

# Guiyang Han

+1 (226) 929 5752 • [hanguiyang@yahoo.com](mailto:hanguiyang@yahoo.com) • [www.guiyanghan.com](http://www.guiyanghan.com)  
Github: [github.com/GuiyangH](https://github.com/GuiyangH)

## Career Objective

---

Dedicated and motivated master's graduate seeking entry level software engineer position.

## Education

---

### Master of Science, Physics

University of Waterloo, GPA: 3.6/4.0 2015–2017

### Bachelor of Applied Mathematics

University of Waterloo, GPA: 3.27/4.0 (last year 3.75/4.0) 2011–2014

## List of Skills

---

**Programming Languages:** Python, HTML, CSS, Java, MySQL, MATLAB, JavaScript

**Software Frameworks:** TensorFlow, Scikit-learn, QuTip and Simulink.

## Relevant Projects

---

### Game of Poker:

- Designed and implemented a 5 card draw poker game with a GUI in Python. Besides the real player, there are two AI players who can call, bet or fold the hand based on the probability theory. The game can be played many rounds and there is a scoreboard to track the amount of tokens for each player after every round.

### Laser Data Collector:

- Collected data of the laser diode from over hundreds of websites with a self-designed web crawler based on Python. The data are stored in a SQL database for the purpose of complex and range search queries. An user interface is built alongside from scratch using Tkinter in Python to assist with the database search.

### Fish Classification:

- As a part of a Kaggle competition, several approaches were tried to classify different species of the fish with about 2000 images provided. With a mini version of LeNet, a special kind of CNN, a test accuracy of 67% was achieved on a dataset consisting of 3400 images.

## Relevant Experiences

---

### Researcher

Institute for Quantum Computing, University of Waterloo May.2017–Aug.2017

- Digitally modeled and analyzed a physical model of the superconducting circuit in Python. The model captured comprehensive source of errors and well-predicted the physical model. With the fully parameterized controls, the simulation can be widely used across many research topics.

### Research Assistant

Cheriton School of Computer Science, University of Waterloo Oct.2016–Mar.2017

- Implemented a device-free indoor localization system based on channel state information(CSI). With a  $\pm 40$ cm accuracy and a great stability, this system provides a practical solution for the smart home application.

### Thesis-Based Master's Study

Institute for Quantum Computing, University of Waterloo 2015–2017

- Constructed and maintained a SQL database for storing, extracting and analyzing experimental data.
- Implemented the gradient ascent machine learning algorithm to optimize the control flux of a quantum system. This algorithm achieved output accuracy over 99.99%.