# Luke Tao

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## Summary of Qualification

**Languages**
- C++, JavaScript, PHP, Python, HTML/CSS, Scheme, Racket, C

**Tools and Frameworks**
- Node.js/Express, React, Vim, MongoDB, Excel, Shell, GIMP, Laravel, MySQL, Jquery

## Work Experience

**Full-Stack Developer**, Digital Extremes 05/2020–09/2020
- Developed **GoogleSheet API** scripts using **Python** and **Apache** to automate news parsing and content deployment, drastically improving run-time performance by over 3 times
- Assisted in the deployment of **Twitch** extensions during major events by automating caching and optimizing end-user transactions using **Python**
- Deployed and scaled up application on **Google Cloud** Service to support async user news extension
- Worked in **PHP** to maintain and improve site integrity during high-traffic occurrences
- Implemented various testing scripts on the back-end to better analyze application/site performance

## Project

**CompressIT**, C++,Python 03/2021–Current
- Planned and constructed a console compression tool in **C++** that **50%** of times out-performs zip2000 for images and text files
- Optimized app to function in **low-memory** environment with no need for external libraries or heavy overheads
- Currently working on supporting video formats and machine learning based optimizations in **Python**

**Vm**, C++ 11/2020–11/2020
- Designed and built a custom version of **VIM** from scratch in **C++** with all key features supported(prefix, undo, and such),along with flexibility for extension maintained
- Implemented functional graphics using **C++'s Ncurse** library to support cursor, text-wrapping, screen movement, and **syntax highlighting** for .h and .cc files
- Constructed with various dynamic design patterns in mind, such as observer and inversions to achieve program wide low coupling and high cohesion

## Experience

**Stanford University, California**, Summer Intern 4/2018–06/2018
- Participated in research conference regarding **RSA** and **Twofish** data encoding algorithms
- Mechanically constructed an **Enigma** Machine prototype using a 4070 quad-xor gate and a solenoid switch
- Coordinated with DevOps to modify **Enigma** algorithms and improved its runtime using **Pickle** and serializing the data

## Education

**Candidate for Honours Bachelor of Computer Science**, University of Waterloo 9/2019 - 5/2024
- Relevant Courses: **Data-Structures and Data-Management (Enriched)**,**Object-Oriented Software Development(Enriched), Algorithm Design and Data Abstraction(Enriched), Functional Program Design(Enriched)**
- Awards/Distinctions: **Duke of Edinburgh's Award Gold, President's Scholarship of Distinction, President's Research Award**