Personal Information

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Education

Washington University in St. Louis | B.Sc. | May 2020 | St. Louis, MO
Dean's List Honors - Cumulative GPA of 3.4

Links

LinkedIn:// noahsaffer
Github:// Saffsanity

Coursework

Introduction to Systems Software (361S)
Computer Architecture I and II (260M and 362M)
Operating Systems Organization (422S)
Computer System Design (462M)
Object-Oriented Software Development Laboratory (332S)
Cloud Computing with Big Data Applications (427S)
Software Engineering Workshop (437S)
Digital Systems Laboratory (465M)

Skills - Programming and Engineering

Fully Proficient:
Java, Shell, C, VHDL, Python, C++

Significant Familiarity:
Verilog, ExpressPCB, SQL, LaTeX, Assembly, HTML, CSS, Javascript

Slight Familiarity:
C#, Vex Robotics, Xcode, Gamesalad

Achievements and Projects

- Created a fully functional Bluetooth-to-VGA adapter with an FPGA that could display a character stream from a mobile app (VHDL, ExpressPCB, HTML, CSS and Javascript)
- Created a 32-bit CPU using an FPGA that was based on a Simple RISC with microprogramming and expanded it in my free time (VHDL, Verilog).
- Worked on a Vex bot with 8-way traversal using omnidirectional wheels (Vex Robotics)
- Fully re-created the NES Classic Duck Hunt with Mouse and Keyboard support (Visual Basic)
- Created a microcode programmable logic array (PLA) structure (VHDL)
- Made a mobile app in HTML, CSS and Javascript and ported the app to mobile platforms with Cordova (HTML, CSS and Javascript)
- Created a difference engine based on a Mealy-model finite state machine to calculate the peak of a polynomial function (VHDL, Verilog).
- Worked on 5 apps that were published to the Apple App Store (iOS Development).
- First place in the Hardware portion of HackMHSII, the hackathon at Millburn High School.
  - Created a VR skee-ball in Unity for HTC Vive within the 24 hour timeframe of the competition

Experience

Amazon.com, Inc. | Software Development Engineering Intern | Seattle, WA | Summer 2018

- Twelve week internship in which I created and deployed software to production for Amazon Prime Video with a downstream consumer.
- Created a directed acyclic graph to perform a pipelined workflow for Live Video and Just After Broadcast data. Furthermore, I helped the artwork team with their workflow, since I pioneered the live events workflow described above.
- Defined in-production POJOs, abstract classes and interfaces.
- Integrated with adolescent services within Amazon's newest generation of its video architecture.
- Created end-to-end testing, integration testing and unit testing for all of the software created, including over 85% unit testing coverage and over 80% branch coverage.
- Participated by giving input in the Code Design Review (CDR) and Project Design Review (PDR) processes.
- Languages used include Java and XML

Computer Design I and II | Head Teaching Assistant | Washington University in St. Louis | 2016 - 2018
- CSE 260M:
  - After performing extremely well in a course meant for Juniors and Seniors as a Freshman, I was hired as a TA, and subsequently rehired for Spring 2018 as the head TA.

- - Helped students create FPGA designs including basic RISC processors and combinational logic
  - CSE 362M:
    - After finishing with the highest class average as a Sophomore in a course meant for Juniors and Seniors, I was hired as the head TA.
    - Helped students design a video output from an FPGA to VGA and write to the display via microcode commands to a RISC

Zatna LLC | Lead Programming Instructor | Martinsville, NJ | Summer 2017

- Taught high school and middle school children Intro to Electrical Engineering, Data Structures and Algorithms in Java, Python, C#, Unity, Tynker and GameSalad.
- I was promoted to the lead instructor position during the summer due to my excellent performance and ability to handle increased responsibility.

Data Structures and Algorithms | Teaching Assistant | Washington University in St. Louis | 2017 - 2018
- CSE 247:
  - Hired as a TA due to my excellent performance relative to the rest of the class in a course meant for Sophomores and Juniors, rehired for Spring 2018.
  - Worked on explaining complex algorithms and high level data structures weekly such as dijkstra's shortest path algorithm, RSA, binary heaps, maps and more