

# Michael Zhang

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## Education

**University of California, Berkeley** – B.A. Computer Science (expected May 2017)

**GPA** – 3.48

**Relevant coursework** - Structure and Interpretation of Computer Programs, Data Structures and Programming Methodology, Linear Algebra and Differential Equations, Machine Structures, Discrete Mathematics and Probability Theory, Artificial Intelligence, Efficient Algorithms and Intractable Problems

## Experience

**Lab assistant** (Summer 2014 - Present)

Taught students in computer science course (SICP) alongside teaching assistant

**Lab review committee** (Summer 2014)

Reviewed and modified coursework to ensure that material is as streamlined as possible for students

## Skills

**Programming languages** – Java, Python, C; familiar with Scheme, Scala, and MIPS assembly language

**Technologies** – familiar with Apache Spark, Android Studio, HTML5, CSS, and Autodesk Inventor

## Projects

**Clutter** – An Android productivity application that manages currently installed applications on the device through a simple interface and swipe gestures.

Link: <https://play.google.com/store/apps/details?id=zhang.michael.clutter>

**Tweet robot** – A two wheel vehicle controlled by tweets. Assembled with the Texas Instruments Launchpad, custom 3D printed parts, and an Android phone. The Android phone uses an app that implements Google's Text to Speech API to read tweets when commanded to. Written in Java, C, and IBM's Node-RED. Built at Cal Hacks.

**Processor design** – Designed a fully functional processor in Logisim that can execute 32 bit instructions

**Puzzle solver** – Solves sliding puzzles using iterative MapReduce. Written in Python using Apache Spark and deployed on Amazon EC2.

**Depth map generator** – Creates a depth map given a left image and a right image. Includes quadtree image compression. Written in C and optimized using Intel SSE and OpenMP.

**Huffman encoder/decoder** – A Java program that encodes and decodes text files and compresses file directories using Huffman encoding.

**Twitter Trends** – A program that analyzes large collections of tweets and determines average sentiments for certain keywords for each of the 50 states. Uses Tkinter to present data visually. Written in Python.

**Scheme interpreter** – A Scheme interpreter written in Python.