Aarjav Jain (he/him) **Computer Engineering Student**

323-5955 Birney Ave
Vancouver, BC, V6S 0C5

Aarjavjain2736@gmail.com | (587)-664-2736
https://aarjavjain.site/

TECHNICAL SKILLS

Programming Languages: Python, C, C++, Java, Javascript, HTML, CSS
Frameworks and Applications: RTOS, MATLAB, React.js
Software Tools: STM32Cube IDE, Git, Visual Studio Code, IntelliJ, Arduino IDE

EDUCATION

University of British Columbia — **Expected Graduation: May 2027**
Bachelor of Applied Science - Computer Engineering — **CGPA: 4.33**
Related Courses:

- Introduction to computer engineering design: 97%
- Linear Systems: 94%

ENGINEERING STUDENT TEAMS

Solar, UBC — **September 2023 – Present**
Embedded Systems Engineer

- Proficient in utilizing C/C++ with STM32Cube IDE for controlling and managing various circuit boards.
- Developing FreeRTOS firmware to capture and store data in our SD card logger.
- Wrote a Python script with the cantools library to flexibly test circuit boards for efficient development.
- Gaining skills in CAN bus communication protocols and PCAN software.

AgroBot, UBC — **January 2023 – May 2023**
Applied AI Developer

- Collaborated in an agile software development environment to evaluate our CNN model's progress.
- Created a 94% accurate Python OpenCV algorithm for optimized crop contouring (excluding weeds).
- Trained a YOLOv8 model using Roboflow to determine bounding boxes on crops and weeds in plant images with 90% accuracy. Utilized LabelImg to add bounding boxes to crop images.

TECHNICAL PROJECTS

RISC Machine, Computing Systems I — **October 2023 – December 2023**

- Developed a modular RISC design in System Verilog and simulated it with test benches in ModelSim.
- Synthesized the RISC on a De1-SoC using Quartus, ensuring gate-level functionality.
- Optimized RISC machine via pipeline techniques, including forwarding, to boost instruction throughput.

Music Beat Detector, Personal Project — **May 2023 – August 2023**

- Developed a real-time audio analysis algorithm and GUI in Python using pyaudio, OpenCV, and spotipy to detect beat elements (bass, claps, hihats), synchronize lyrics, and change screen colors accordingly.
- Created a C/C++ WinAPI GUI implementation with portaudio.h and fftw3.h for audio processing.
- Utilized React and Web Audio API to create a web implementation and to download the C/C++ GUI.

INTERESTS & ACTIVITIES

- **Programming Personal Projects**
- **Learning Languages (Currently Japanese)**
- **Working Out**