

# Le Zhang

3B Honours Physics | Computing Minor

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## Education

*University of Waterloo (Undergraduate)*

2021-Present

- Candidate for Bachelor of Science, Honours Physics and Computing Minor

## Qualifications

- Excellent ability to build the program by **Python**, **C/C++** and version control with **git**
- Capable of **CUDA programming** uses **PyTorch** for deep learning model training
- Skilled use of **shell script** to complete automated testing (Linux OS)
- Master in web related programming **HTML**, **CSS**, **JavaScript** and **MySQL**
- Skilled in audio and visual editing by **Photoshop**, **Final Cut Pro**, **Logic Pro** and **Davinci Resolve**

## Work Experience

*Instructional support Assistant*

*University of Waterloo*

*Jan. 2024 – April. 2024*

- Use **shell script** to code program for programing contents check
- Work with teaching **server** to **deploy** and **maintain programs** on the server side
- Work with other ISA boost the **team work** skill and **leaderships**

*Website Maintainer*

*University of Waterloo*

*Sept. 2023 – Dec. 2023*

- Maintain the content of the website contents by UW Development Kit with knowledge **HTML/CSS/JS**
- Ensure website responsiveness and accessibility on various devices
- Develop **Python scripts** to check the website accessibility and other requirements

*Audio-visual Events Assistant*

*University of Waterloo*

*Jan. 2023 – April. 2023*

- Record and edit with professional video equipment/software **Final Cut Pro**
- Develop basic equipment **managements software** construction by **Python**
- Work with live PA system by Multichannel Audio Mixing

## Projects

*CPU Emulation*

2024

- Use **Python** to simulate the **CPU** and **Memory** behavior in bitwise as the sample to show the logic of computer
- Develop and implementation of CPU **instruction sets**
- Develop CPU peripheral systems such as **memory management**, **I/O**, and **simple C compiler** and **OS**

*Data Analysis & Deep Learning by Python*

2023

- Develop data processing programs by Python with **Numpy**, **Scipy**, **Matplotlib** and **PyTorch**
- Using **CUDA programing** for deep learning model training
- Using deep learning to predict the future trend based on existing data

*Classic Electrical Games Development*

2023

- Develop E-games with graphic user interface by **Pygame** module in **Python** library
- Develop game logic processing modules in **C/C++** to boost data processing efficiency and build **API** that can be easily called in Python environments

*Computational Physics Simulation*

2023

- Build models using knowledge of physics and mathematics by **Python**, **C/C++**
- Develop **muti-threads** algorithms to improve simulation efficiency
- Validate simulation results and use visualizations by **Matplotlib**

*Website Develop & Server Maintenance*

2017 - Present

- Develop the website handle concurrency and parallelism by using **HTML**, **CSS**, and **JavaScript** with **nginx**
- Set up **MySQL** database to handle the data processing and store

## Activities and Awards

- Excellent Academic Standing | 2021-2023
- First Robotic Competition – General Motor industrial design award | 2018