# Chitula Chipimo

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Summary:

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

Education:

**University of Massachusetts Amherst**, Amherst, MA

Computer Systems Engineering (BS), Computer Science (Minor) May 2015

Relevant Experience:

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

- Implemented WHOOP's order fulfillment integration from scratch. Used server-less architecture to link Shopify, Salesforce, AWS Lambda, API Gateway, SQS, SNS, and warehouse APIs. Processed several thousand orders since Q4 2016
- Implemented cloud storage layer for WHOOP Strap status-packets, using AWS S3 and Erlang
- Implemented an extensive suite of API server tests, using *Cucumber* and Python *Behave*, for TDD
- 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
- Performed load-testing of API servers, to ensure the platform's scalability expectations were met

***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 the specification and implementation for a system processor's firmware update mechanism
- Implemented several software design patterns and bug fixes in C++, and used a SQLite database
- Developed a coding-standards document for the system's C++ code base, to ensure code quality

***Software Engineering Internship at iSchool, Lusaka, Zambia*** Summer 2013

- Developed Android apps, in Java, for a multi-media eLearning tablet used in Zambian schools
- Wrote an app to display memory usage and easily delete user data from a central location
- Modified open source coloring app to improve UI and help maintain children's focus within the app
- Solved a prevalent image scaling problem, and wrote a technical report to convey cause of the issue
- Apps developed were included in first shipment of 1000 tablets

***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

Other Experience:

- Resident Assistant, UMass: Fall 2012— Spring 2015

Skills:

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