

ERIC ZHOU

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[zehric.github.io](https://github.com/zehric)

github.com/zehric

SKILLS

Java, Python, C, C++,
Javascript, Lua, SQL,
HTML/CSS, Bash, Scheme,
Vimscript, MIPS, Cadence/
SPICE

EDUCATION

August 2015 - Present

University of California Berkeley

Electrical Engineering and Computer Science

GPA 3.86

Relevant Courses:

CS61B (Data Structures and Algorithms) • **CS61C*** (Machine Structures) • **CS70** (Discrete Mathematics) • **EE16AB** (Designing Information Devices and Systems) • **CS186*** (Databases) • **EE105** (Microelectronic Devices and Circuits) • **EE140*** (Linear Integrated Circuits)

* Currently enrolled

EXPERIENCE

Summer 2016

Software Intern

[*Rently*](#)

I created an Amazon Alexa Skill that allows the Echo to control Rently Keyless devices. The skill works by first getting voice input from the user's Echo to operate a smart home device (ie. "unlock the front door"), which fires an AWS Lambda instance that sends raw English text to my parser, which then processes the raw text using an npm module called `nlp_compromise`. It finally sends a command to Rently's servers, which tell the smart device what the user intended using existing infrastructure.

PROJECTS

Course Projects

Text Editor

A fully functional text editor in Java. Features include automatic word wrap, open and save, vertical scrolling, changing font size, undo/redo, and more. In order to implement constant time insertion/deletion from anywhere in the document, I created a custom data structure that combines the constant time access of arrays and insertion/deletion of linked lists.

Bear Maps

A web mapping application of the Berkeley area, using data from the OpenStreetMap project. Features route finding that uses the A* algorithm to find the shortest path between two locations on the map. Implements map rastering with a quadtree of images of increasing resolution to support high quality display at any zoom level.

SIXT33N

Final project of the EE16 course series. It is a mobile robot on 3 wheels (2 drivable) that moves around according to speech input. It uses the MSP430 Launchpad as its guts with some circuitry for driving the motor and sensing through a microphone. Voice recognition is implemented with PCA classification and straight driving with stable eigenvalue placement in closed loop negative feedback.

Personal Projects

AnimeCal

A Japanese television animation calendar desktop application. It is written in Node.js and uses the Electron framework. Pulls information from the AniList API, organizes it based on air time, and displays it to the user with a work-in-progress GUI. I have plans to either make a mobile app or a website for this.

Adventure Land CODE

Adventure Land is a browser-based MMORPG that has an interesting feature: players are allowed and even encouraged to automate every action by writing JavaScript. My current script includes more than 1000 lines of code, including logic dictating how to fight monsters, other players, upgrade equipment, and more. To make the best CODE, the game requires knowledge of computer science topics such as quadrees and efficient graph traversal, advanced JavaScript programming such as IIFE's and custom events, and basic networking such as consideration for client-server mismatch when latency is high.

Imperative-Compromise

A simple application that takes in natural language and outputs machine-readable JSON, created during my internship at Rently for the purpose of controlling smart home devices with voice in a custom Amazon Alexa Skill. It takes natural language in text format, then parses it into JSON, which can then be forwarded to any arbitrary platform.