Chitula Chipimo

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Summary:
Back-end software engineer. Currently developing fraud detection tools for Amazon Transaction Risk Management.

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

Education:

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

Professional Experience:

Amazon, Software Development Engineer, Seattle, WA   **April 2017—Present**
- Supported Amazon's migration to a new fraud detection service that reduces order evaluation time from several minutes to under a second
- Resolved hundreds of machine-learning variable mismatches to achieve parity with the legacy fraud service
- Implemented a command-line tool to simulate machine-learning variable-computation using big-data
- Performed load-tests for Amazon's peak shopping events to ensure services were sufficiently scaled, and released excess server capacity to save over $20,000 in monthly hardware costs
- Automated OS patching of several internal services, for seamless security updates & critical vulnerability fixes

WHOOP Inc., Back End Software Engineer, Boston, MA   **September 2015—March 2017**
- 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 Node & DynamoDB
- Replaced the WHOOP platform's algorithm to randomly generate invite-codes, to avoid possibly sending out codes with offensive words to customers, using Node.js and PostgreSQL

Other Relevant Experience:

Home Automation Project (Ember), Boston, MA   **July 2016—Present**
- Created an automated, cloud-connected lighting system to improve the availability of light in my apartment
- Simulated circuit designs for high-power RGB LEDs in PSpice, then fabricated circuit boards
- Wrote C++ firmware 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 Alexa for voice control, and wrote a Vue.js web app to operate lighting system remotely

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 and achieve finger-tracking at speeds of up to 15 chords/sec
- 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 the specification and implementation for a system processor's firmware update mechanism
- Developed a coding-standards document for the system's C++ code base, to ensure code quality

Firefighting Robotics Challenge (Blue Panther), Amherst, MA   **Fall 2013—Spring 2014**
- Led a 4-person team to develop an autonomous firefighting-robot, to seek out a flame and extinguish it with CO_2
- Designed and implemented the hardware/software interface in C++, to allow communication between multiple sonars, infrared-sensors, DC motor drivers, rotary encoders, and servos, using an Atmel microcontroller
- Mentored two student 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