Byron

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Education

University of California, Major GPA: 3.03
BS Computer Science & Engineering Aug 2016 - May 2020

Technical Expertise

Relevant Coursework: Algorithms and Data Structures, Object-Oriented Programming, Computer Architecture, Database Systems, Operating Systems, Software Engineering

Programming Languages: C++ (3 years), C (2.5 years), Java (1.5 years), Python (6 months)

Skills: SQLite Database, MIPS Architecture, Git, Linux, Bash, MATLAB, Xcode

Projects

BeatFit February 2020 - May 2020
Swift

* Tasked to develop and expand on an application from our sponsor, Heartbeat LLC
* A group of four of us constructed a iPhone application with data transfer capabilities from the Watch
* The Apple Watch application was modernized and reworked with an additional module
* Made use of Swift APIs and a CocoaPods addition to record and represent hear rate data

Super Smash Bros. Database September 2019 - Present
SQLite, Swift

* Built a Super Smash Bros. Database using SQLite to display the many relations within the game
* Employed queries to extract specific data from the database, utilized keys to relate various tables
* Looking to then connect the database with a Swift language layer, presenting the data in an iOS based application

nachOS - Operating System Implementations August 2019 - December 2019
Java

* Developed operating system functions on the nachOS instructional software
* Constructed synchronous send and receive messaging system using condition variables
* Expanded function to allow management of memory, loading the program in the virtual memory

Cache Simulator October 2019 - December 2019
C

* Used concepts taught to make a functioning cache, represented with a provided GUI
* The cache simulation supported two replacement policies: LRU and Random
* Manipulated inputted 32 bit address to extract tag, index, and associativity

Gameboy Advance Sprite January 2018
C

* Utilized GBA controls within program to move a sprite around the screen
* Used memory registers to integrate software efficiently to the GBA hardware
* Produced images and sprite movement on the screen with the use of various video modes

Breakout September 2018 - December 2018
C++

* Two partners and I built replica of breakout, originally on the Atari, using OpenGL
* Utilized practices such as inheritance, polymorphism, and object classes
* Replica had fully functioning collision detection and textures layered using graphics library SOIL

Awards

Mobile App Challenge: BeatFit Winner

* Competing with four other teams, ours developed the best iteration of BeatFit