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Objective

Seeking a software engineer internship beginning late May 2018

Education

North Carolina State University — Raleigh, NC
M.S. in Electrical and Computer Engineering — Jan '18 — Dec '19

Yuan Ze University — Taoyuan, Taiwan
B.S. in Electrical Engineering, last-two-year GPA: 3.78/4.00 — Sept '12 — Jun '16

Relevant Coursework:

- Graduate Courses: Object-Oriented Design and Development, Internet Protocols (TCP/IP), Computer Networks
- Undergraduate Courses: Data Structures, Programming Language, Computer Network, Introduction to Operating Systems (Unix/Linux and Windows), Computer Architecture
- Audit course: Design and Analysis of Algorithms
- Online course: Data Structures (object-oriented programming)

Award:

- National Volunteer Club Award for University — Excellent — Mar '14

Technical Skills

Programming Languages: Java, C/C++, MATLAB
Scripting Language: Ruby
Web-Application Framework and Service: Ruby on Rails, RESTful API
Tools: Vim, Xcode, Git/GitHub, RubyMine, MATLAB

Projects

Indexing for Improved Not-Recently-Used (NRU) Cache Performance (C++) — Jan. '18

- Reduced conflict misses when simulating a NRU cache given a set of reference traces by implementing an algorithm on selecting index bits from address of memory references

File Find Utility (C++) — Dec. '17

- Implemented a subset of find commands, e.g. finding files by name, inode number, and/or file size, so that users can find files with specific features on terminal

Multithreading for Quicksort with Thread Pool (C++) — Nov. '17

- Increased the speed by around 100% compared to a single thread when doing quicksort on an array with 100000 numbers by manipulating multiple threads to do parallel quicksort

Multiprocessing for Shell Program or Matrix Multiplication (C) — Oct. '17

- Created a simple shell tool for users to interact with computers by commands, which can avoid creating zombie processes when users type non-blocking commands
- Reduced running time to about 100% less compared to a single process when multiplying two 800*800 matrices by multiprocessing with the matrices stored in a shared memory

Color Images Blurring, Edge Detection, and Compression (Java) — May. '17

- Converted images into pictures emphasizing edges by blurring them and further detecting edges based on the pattern of pixels
- Compressed images into run-length encoding form by representing a strip of identical consecutive pixels as a single record or decompressed them back in the opposite way

Work Experience

Industrial Technology Research Institute (Governmental Institute) — Hsinchu, Taiwan
Engineer Intern — Summer '14

- Enabled and verified equipment of energy conservation system by installing firmware and conducting trials