

Clarence Chau

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EDUCATION

University of Toronto

Toronto, ON

Bachelor of Science – Computer Science, Mathematics and Statistics

Sep. 2020 – April 2024

- Relevant Coursework: Data Structures and Algorithms, Computer Organization and Design, Proofs of Linear Algebra and Matrices, Vector Calculus, Software and Electric Circuits, Software Tools and Systems Programming
- Varsity Badminton (OUA Third Place)

EXPERIENCE

Full Stack Developer

June 2022 – August 2022

Aireum

Toronto, ON

- Developed both the front and back-end of the administrating management system using **ReactJS** and **HTML/CSS**, to showcase and publish national archive material
- Helped build, manage, and store nearly one million assets of national archive material, with rights of access given by the government of Canada, fundraising over \$3MM in donations
- Coded an asset manipulation tool by creating a **REST** API inspired by CRUD, with the help of **Postman** to add, remove, and manipulate all assets into **Firebase** facilitating the updating process 2 times faster

PROJECTS

UTimetable | *Java, Gradle, MongoDB*

September 2022 – December 2022

- Created a **Java** application for university students to publish their timetable for their friends to see
- Coded an algorithm to compare different user's schedules which prints a schedule of free times slots in a $O(n \log(n))$ time complexity, 15 times faster than a generic $O(n^2)$ algorithm
- Used MongoDB for the back-end, to store the users, timetables, and building locations
- Increased user accessibility by implementing 6 **design patterns**, along with the **7 Principles of Universal Design**

Personal Website | *ReactJS, CSS, Node.js*

October 2022 – November 2022

- Built a personal website to present my personal projects
- Used **ReactJS components** to build the framework and personalized how it looks with **CSS**
- Connected the site to **Formspree** using API calls, for users to easily get in contact with me
- Made the site reactive to the user, detecting 5 different window sizes, and will resize the formatting accordingly

Meepo Is You | *Python*

February 2021 – March 2021

- Coded a grid based puzzle game inspired by Baba Is You
- Used **Pygame API** to wrap the SDL library, easing the development process of the game
- Used a **LIFO linked lists** to keep track of adjacent connected blocks, manipulating the rules of the game

Picture Manipulation | *Python*

January 2021 – February 2021

- Created a Photoshop-like application in **Python** that edits images to however the user wants
- Used **matrix transformations** to create 5 different algorithms in Python to alter the images in different ways
- Requires a deep understanding of **RGBA pixel manipulation** and altering PDF files

Gungeon | *Java*

January 2020 – May 2020

- Used **Java** and **Greenfoot** to create a dungeon-based shooting game, with different sets of difficulties
- Took advantage of **object oriented programming** to create different types of guns, monsters and dungeon rooms
- Used advanced trigonometry and mathematics to track the trajectories of the bullets

TECHNICAL SKILLS

Languages: Java, Python, C, SQL, JavaScript, HTML/CSS, LaTeX

Frameworks: ReactJS, React Native, Node.js, JUnit, Material-UI, MongoDB, Firebase, Logisim

Developer Tools: Git, Google Cloud Platform, VS Code, PyCharm, IntelliJ, Eclipse, Postman, Greenfoot

Libraries: Bootstrap, React Native Animated, React Hook Form, Prettier, Pygame, Formspree