Baishen Huang

baishen.huang@gmail.com | baishen.github.io| F-1 Visa on STEM OPT Ext. (eligible to work in the U.S.)

Objective

Seeking a challenging and impactful software engineering position, where I can apply my knowledge in software and computer engineering to contribute to the company

Skills: Proficient in C/C++ 11 and Python, Linux, Docker; familiar with Java, HTML

Work Experience

Modem SW Performance and Architecture Engineer at Qualcomm July 2017 to Present

- Lead performance/latency profiling and optimization on 5G modem software
  - Identify and optimize performance bottlenecks and timeline violations
- Drive task level performance profile tooling innovation, from initial proposal to production
  - Work with kernel, automation and tech teams to produce an end-to-end profiling workflow
- Bring up drivers for performance monitor on modem chipset

Education

Georgia Institute of Technology Atlanta, GA

M.S. in Computer Engineering August 2016 to May 2017

B.S. in Computer Engineering (Highest Honor, Overall GPA: 3.91/4.0) Fall 2013 to May 2016

Academic Research

Distributed FPGA Accelerator for Machine Learning with Prof. Hadi Esmaeilzedeh Oct 2016 to July 2017

- Implement a multi-threaded template dataflow architecture on FPGA
- Implement the multi-stage pipeline and interconnect as microarchitectural components
- Result in an efficient, scalable, and programmable ML accelerator on FPGA

Memory Compression for Bandwidth Reduction with Prof. Moin Qureshi Jan 2017 to May 2017

- Design and implement a memory compression scheme for bandwidth reduction
- Design for minimal microarchitectural changes without additional OS support

Academic Projects

Computer Architecture Simulation (C++) Spring 2015 to May 2017

- Implement a runtime utility-based cache partitioning mechanism to partition shared caches
- Implement various key components in an out of order superscalar pipeline simulator and a multi-level cache simulator with support for multi cores

Operating System/Framework (C++) Summer 2014 to May 2017

- MapReduce: implement a simplified version of MapReduce infrastructure with gRPC and protobuf
- Virtualization: implement a resource manager for vCPU and memory to dynamically balance resources for guest OS
- DFS: design and implement a dynamic replica management system for HDFS
- Spark: build a movie recommendation system with SVD and collaborative filtering on Spark MLlib

FPGA Programming (Verilog) Spring 2017

- Implement a real-time image edge detection algorithm on FPGA

Assembly Programming (MIPS) Fall 2014

- Implement robot localization and navigation with over 1000 lines of MIPS assembly code

Internship

Enterprise Middleware Intern at UPS Information Service Global Integration Center Summer 2015

- Develop JMS message reprocess functionality and enhance message searching and selection functionality
- Use Java, SQL, AJAX, and HTML

DevOps Intern at Liaison Technologies Summer 2016

- Create end-to-end automation workflow for Cisco VPN setup, statistics retrieval, maintenance and IP planner
- Use Python and Rundeck