Owen **Qian**

Software Developer · National Chess Master · AI Enthusiast

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Skills

Languages C++, Java, Python, HTML5, CSS3, Javascript, Matlab

Development Tools Valgrind, Jenkins, git, JIRA, Bash, vi/vim, Google test, gdb/lldb debugger, Cygwin, Qt Creator, Makefile, qmake

Experience

CV (Cardiovascular) Diagnostix — *Kanata, Ottawa*

Software Engineering Intern — *May - Aug 2016*

- Improved performance of outdated Fourier transform functions by wrapping and integrating C++ library, while maintaining consistent interface
- Created **C++ instrumentation toolkit** to numerically compare and dump floating point values in hexadecimal format
- Worked in small peer-reviewed development team, collaborating using **BitBucket and JIRA**
- Streamlined workflow by replacing mind-numbing manual tests with robust automatic processes, run on a nightly basis using **Jenkins** and Google test
- Set-up local python Wiki server to document test cases and set-up procedures

Projects

Pooker: A Not So Shitty Poker AI — *Side Project*

No Limit Texas Hold'em — *Jul - Sept 2016*

- Developed continuously using git with **over 150 commits**. Visit my GitHub!
- Created "intelligence" using Monte Carlo tree search with Upper Confidence Bound selection strategy
- Strong focus on modular and object-oriented design to allow for painless tuning of AI decision processes
- Judiciously managed dynamic memory alloc with **0 memory leaks** with over 500,000 allocs (checked with Valgrind)
- Studied multiple PhD dissertations and articles and reproduced their results without reading any source code

Live Free — *PennApps XIII*

Machine learning glucose level predictor for diabetes — *Jan 2016*

- Predicted blood sugar levels with **91% accuracy** with neural network classifier
- Optimized performance by employing stochastic, random-batch gradient descent

Robot Racing Design Team — *University of Waterloo*

OpenCV and Matlab Image Processing — *Mar 2016*

- Isolated traffic light colors and distinguished roadlines using hsv filters and color channel manipulation
- Used Matlab to prototype and test algorithm before porting to OpenCV

Achievements

Waterloo's First Board (Chess) — *Queen's University*

Canadian University Chess Championships — *Jan 2016*

- Ranked in **top 100** of all Ontario chess players
- Awarded **best individual performance** in entire tournament
- Brought Waterloo team from last seed to 2nd place finish

Education

University of Waterloo —Second year — *Waterloo, Ontario*

Expected B.ASc in Computer Engineering (ECE) — *2015 - 2020 (expected)*

- ECE 250 Data Structures and Algorithms
- ECE 222 Digital Computing - Using Assembly to interface with hardware

2360 SAT Score 800 Math, 800 Reading, 760 Writing