

JOSH CHOMIAK Electrical Engineering Student

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TECHNICAL SKILLS

General

- Research paper editing, interpreting and summarizing
- Project management
- Electrical testing equipment (oscilloscope, function gen.)
- Simulink/MATLAB

Electrical

- Circuit design and analysis
- Microcontrollers
- Arduino
- Breadboard, Circuit Assembly/Prototyping
- Microprocessor (Raspberry Pi)
- Soldering

Software

- SolidWorks, Fusion 360, Onshape
- C++, Java, Python, HTML, CSS, Verilog, R
- Altium, LTSpice, ROS
- ML/AI Architectures, OpenCV TensorFlow, Keras, Pytorch

EDUCATION

University of British Columbia
Bachelor of Applied Science - Electrical Engineering, 3rd year

Expected Graduation: May, 2028

TECHNICAL WORK EXPERIENCE

AI Evaluator and Data Annotator, DataAnnotation

May 2025 – Present

- Created rubrics for evaluating the quality of data by reviewing outputs, labeling datasets, and providing structured feedback
- Coded model responses for guiding and training AI models
- Interacted with a variety of sample types, such as audio, code, text and more to create high quality training material

TECHNICAL PROJECTS

Drone Development, AR2C UBC

August 2023 – May 2025

- Designed and built an FPV system for long distance visual imagery from a semi-autonomous drone
- Wired and soldered PCB's and wiring for a quad-propellered drone
- Researched, designed, and 3D modelled a Yagi antenna 'ground station' to connect to in-air drones/helicopters through Mission Planner software
- Worked on a semi-autonomous helicopter that competed in the Aerial Evolution Association of Canada Student UAS Competition

Solar Decathlon Housing, IDS UBC

May 2023 – September 2025

- Competed in the Solar Decathlon housing design competition, coming 2nd in the single-family housing division, hosted by the U.S Department of Energy
- Used PVSyst and Helioscope to simulate solar energy production, accounting for environmental factors, calculating payback periods, and reducing losses to for a net zero house envelope.
- Designed and directed the PV system for a house as the director of PV design, leading a 6-person team
- Acted as the electrical team lead for the 2024/2025 Solar Decathlon Design Challenge (renamed to Buildings NeXT), managed a 3-person team and designed a retrofit a guide for the City of Kelowna. Attained a tied first place at the showcase.



Electric Scooter, Personal**February 2025 – Present**

- Currently in the stage of ordering and beginning assembly
- Researched into creating an electric scooter from scratch, understanding the major components needed such as the hub motor, battery, controller, throttle, and more

Volumetric Display, Personal**January 2025 – Present**

- Researched the theory for a swept volumetric display which led into selecting the components to build a 300 mm display using a Raspberry pi 4, different sized bearings, voltage converters, speed controller, LED matrix panels and more
- Wrote code in Python so that two HUB 75 LED panels using ABC shift registering can project an uploaded image clearly
- Currently in the stage of ordering and beginning assembly with prototyping, planning and software done

AI Creation, Personal**March 2022 – Present**

- Design numerous passion projects for image recognition, particularly facial recognition, hand/gesture recognition, object detection and more.
- Familiar with different libraries, such as TensorFlow, Keras, Pytorch, and other modified architectures such as YoloV11, Mediapipe and more.

ElectroEdmonton, WEC**March 2022 – Present**

- Designed an interactive map for planning electric bus development within Edmonton, for the Western Engineering Competition programming division. Placed 1st with a score of 99/100
- The platform was an interactive designed using the Astro framework, used React.js for the reactive and scalable UI, featured Tailwind CSS for styling with low file sizing, and used both a parsed CSV and OpenStreetMap API/leaflet to generate the map and provide up to date bus routes.
- The application is hosted on the domain electroedmonton.ca, or as seen in my GitHub.

ENGINEERING AND DESIGN STUDENT TEAMS

AR2C Aerospace club, UBC**September 2023 – May 2025****Electrical team member**

- Working on UAV and other form of aviation aircraft robotics
- Working on self-made rockets, looking to create liquid fuel based rockets as a passion project

Marine Robotic Hydrofoil, Marine Robotics UBC**September 2025 – Present****Electrical team Lead**

- Leading the electrical team to design an electric hydro foiling catamaran boat, with both manual and remote piloting. Responsible for the battery and BMS, fly-by-wire control system, sensors, safety and more.

Okanagan Rover Craft, UBC**September 2025 – Present****Electrical Engineer, BMS, Power Systems and Sensors**

- Engineered the rover's full-system electrical schematics and power distribution network. Currently leading the design of a 6-DOF robotic arm optimized for competition tasks

AWARDS/ACHIEVEMENTS/CERTIFICATIONS

Aerial Robotics and Rocketry Award: Student UAS Competition	2023
BC Hydro Scholarship in Engineering	2024
Solar Decathlon Single-Family Housing Design Award: 2 nd place, 1 st place	2024/2025
SolidWorks Sprint Competition Finalist	2025
Mastering OpenCV with Python	2025
Western Engineering Competition (WEC): Programming 1 st place - (99/100 score)	2026
Canadian Engineering Competition (CEC): Programming top 10	2026

