Carlos Flores

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Education

University of California, Berkeley *May 2012 – May 2016*

I'm a Computer Science student with interest in Software Engineering and teaching computer science.

Skills

Programming experience: Python, Java, C (with OpenMP, Intel AVX extentions, and SSE Intrinsics), MapReduce, Spark, Javascript, HTML, and CSS.

Computing: Experience with different operating systems such as Windows, Mac OS, as well as Linux. I have working knowledge of the various Microsoft Office and Adobe applications.

Work Experience

Undergraduate Student Instructor for CS 10 (The Beauty and Joy of Computing) *December 2014 - Present*

I work as a TA for CS10. My duties involve leading lab sections as well as weekly discussion. CS10 is a class designed for students to explore the field of Computer Science. We introduce students to a completely different field by means of a learning tool called Snap! (similar to MIT's scratch). It's exciting to be part of a team that shapes a class that is currently taken by thousands of people across the United States on edX.

Reader for CS 10 (The Beauty and Joy of Computing) *July 2014 - December 2014*

I worked as a Reader for CS10. I graded reading quizzes, homework and projects. As a reader I have to take part in evaluating the depth to which students understand the concepts involved in solving the assignments.

Projects

Graph API - Trip Finder (written in Java)

I built a graph API from scratch and used it to create a trip finder using vertices as locations and edges as roads. I worked with several algorithms. There were variations of Depth First Search and Bread First Search classes as well as instances of Dijkstra's Algorithm and A* (A-star).

File Compressor (written in Java)

I built a program that uses huffman encoding ideas to compress and decompress files and directories.

Scheme/Lisp Interpreter (written in Python)

I built an interpreter of the Lisp dialect, Scheme. It's a fully functional interpreter and it has most implementations of Scheme. The nature of this functional programming language led to work involving parsing entire expressions and allocating every functionality of the language.

Relational Database Management System (DBMS) (written in Java)

I built a system that uses a database to stores tables that consists of some number of labeled columns of information. The system includes a query language that allows the user to manage different tables and cross reference information generating new tables.

Built a LInker and CPU (I used MIPS, and Logisim a bit of C)

This past semester I worked on multiple projects that involved simulating a computer. I built the data path in Logisim. I also used MIPS to build an assembler and a linker.