

# Simeng Yang

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## Skills

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**Proficient** C/C++, C#, Python

**Familiar** Java, JavaScript, Perl, WAMP Stack, SQL, PHP, HTML, Matlab

**Tools & Technologies** Unix/Linux, GDB, Valgrind, Git/Mercurial, Jira, Apache

## Experience

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### Software Development Intern

Markham, ON

GENESYS LABORATORIES

May - August 2017

- Developed a backend interface from scratch to encapsulate audio in a media container for recording and playback over Chrome and Firefox in **C++**.
- Implemented unit tests for audio encapsulation with the Google tests framework on **Linux** and **Windows**.
- Wrote **XML** scripts to invoke recording and playback by simulating user agent scenarios with SIP protocol.
- Programmed and tested features for the Genesys web-based Real-Time Communications (RTC) system.
- Performed and underwent code reviews to ensure a consistently high quality of code.

### ECOO Programming Contest

Toronto, ON

REGIONAL QUALIFIER X 2

Feb 2016/2015

- Finished as **semi-finalists** across Ontario in 2015 and 2016.
- Solved problems by implementing **Search, Sort, and Pathfinding** algorithms in **C#**, **C++**, and **Python**.
- Applied **dynamic programming** to optimize solutions and satisfy runtime constraints.

## Projects

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### Student Database Management System

JAVASCRIPT, PHP, MYSQL, WAMP STACK, HTML, APACHE

- Implemented a login-authenticated database to manage student records using **WAMP Stack**
- Developed the web interface from scratch, with database integration using **MySQL** and **Apache**
- Implemented robust input sanitation for text-fields using error-handlers and regular expressions in **PHP**

### SketchIt! - 2D Printer

C/C++

- Programmed a printer to reproduce sketches from a set of 25+ points on a brick microcomputer.
- Developed a graphical interface for plotting points through keyboard and mouse input in **C++**.
- Coded the calibration and 3-axial operation of the printer with **embedded C**.

### Jumbotron - Skittle Sorter and Dispenser

C/C++, EMBEDDED C

- Designed an autonomous dispenser for allocating Skittles using an RGB sensor.
- Synchronized the rotation of the feeding wheel and operation of the release shaft in **C++**.

### PolyTown

C/C++

- Coded a text-based game with object-oriented features such as inheritance, polymorphism, encapsulation and dynamic memory storage using **C++**.

## Education

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### University of Waterloo

CANDIDATE FOR BACHELOR'S OF COMPUTER SCIENCE, 3.9 CGPA

Sep. 2016 - Exp. May 2017

- DSE200x Python for Data Science, edX
- CSMM.102x Machine Learning, edX
- UD120 Intro to Machine Learning, Udacity