Bijan Oviedo

Contact Information

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Education

University of Chicago, Chicago, IL

B.S. in Computer Science, B.A. in Economics, Expected June 2018 **Sep 2014 – present**

Cumulative GPA: 3.60/4.00
Selected Coursework: Parallel Computing, Machine Learning, Computer Architecture, Data Structures and Algorithms, Discrete Mathematics, Computer Systems

Experience

UChicago Department of Computer Science, Chicago, IL

Teaching Assistant **Jan 2017 – present**

Teaching assistant for Introduction to Computer Science at the University of Chicago. Assist professor with teaching over 50 students C syntax, basic algorithms, and fundamental programming topics. Duties include grading and holding weekly office hours.

Google Applied CS with Android, Chicago, IL

Student **Oct 2016 – Nov 2016**

Practiced data structures and algorithm implementations through game development in Android Studio. Collaborative project development with the support of Google facilitators.

Becker Friedman Institute for Research in Economics, Chicago, IL

Economics Research Assistant **Mar 2015 - Jun 2015**

Collected behavioral economics data on ongoing, large-scale field experiment at Chicago Heights Early Childhood Center under Professor John List and Anya Samek. Assessed effects of increased parental involvement on test scores of disadvantaged youth in Chicago through statistical analysis using Python and Excel.

Programming Projects

ARMv8 Instruction Set Simulator 5-stage pipelined ARMv8 simulator written in C capable of executing 40 of the most common ARMv8 instructions. Supports data and control dependency handling, branch prediction, L1 instruction and data caches, and multicore functionality.

Dynamic Load-Balancing Simulator Simulation of a queue-based job-scheduling algorithm in C running on multiprocessor/multicomputer systems. Uses randomized and statistical load-balancing decisions to achieve 2x speedup over lock-free algorithms under exponentially-distributed workloads.

High-Performance Concurrent Hash Tables Concurrent hash table implementations in C including (i) a fine lock closed-address hash table that has linked lists located at each hash index and (ii) a completely lock-free hash table using only built-in synchronization primitives like GetAndSet() and FetchAndIncrement().

Handwritten Digit Neural Network A feed-forward neural network implemented from scratch in Python 2. Trained by back-propagation to solve the full 10-digit MNIST handwritten digit classification task.

myPlanner for UChicago Swift 3 iOS app that allows UChicago students to determine how many classes away they are from completing other majors or minors. Uses Firebase Authentication, Database, and Storage to allow users to login and access saved information from any iOS device.

All of my projects can be seen at `https://github.com/bgoviedo`

Skills

Languages: C/C++, Swift, Python, Java, ARMv8 Assembly, Apache Spark, LaTeX
Technologies: SVN, Git, Xcode, Android Studio, Firebase
Environments: macOS, Windows, Linux, iOS, Android