Sheng (Johnson) **Zhong**

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EDUCATION

University of Toronto   2013 - Present
Engineering Science (Robotics specialization) class of 2017
GPA: 3.87/4.0

SKILLS

- **Programming** | C++ | Python | C | Lisp || Git | SVN | Mercurial
- **Web development** | Django | HTML | CSS | Jekyll | Javascript
- **Visual Design** | Inkscape | Photoshop | SolidWorks

EXPERIENCE

FPGA CAD Routing Optimization   Aug 2015
Summer research – more at johnsonzhong.me/projects/vpr
- Routing component of VPR under the Verilog-to-routing toolchain
- Up to **3x speedup** on difficult circuits through incremental rerouting
- Speedup scales positively with circuit difficulty
- Up to **30% faster circuits** produced through targeted rerouting of critical yet suboptimal connections

Autonomous Interacting Robots   Apr 2015
Team of three – more at johnsonzhong.me/projects/robot
- Interacting mobile robots playing connect-4 on a randomized gamefield
- Responsible for microcontroller (Arduino) and all logic
- Fastest ball retrieval time (3 ball/min vs average 0.5 ball/min) through targeting randomly-located high-reward ball dispensers

SAL - Algorithms and Data structures library   Jan 2015
Solo – more at johnsonzhong.me/sal/
- Header only C++ template library with an interactive tester
- Simple and clear implementations of efficient algorithms
- User friendly and practical introduction to algorithms (used by classmates)

Language Interpreter (Lisp)   Aug 2014
Solo – more at johnsonzhong.me/projects/clisp
- Small and fast at around 550 lines of C++
- Lexical scoping, first class functions, and tail recursion optimization
- Automated garbage collection with RAII

IEEEXtreme Programming Contest   Oct 2013|2014
Team of three – Virtual Vagrants placement
- Solved algorithm-related programming challenges within 24 hours
- Placed **43**/7500 (6th in Canada) in 7.0 | **52**/unknown (8th in Canada) in 8.0

INTERESTS | Hacking | Graphics Design | Chess | Badminton | Wushu |