Qian Qiao

Personal Information

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Education

University of Waterloo, Canada

Bachelor of Mathematics Candidate (2013 - expected June 2016), GPA 3.8/4.0
Double major in

- Computer Science, Honours
- Combinatorics & Optimization, Honours

Harbin Institute of Technology, China

Bachelor of Science (2012 - 2013), GPA 3.9/4.0
Mathematics

Honours and Awards

2015	Computational Mathematics Upper Year Scholarship
2014	Computational Mathematics Upper Year Scholarship
	Term Dean's Honour List
2013	Term Dean's Honour List

Experience

Qyer.com, Beijing, China, April 2015–July 2015
Software Developer (PHP, Python, Java, SQL)

- Developed and maintained RESTful API integrations.
- Designed and implemented python automation testing framework.
- Authored documents for technical design, implementation planning.
- Contributed to the demand review of new features of mobile applications.

University of Waterloo, Ontario, Canada, September 2014–March 2015
Teaching Assistant, Math239 Introduction to Combinatorics

- Worked in Tutor Centre to provide academic support.
- Marked weekly assignments and developed score report.
- Assisted students in better understanding graded work and midterms.
- Provided one-to-one assistant for students depending on their demand.

ASUSTeK, Harbin, China, September 2012–July 2013
Data Analyst, (Oracle, SQL, MS Access)

- Developed data report including market occupancy and changing trend analysis.
- Assisted with the creation and implementation of the Sales & Operations Plan.
- Assisted business development efforts by researching new markets.
- Edited and verified data on returned survey questionnaires.
- Evaluated and assessed statistical data produced from returned questionnaires.

Projects

Winter 2016 — Traveling Salesman Problem Solver (C++)
- Implementation and performance analysis
- A Star Search using nearest neighbourhood heuristics.
- Local Search using simulated annealing.

Winter 2016 — Fast Sudoku Solver (C++)
- Forward checking and back tracking.
- Most Restricted Variable and Least Constraining Value heuristics.

Winter 2015 — Computational error analysis (Matlab)
- Floating point error stability.
- Interpolating curve data by a parametric curve.
- Local error stability analysis.
- Higher order differential equations analysis.

Winter 2015 — OS161 Unix kernel Development (C)
- Implementation of synchronization, system calls, threads, multiple processes and memory management.

Winter 2015 — Vigenère Ciphertext Decryption (C++)
- Used statistics and computing theory.

Fall 2014 — C grammar Compiler (C++)
- Implementation includes scanner, parser, generator, assembler, and MIPS instructions optimization.

Summer 2014 — Quadris: a Latinisation of the game Tetris (C++)
- OOP with command line features, displayed by X11.

Summer 2014 — League of Legends Game Replay For Mac OS X (Shell Scripts)
- Support Mac users to watch game replay without log in client.

Coursework

- ❑ Linear Algebra
- ❑ Number Theory
- ❑ Calculus
- ❑ Combinatorics
- ❑ Probability
- ❑ Group Theory
- ❑ Coding Theory
- ❑ Optimization
- ❑ Graph Theory
- ❑ Network Flow Theory
- ❑ Combinatorial Enumeration
- ❑ Real Analysis
- ❑ Statistics
- ❑ Functional Programs
- ❑ Algorithm Design
- ❑ Logic and Computation
- ❑ Object-oriented Programming
- ❑ Data Structure
- ❑ Database Management
- ❑ Sequential Programs
- ❑ Computer Organization
- ❑ Numerical Computation
- ❑ Computing Theory
- ❑ Cryptography
- ❑ Operating Systems
- ❑ Machine Learning
- ❑ Artificial Intelligence

Relevant Skills

Programming:	C/C++, JAVA, Python, SQL, Shell Scripts, Scheme
Scientific Computation:	R, Matlab, Maple, Latex
Languages:	English (Fluent), Mandarin (Fluent), Korean (Beginner)

Activities

2015 - present: Hearth Stone Tespa Club Leader
2014 - present: Lomography Club Member