

# KAI YI (DAVID) ZHANG

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3A Computer Science

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## EXPERIENCE

### Computer Programmer

#### Agriculture and Agri-food Canada

May 2019 – August 2019 Harrow, ON, Canada

- Maintained EasyGrapher, a graphing software that aids with visualizing crop growth data
- Developed a new installation procedure to produce an installer for clients instead of relying on external add-ons
- Implemented functions that calculates important statistics from crop growth data provided by agricultural models to complement the graphs
- Created an application that summarizes test results from automated tests into an easy to understand excel file
- **Tools:** Visual Basic, Excel, ArcGIS

### Vex Robotics Team Leader

#### Appleby College

November 2015 – March 2018 Oakville, ON, Canada

- Built a robot that completed various tasks such as moving a ball to an assigned target and placing a ball on a shelf
- Co-developed the code used to control various motors on the robot
- Led a group of young students and built the robot
- **Tools:** ROBOTC, VEX Robotics Kit

## PROJECTS

### WLP4 Compiler

#### University of Waterloo

January 2020 - April 2020

- Implemented a compiler to compile all valid WLP4 code (a teaching language from Waterloo) into MIPS machine language
- Designed programs to scan WLP4 code into tokens, parse the tokens and ultimately generate the MIPS machine language
- **Tools:** C++

### Polygon Smash

#### Personal Project

June 2020 – August 2020

- Created a Super Smash Bros inspired fighting game using the Unity game engine
- Created sprites for character animation, and implemented the main hit-box and hurt-box logic
- Developed the camera logic to appropriately track all players during gameplay
- **Tools:** Unity, C#

### Personal Website

#### Personal Project

May 2020 – present

- Created a website to advertise and display my projects
- The website source code was designed to easily add new items as I update the website when I complete more projects and learn new skills
- **Tools:** HTML 5 and CSS, Bootstrap 4, JavaScript

## PROFESSIONAL SKILLS

- High Proficiency in:

C++ C Java Visual Basic

- Familiar with:

C# HTML 5 CSS Linux Bash  
Git Unity Bootstrap 4 MIPS  
ARM Visual Studio LaTeX

- Basic Knowledge in:

Python SQL JavaScript R

## EDUCATION

### Candidate for Bachelor of Computer Science

#### University of Waterloo

September 2018 – April 2023

Relevant Courses:

- Designing Function Programs (Racket)
- Elementary Algorithm Design and Data Abstraction (C)
- Object-Oriented Software Development (C++)
- Data Structures and Data Management
- Foundation of Sequential Programs (C++)
- Operating Systems (C)
- Algorithms

## INTERESTS

Video Game Design Game Theory  
Swimming Team Sports Music  
Public Speaking

## LEADERSHIP

### Lifeguard/Swimming Instructor

#### YMCA Oakville

September 2016 – April 2017

- Insured pool safety by working in a team
- Designed lesson for young swimmer to learn