

Raymond Shen

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TECHNICAL SKILLS

Languages: Python, C/C++, Java, HTML/CSS, JavaScript, Verilog, Assembly/8051

Frameworks: Firebase/Firestore, Vercel, MongoDB, React, FastAPI, REST API, Flask

Libraries/APIs: OpenCV, matplotlib, pandas, beautifulsoup4, OpenAI, Excel, Gmail, Meta, Reddit

EDUCATION

University of British Columbia

Sep 2022 - Apr 2026

Bachelor of Applied Science in Electrical Engineering

EXPERIENCE

UBC ThunderBikes, UBC Engineering Student Team

Sep 2023 - Present

Telemetry Team Leader, Control Systems Sub-Team, Webmaster, upcoming CTO

- Worked in team dedicated to designing and developing a competition ready racing electric motorcycle
- Programmed STM32 firmware for controlling relays that guide bike through its various operational states with 4 failsafes in mind, led 8 code reviews and created it's documentation
- Setup a Linux server to receive 1000+ web requests per second from a LilyGo A7670 LTE module
- Wrote code to process CAN bus signals for both bike display and logged 80+ different status/error codes
- Designed PCB schematics using Altium and soldered both components by hand and with reflow oven
- Migrated and maintains team website using HTML/CSS hosted on Firebase from Google Sites

Minpraxis Solutions Ltd., Mineral Industries Company

Oct 2023 - Nov 2023

Data Analyst: Contract Position

- Leveraged in-house software to accurately process and document 1000+ stone breaking force signals
- Gained invaluable experience working in a smaller startup team and completing weekly deliverables
- Data was presented to stakeholders along with a live field test for ALS Metallurgy Kamloops

PROJECTS

JobJug, StormHacks 2024

May 2024

Python, PyTorch, Firebase, React.js, Tailwind, Flask

- Established email parsing service that tracks and labels incoming job application updates using custom AI
- Generated synthetic data using 80+ existing emails with OpenAI to add variation in our data set
- Trained text classification AI using synthetic data in PyTorch and setup DNS records
- Awarded best Social/Connectivity Hack and 4th place overall runner up out of 194 participants

Metal Detecting Robot, UBC Electrical Engineering Design Studio I

Mar 2024 - April 2024

C++, React, MongoDB, EFM8LB12 and PIC32MX130 microcontrollers

- Constructed a metal detecting robot controlled by a remote using JDY40 wireless transceivers
- Led a team of 6 through organizing tri-weekly meetings, setting up parallel workflows and supervising
- Worked primarily with an EFM8 to create a control pad capable of both sending and receiving data
- Implemented 2 features to view and access data from a website using React and MongoDB in real-time

Real-Time Data Aggregation Bot with Excel Integration, Freelance

Feb 2024

Python, Excel, Torn API, discord.py

- Engineered a custom bot leveraging API endpoints to extract and process live data with intuitive UI
- Added Excel integration upon client request to increase user-friendliness and provide even more insights
- Documented the ideation, prototyping and design process in a project charter for clients

StudyScout, nwHacks 2024

Jan 2024

Python, React, MongoDB, Vercel, Mappedin, Raspberry Pi

- IoT device used to monitor and report in real-time how many free tables were at common study places
- Modeled UBC's Koerner Library in Mappedin developer kit and dynamically updated on live website
- Western Canada's biggest hackathon (176 projects). 3x 1st Place finishes: CSE, MongoDB, Mappedin
- Focused on the hardware and database components of the project, also connected Mappedin SDK
- Wrote video processing program and connected to MongoDB in Python and hosted web app on Vercel