

## SKILLS

**PROGRAMMING:** Java, C++, Maple, Arduino, HTML, CSS, JavaScript, VHDL

**TECHNOLOGY:** Eclipse, Git, Android Studio, Arduilink

## SUMMARY

- Experienced (>3 years) in: Java, C++, Arduino
- Familiar (<3 years) with: HTML, CSS, JavaScript, Android Studio, Git
- Assembled robotics projects involving integration of micro-controllers and Java graphic user interface
- Skilled in Maple, MATLAB, Excel data processing: such as using Fast Fourier Transform
- Highly proficient in translating and interpreting between Chinese and English

## EMPLOYMENT

### ESCAPE GAMES CANADA

Puzzle Engineering

2017

- Designed and built electronic puzzles for users to solve in a real-life escape game
- Programmed in Arduino to integrate hardware such as RFID readers, neopixels, etc.
- Implemented auto-calibration algorithm for an array of capacitive touch sensors
- Established communication between 3 Arduinos and 1 Raspberry Pi using I2C protocol and RF Tranceivers

### MCCC SUMMER CAMP

Lead Robotics Teacher

2016

- Designed the camp curriculum and taught Lego Mindstorm NXT Robotics and programming

### SPIRIT OF MATH SCHOOLS

Assistant Teacher

2014 to 2016

- Collaborated teaching of enriched math concepts and problem solving
- Explained challenging math contest questions in small groups

## PROJECTS

### PERSONAL WEBSITE

2017

- Learned HTML, CSS, JavaScript (jQuery) through online resources
- Styled and designed from scratch using Github Pages

### WIND TUNNEL

2015 to 2016

- Designed and built small-scale wind tunnel for measuring force of lift and drag on airfoils
- Verified wind speed measurement to precision of  $\pm 0.3$  m/s
- Real-time updated forces on 7-Segment display and GUI using Java and Arduilink
- GUI interface controlling Arduino for changing angle of attack and windspeed
- Coordinated construction and testing in team of five

### 3RD DEGREE POLYNOMIAL FIT

2015

- Programmed in C++ to determine the 3rd degree polynomial fit of given data set
- Solved using the method of Least-squares and Vandermonde Matrix

### LIFE-FORM SIMULATION GAME

2014

- Co-programmed interaction between 5 different elements over time in Java using Eclipse
- Object-orientated program using 11 unique classes to categorize the life-forms
- Flexible simulation depending on user inputs through Java Swing GUI