

# JOHNSON ZHONG

ROBOTICS ENGINEERING STUDENT

Legal name: Sheng | [johnsonzhong.me](http://johnsonzhong.me) | [github.com/lemonpi](https://github.com/lemonpi) | [johnson9510@hotmail.com](mailto:johnson9510@hotmail.com)

## EDUCATION

2013-09 to 2018-06

### University of Toronto

- ◆ B.ASc in Engineering Science Robotics
- ◆ Cumulative GPA: 3.92/4.0
- ◆ Major GPA: 4.0/4.0
- ◆ Rank 2/161 in 3rd year

## WORK EXPERIENCE

2016-05 to 2017-09

### Verity Studios R&D Engineering Intern with Prof. Raffaello D'Andrea

16 months Professional Experience Year, Zurich - [veritystudios.com](http://veritystudios.com)

Verity Studios is an ETH spinoff specializing in indoor drone show systems. I designed and implemented a robust parameters system.

- ◆ Works on PC and microcontroller hardware platforms with no code duplication
- ◆ Real time performance
- ◆ Parameters values smartly retained after adding/removing other parameters
- ◆ PC software can modify parameters on all hardware platforms and versions without recompilation
- ◆ Simplified usage so much that a coworker wrote: "Tears of joy come to my eyes seeing how much simpler the code becomes"

## AWARDS

2018-01

3rd in Ontario Engineering Competition 2018 Programming category (\$500)

2016-03

1st in Ontario Engineering 2016 Competition Programming category (\$2000) - [johnsonzhong.me/projects/snowfun](http://johnsonzhong.me/projects/snowfun)

2015-10

1st in Canada in IEEEExtreme 9.0 (28/6800 globally) - [johnsonzhong.me/res/ieee9.pdf](http://johnsonzhong.me/res/ieee9.pdf)

2015-01

Context.io API prize in PennApps Winter 2015 (\$500) - [devpost.com/software/snowball](http://devpost.com/software/snowball)

2014-10

8th in Canada in IEEEExtreme 8.0 (52/6500 globally) - [johnsonzhong.me/res/ieee8.pdf](http://johnsonzhong.me/res/ieee8.pdf)

2014-09

Google Cloud Platform prize in Hack the North 2015 (\$1000) - [devpost.com/software/forenships](http://devpost.com/software/forenships)

2013-10

6th in Canada in IEEEExtreme 7.0 (43/7500 globally) - [johnsonzhong.me/res/ieee.jpg](http://johnsonzhong.me/res/ieee.jpg)

## LANGUAGES

	Experience [> lines of code]
C++	50k
Javascript	10k
Python	5k
C	5k

PROJECTS

2015-09 to 2015-11

Autonomous Cooperating Robots

AER201 Design Project in a team of 3 - [johnsonzhong.me/projects/robot/](http://johnsonzhong.me/projects/robot/)

The task was to design and build a mobile robot to play connect-4 on a semi-randomized game board. We decided to pursue a two robots approach, one for retrieving the ball and one for playing the ball.

- ◆ Targeted randomly placed high-reward ball dispensers to obtain **fastest ball retrieval time** (3 ball/min vs average 0.5 ball/min)

2014-11 to 2015-09

Simple Algorithms and Data Structures Library

Open source personal project - [johnsonzhong.me/sal/](http://johnsonzhong.me/sal/)

Header only C++ template library with an interactive tester focused on implementation readability.

- ◆ Implemented sets and maps with treaps to get **4x insertion and 2x read time** improvements over standard library

SOFTWARE SKILLS

Build tools	CMake, Makefile
Version control	Git, SVN
Environments	Windows, Linux, Arduino
Libraries	Boost, QT
Code review	Gerrit
Integration	Buildbot, Jenkins

COURSES

Heavy focus	Control theory, Machine learning, Modelling
Medium focus	Dynamics, Kinematics, Probability, Algorithms
Light focus	Economics, Marketing