

Ritchie Xia

3rd Year Computer Engineering Student | University of British Columbia

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

TECHNICAL SKILLS

Languages: C, Java, HTML, CSS, JavaScript, Python, SystemVerilog/Verilog, ARMv7, x86-64

Tools: Git, MATLAB, Intel Quartus, ModelSim, Node, Bash

PROJECTS

OS161 Kernel, CPEN 331 Project

Sep – Dec 2021

- Implemented synchronization primitives, system calls, and virtual memory using **C** and **x86** to develop a simple Linux kernel
- Utilized **multithreading** through synchronization of threads and processes to improve speed of operation
- Managed memory using a PID table and FD table to keep track of threads and switch their statuses to signal whether it is active, queued, or finished and waiting for cleanup
- Used **GDB** to debug issues such as deadlocks, system faults, and memory leaks to ensure code quality

BookCards, CPEN 291 Project (<https://github.com/ritchiexia/book-recommender>)

Mar – May 2021

- Developed a web app in a group of 4 using **Python**, **React** and **MongoDB** that recommends books based on user preference
- Programmed an **embedding model** to pair new users with existing users of similar taste, followed by **reinforcement learning** to actively update the user vector and the user's recommend books

Find Free Space, nwHacks (<https://github.com/ritchiexia/FindFreeSpace>)

Jan 2021

- Created a web app using **Python** and **OpenCV** for upper body detection from a camera input and returns a count to a **MongoDB** database to inform users of a room's occupancy level

ENGINEERING STUDENT TEAMS

UBC Rocket

Sep 2019 – Apr 2020

Internals Subteam Member

- Integrated core components of rocket into an efficient, functional design
- Used **SolidWorks** to design and perform force analyses on mid-assembly of rocket including main and drogue parachute bays, spoked plates, and threaded rods providing room for avionics board to be housed

OTHER WORK EXPERIENCE

Trek Bicycle Corporation, Burnaby, BC

Jul – Oct 2020

Sales Associate

- Provided a personal shopping experience by qualifying customer needs and finding ideal products matching requirements
- Effectively communicated customers' technical issues with the technician team for bicycle repairs and spare parts

SFU Camps, Burnaby, BC

Jun – Aug 2019

General Instructor of Computers

- Supervised, formed lesson plans, and taught basics of computer programs such as **Scratch**, **HTML**, the Adobe suite (**Photoshop**, **After Effects**), and **SketchUp** to groups of about 25 campers aged 10-12

BC Hockey, Burnaby, BC

Sep 2013 – Mar 2017

Ice Hockey Official

- Communicated with 2 other officials clearly and effectively each game to make split second decisions to ensure safe and fair play between players aged 4-12

EDUCATION

University of British Columbia, BAsC Computer Engineering

Expected April 2024

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

CGPA: 85.4% (3.95), Dean's Honour List