Jesse Zhang

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EDUCATION

Bachelor of Science, Computer Engineering
University of Illinois at Urbana-Champaign
Relevant Coursework:

- Computer Architecture
- Computer Organization & Design
- Computer Systems Engineering
- Computer Security & Lab
- Operating Systems Design

WORK EXPERIENCE

Yahoo - *Associate Software Engineer* August 2017 - Now

- Working on testing and build systems for Apache Traffic Server
- Experience with Reusable Gold Testing System framework and Buildbot

Apple - *Software Engineering Intern* Summer 2016

- Developed a proof-of-concept iOS app for retail store inventory management
- Interacted with SAP systems on the backend
- Participated in designing the service calls and the overall program flow

Fulcrum GT – *Software Engineering Intern* Summer 2015

- Launched Epoch, a legal time entry solution, at ILTA 2015
- Primary iOS backend developer – responsible for designing and implementing data models and asynchronous program flow for Epoch
- Explored various iOS frameworks and APIs to achieve features such as location tracking, geo-fencing, and physical activity tracking

OS Design Class – *Course Staff* August 2015 - May 2017

PUBLICATIONS

Kim, M., **Zhang, X.**, Milenkovic, O. (2016). MetaCRAM: an integrated pipeline for metagenomic taxonomy identification and compression. *BMC Bioinformatics*. 17:94.

PROJECTS

Pipelined CPU with Cache Subsystem – *SystemVerilog*

- Designed and coded the 5 stages of a CPU pipeline
- Implemented L1 and L2 caches with 4-way set-associativity and true LRU replacement policy as well as components such as eviction write buffer, victim cache, and hardware prefetching

Linux-like Operating System – *x86 Assembly, C*

- Supports various drivers such as the EXT2 filesystem, IDE controller, PIT, PIC, and keyboard
- Implemented the system calls necessary for the C Standard Library as well as C runtime

TAGE Branch Predictor – *C++*

- From the paper *A case for (partially) tagged Geometric History Length Branch Prediction* by Andre Seznec and Pierre Michaud
- Modified the GEM5 simulator's built-in out-of-order ARM processor's branch predictor to use the TAGE predictor

HackedReality – *C, Java, Objective-C* *(BoilerMake 2014 Winner)*

- Virtual reality simulator using Google Cardboard (Android phone), Pebble smartwatch, and a PS2 DDR Dancepad
- Reverse-engineered a USB dancepad to mimic an omni-directional treadmill with dynamic directional remapping of the buttons

TECHNICAL SKILLS

Programming Languages: Python, C, Assembly, Swift, SystemVerilog, C++, Java
Languages: English, Chinese