Philip (Weiyuan) Bao

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SKILLS

- Programming: C, C++, Java, Python, Matlab, SQL, MongoDB, TCL, Bash, Assembly, System Verilog
- Web Development: HTML/CSS, AngularJS, Backbone.js, Flask, Node.js, jQuery, Bootstrap
- Tools: Android Studio, Microsoft Visual Studio, Bash, Vim, Git, Perforce

WORK EXPERIENCE

IPD Engineer, PEY Intern June 2016 – Expected Apr 2017

Intel, San Jose, CA, USA

- Emulated a 10G/25G/100G Ethernet IP design of Intel's new 14nm FPGA, Stratix X.
- Designed a **multi-mode Ethernet test platform**, which can send and analyze **billions** of packets efficiently. The design is used by a team of **7** people.
- Wrote a script to use **Cron** to generate daily gate test reports and brief the team.
- Wrote **Python** and **Tcl** scripts to generate test cases in various categories and automate the test flow.
- Identified as one of the co-inventors of the hybrid speed Ethernet testing patent.

Software Developer, Coop May 2015 – Aug 2015

BlackBerry Inc., Ottawa, ON, Canada

- Developed an Android mobile search Infrastructure with a team of 10 people which performs fast searches of **12 categories** from databases containing over **100k** items.
- Improved result rending performance, and optimized some categories' search performance by **30%**.
- Resolved thread-safety and memory leak issues based on the understanding of OS.

PROJECTS

Course Recommendation System July 2016 – Now

- Developed an educational web platform with friends, which used by 1000+ University of Toronto students to share reviews of courses, professors, and exams, and to watch video tutorials online.
- Used MongoDB/Flask(Python) as backend, and Backbone.js/jQuery(JavaScript) as frontend.
- Designed crawler and database API to crawl and store latest courses information from multiple sites.

Snake Game AI (https://github.com/bwwyyy/Snake-AI-Player) Jan 2017

- Developed a Snake Game AI using Swing. The AI can direct the snake to eat food through the shortest possible path while keeping itself from a collision.
- Designed a greedy decision maker to find the optimum path to eating food as quickly as possible.

Simple C Interpreter (https://github.com/bwwyyy/CInterpreter) Dec 2016

- Developed a C interpreter in C which parses the C program, translates the parsed token to x86 assembly and executes it. The idea is inspired by the C4 compiler.
- Gained experience in compiler's functionality.

Personal Webpage (http://bwwyyy.github.io/philip-bao/) May 2016

- Designed a personal webpage which hosted on Github Pages.
- Used JS frameworks for web interaction and Bootstrap to improve the front-end.

Real-time Virtual Robot (https://github.com/bwwyyy/Virtual-Robot/) Dec 2015

- Designed a robot based on PlayerStage Platform (http://playerstage.sourceforge.net/) in C++ to have humanlike behaviors and can make decisions based on real-time data collected from sensors.
- Applied knowledge of real-time data analysis, object-oriented programming and Linux server setup.

EDUCATION

McMaster University, B.Eng Electrical and Computer Engineering (Co-op)

2013 – 2018(expected)

- 4.0/4.0 GPA
- Relative courses: Software Development, Algorithm & Data Structure, Digital System Design, Web Development

AWARDS

Kudsia Family Scholarship –Top of the Computer Engineering Program 2016

Provost's Honour Roll Medal –Perfect 4.0 Sessional Average 2016