

SUMMARY OF QUALIFICATION

- Proficient in Operating System, Networking System, Embedded Computing, Computer Architecture and VLSI System design: Data Structure and Algorithms, Basic Implementation of Unix-like Operating system, TCP/IP, Embedded System Software Design, Development, and Testing, CPU and GPU Architecture, Computation/Algorithm Accelerator Design, Digital IC design.
- Programming Language: C/C++, Java, Python, Scala, SystemVerilog, Chisel, ML.
- Strong design and testing skill with demonstrated experience and background using Software: Unix-like Operating System, Docker, Quartus, Code Composer Studio, GNU Radio, Cadence Virtuoso, Synopsis Compiler and Library, Spice, MATLAB, Mathematica and Hardware: Xilinx and Intel FPGA, Arduino Development Board and Raspberry Pi Development Platform.

EDUCATION

University of Washington, Seattle, WA

Cumulative GPA: 3.65

Expected Graduation Date: June 2019

Department of Electrical and Computer Engineering (ECE)

Department of Physics, Comprehensive Track (PHYS)

Key Courses Completed

CSE 333 System Programming and Introduction to Networking System (C/C++)

CSE 373 Data Structures and Algorithm (Java)

CSE 451 Operating System (C/C++, X86 Assembly Language)

CSE 474 Introduction to Embedded Computing (C/C++)

CSE 548 Computer Systems Architecture (C, SystemVerilog)

RELEVANT EXPERIENCE

Course Project, Operating System Course, University of Washington, Seattle WA

September 2018 – Now

- Successfully implemented JOS, an operating system which has Unix-like functions but implemented in an exokernel style including Virtual Memory, User Environment, Preemptive Multitasking, File System and Shell, NIC Driver. (C, X86 Assembly)
- Now working on transplant and simulate JOS on Ariane, a RISC-V CPU.

Firmware Engineer, Sensor Systems Lab & WiBotic, University of Washington, Seattle WA

June 2018 – August 2018

- Maintained firmware of Battery-Free Phone including updating firmware code to adapt new IDE and compiler and making Battery-Free Phone receive and transmit signal from and to USRP. (C)
- Modified and improved communication model and microwave transmission architecture which used on USRP to send signal such as message and audio file to Battery-Free Phone. (Python)

Individual Project, System Programming Course, University of Washington, Seattle WA

June 2018 – August 2018

- Successfully implemented a file search engine using self-implemented and optimized doubly linkedlist and hashtable and web search engine using Dijkstra algorithm. (C/C++)
- To speed up the file search engine, wrote code that takes an in-memory inverted index produced by file search engine and wrote it out to disk in an architecture-neutral format. (C/C++)
- Implemented a multithreaded Web Server speed which allows user following TCP/IP to use this search engine and fix security issue such as Cross-Site Scripting flaw and Directory Traversal Attack. (C++ and HTTP)

Member, Computation Accelerator ASIC Design Team, University of Washington, Seattle WA

January 2018 – June 2018

- Implemented Streaming Convolutional Neural Networking Accelerator ASIC with completed I/O pads which can be used for image recognition in lower cost and smaller core area using SAED90nm Technology. (SystemVerilog)
- Successfully Implemented and demonstrated Image Recognition System which loaded on Intel Altera FPGA to recognize streaming image edge at 60FPS with any camera and pretrained data set.

Member, Embedded System Development, University of Washington, Seattle WA

March 2018 – June 2018

- Successfully developed a remote Human Body Physiological Indexes Measurement Equipment using Arduino ATmega2560 and Uno as developing platform. Wrote a ROTS Kernel on Arduino ATmega2560 to schedule and issue commands, manage memory, and handle communication. Used Arduino Uno as Peripheral System to measure temperature, diastolic pressure, systolic pressure, pulse rate, respiration rate and EKG. (C++)
- Implemented high fidelity communication between ATmega2560 and Uno allowing remote interaction using PUTTY.