demonstrated robot to hundreds of prospective students and families at UMass Amherst