

Aarjav Jain

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TECHNICAL SKILLS

Languages: Java, Python, C/C++, JavaScript, HTML5, CSS3, SQL
Frameworks and Environments: RTOS, MATLAB, Linux OS, Bash, React
Software Tools: Git, VS Code, Visual Studio, IntelliJ, STM32Cube IDE
Libraries: NumPy, Matplotlib, TensorFlow

EDUCATION

University of British Columbia

Bachelor of Applied Science

August 2022 – April 2027

Vancouver, BC

- **Related Courses:** Computing Systems I & II, Data Structures and Algorithms, Software Construction I
- **Awards and Honours:** Dean's Honour List
- **Major:** Computer Engineering with CGPA 4.33/4.33

TECHNICAL EXPERIENCE

Embedded Systems Engineer

UBC Solar

Sept. 2023 – Present

Vancouver, BC

- Designed a C library with the VDX team to open, append, and close files on an SD card's file system and achieved Nucleo board compatibility with the STM32Cube IDE and a PCAN adapter
- Attained rapid board testing by analyzing bus jitter and CAN messages with ctools library and Python
- Documented code on Monday.com and managed version control with Git to uphold organization

Applied AI Developer

UBC AgroBot

Jan. 2023 – May 2023

Vancouver, BC

- Created a 94% accurate Python OpenCV algorithm for optimized crop contouring (excluding weeds)
- Trained a 90% accurate YOLOv8 model with Roboflow to determine bounding boxes in plant images
- Worked with 15 peers to 500 annotate crop images with LabelImg on a Deborah Virtual Machine
- Reported updates in an agile software development environment to evaluate CNN model progress

TECHNICAL PROJECTS

IoT Analytics Server | *Java, Git, Multithreading, AWS Lambda*

Nov. 2023 – Dec. 2023

- Engineered a concurrent server in Java to serve and optimize mass client communication
- Integrated AWS Lambda to further optimize event processing and predictive analytics for future events
- Streamlined workflow with Git and weekly scrums to achieve seamless project development

Music Beat Detector | *Python, C/C++, Spotipy, Pyaudio, Multithreading, React*

May 2023 – August 2023

- Researched and engineered a real-time audio analysis algorithm and GUI in Python, C++, and React.js
- Utilized numpy, pyaudio, spotipy to detect bass, claps and hihats, synchronize lyrics, and flash colors
- Enhanced performance with C's WinAPI GUI, multithreaded processing, and fftw3.h
- Implemented Web Audio API using React to display lights and download the C++ GUI

Personal Website | *React, HTML5, Javascript, CSS3*

May 2023 – Aug. 2023

- Deployed a responsive and user-centric personal profile using React.Js
- Provided a seamless, mobile, and laptop-optimized personal website with CSS Flexbox

WORK EXPERIENCE

Instructor and Marker

Kumon North America

Sept. 2021 – Aug. 2022, May 2023 – Aug. 2023

Calgary, AB

- Encouraged student's success in school through after-school tutoring and leadership initiatives
- Guided instructors with strategies to streamline workflow and enhance markers' teamwork
- Balanced dual roles with strong organizational skills and work ethic to provide feedback to students