Philip (Weiyuan) Bao

642 Violet St, Waterloo Ontario N2V2W2 · 1.669.264.4943 · baow@mcmaster.ca · www.linkedin.com/in/philipbao

EDUCATION

McMaster University, *B.Eng in Computer Engineering (Co-op)* Expected Graduation 2018

- Relative courses: Operating System, Algorithm & Data Structure, Computer Organization, Probability & Statistics

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 the 10G/25G/100G MAC & PCS design of Intel's new 14nm FPGA, Stratix X.
- Designed a multi-mode Ethernet test platform, which can transmit and analyze billions of Ethernet packets efficiently. The platform is used by a team of 7 people to perform further tests.
- Wrote Python scripts to read the design document and automate test case generation process.
- Wrote Bash scripts to automatically run the daily build and generate the detailed report.

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 rendering performance and thread pool queueing algorithm, and optimized some categories' search performance by 30%.
- Fixed gating backend issues which required an intimate knowledge of multi-thread and OS.
- Participated in Agile software development process, and the team code review process.

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 in Java. The AI can direct the snake to eat food through the shortest possible path while keeping itself from a collision.
- Designed a decision maker to find the optimal path as quickly as possible.

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

- Designed a personal website 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.

Image Decompressor (https://github.com/bwwyyy/Digital-Systems-Design--2015/) Nov 2015

- Designed a real-time JPEG image de-compressor in System Verilog verified by software model (C++).
- Became comfortable designing, implementing and testing multi-state digital systems.
- Utilized pipelining the core algorithm and improved the matrix calculation performance by 40%.

AWARDS

Provost's Honour Roll Medal –Perfect 4.0 GPA 2016

Kudsia Family Scholarship –Top of the Computer Engineering Program 2016