Ritchie Xia

3rd Year Computer Engineering Student | University of British Columbia

rxia@student.ubc.ca | 604-352-1531 | ritchiexia.me | github.com/ritchiexia

Education

University of British Columbia, BASc Computer Engineering *Expected Graduation: **May 2024***

Co-op: Available for 4-16 months beginning May 2022

CGPA: 4.0, Dean's Honour List

Skills

Languages C/C++, Java, JavaScript, Python

Frameworks React.js, HTML/CSS, JUnit, Node.js, MongoDB

Tools Git, GDB, Bash/Command Line, PowerShell, Windows, Linux, Figma

Projects

Spacestagram (https://github.com/ritchiexia/Spacestagram) *Jan 2022 – Present*

- Designed and developed a responsive front-end app that displays 10 posts from NASA's Astronomy Picture of the Day Archive using **HTML, CSS, JavaScript, React.js, Material-UI,** and Polaris
- Created a mockup design of UI with **Figma** to prototype features and improve user experience
- Integrated **Axios** requests and **React Router DOM** to dynamically load posts

OS161 Kernel *Sep 2021 – Dec 2021*

- Implemented synchronization primitives, system calls, virtual memory, and thread management using **C** and MIPS R3000 assembly to create a basic kernel
- Exercised multithreading techniques with synchronization principles to improve speed of operation
- Used **GDB** to debug issues such as deadlocks, system faults, and memory leaks to ensure code quality

BookCards (https://github.com/ritchiexia/book-recommender) *Mar 2021 – May 2021*

- Developed a **React** app with a **MongoDB** database in a group of four to recommend books based on user preference
- Programmed two machine learning models using **Python**, **Flask API** and **PyTorch** to allow users to view unique book recommendations updated with every user input

Find Free Space (https://github.com/ritchiexia/FindFreeSpace) *Jan 2021*

- Created a web app using **Python** and **OpenCV** to periodically detect body count in a room from a camera input
- Utilized a **MongoDB** database to store room occupancy levels updated using a Python script

Engineering Student Teams

UBC Solar (https://github.com/UBC-Solar/Simulation) *Feb 2022 – Present*

SOFTWARE SUBTEAM MEMBER

- Improving UBC Solar's vehicle performance simulation, producing a racing strategy to use during the American Solar Challenge (ASC) solar vehicle competition
- Developing **Python** scripts, classes, and algorithms to optimize route completion time
- Revamping and redesigning team website with business team in **React**

UBC Rocket *Sep 2019 – Apr 2020*

INTERNALS SUBTEAM MEMBER

- Collaborated in a multi-disciplinary team to design a liquid-fuel rocket using the collaborative environment GrabCAD
- Efficiently communicated with subteams to design the frame holding together other components of the rocket, including the parachutes and avionics board