David **Xu**

1B SOFTWARE ENGINEERING · UNIVERSITY OF WATERLOO · 96.64 CUMULATIVE GPA

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Skills

Languages	Java (Most Familiar); Python, C, C++ (Very Familiar); Kotlin, JavaScript, HTML, CSS (Prior Experience)
Technologies	Experience with Git, Tkinter, OpenCV and Android Studio
Other	Understanding of object-oriented programming, algorithms and data structures

Projects

ANTI-RONA LOCK SYSTEM ⤴ *Oct. to Dec. 2020*

- Assembled a mask and distance detection lock as a team of 5 to increase safety during the COVID-19 pandemic.
- Integrated the central components of our software using Python, Tkinter and OpenCV, resulting in a fully-functional project with a graphical user interface.
- Created a circular array data structure for easy navigation between previously processed images.
- Communicated effectively with every team member, allowing successful integration and completion of the project one week before the deadline.
- Debugged a key portion of our code successfully, preventing it from bringing our project to a halt.
- Derived the mathematical formulae for calculating distances between objects in an image and implemented them as functions.

CHESS ⤴ *May to June 2019*

- Built Chess from scratch with Java and object-oriented programming principles.
- Created a complete graphical user interface with movement animations.
- Implemented undo/redo, saving/loading, and additional features.

WEBSITE ⤴ *Jan. 2021 to Present*

- Constructed personal website with HTML, CSS and JavaScript and deployed it using GitHub Pages.
- Embedded a video using the YouTube IFrame Player API.

GAMES ⤴ *June to Sept. 2020*

- Implemented Checkers, Connect Four, Tetris and more using mainly C++.
- Applied object-oriented programming principles.
- Employed algorithms for move/input validation, "Game over" checks, et cetera.

ANDROID APPLICATION *Dec. 2020*

- Built a memory card game using Android Studio and Kotlin.

Experience

Kumon Educational Japan Co. Ltd. *Cambridge ON, Canada*
GRADER/TUTOR *2017 to 2018*

- Graded thousands of student worksheets and guided dozens of puzzled students.

Awards

UWATERLOO PRESIDENT'S SCHOLARSHIP OF DISTINCTION *2020*

- 95+ admission average

AP SCHOLAR WITH DISTINCTION *2020*

- Scored 5 / 5 on all 5 of my exams

CAYLEY (MATH) CONTEST SCHOOL CHAMPION *2018*

- Scored top 1% out of 24,709 contestants

Education

University of Waterloo *Waterloo ON, Canada*
CANDIDATE FOR BACHELOR OF SOFTWARE ENGINEERING *Sept. 2020 to Apr. 2025*