BRIAN YAN

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EDUCATION

University of British Columbia – Vancouver, BC **Expected Graduation: May 2025**
Bachelor of Applied Science – Engineering Physics

- Dean's List

SKILLS

Languages: Python, C, C++, CUDA, Java, HTML, CSS, JavaScript

Tools/Frameworks: OpenCV, Pandas, NumPy, TensorFlow, ROS, Node.js, React.js, Vue.js, GCP, Terraform, Git, Linux

EXPERIENCE

DaoAI Robotics Inc. **May 2022 – August 2022**
C++ Software Engineer Intern

- Streamlined a high dynamic range (HDR) **image processing algorithm** by implementing parallelized **CUDA** code, achieving a **79.7% speedup** and reducing average processing time from **532ms to 108ms**.
- Developed an error logging system on edge devices using the Google Logging library and implemented a feature to retrieve and store remote logs onto a local PC with the **Google Remote Procedure Call (gRPC)** library.

Delta Controls Inc. **January 2021 – May 2021**
Software Engineer Intern

- Facilitated implementation of **Terraform** as a third-party **infrastructure as code (IaC) solution** for administration of cloud services. Undertook research, analysed documentation, explored potential use cases, and evaluated best practices.
- Designed an **automation service** for management of cloud infrastructure yielding a direct **reduction of over 480 hours** of manual management and streamlining future administrative tasks.
- Collaborated on **full-stack development** of a user-facing web interface for the company's consumer products by contributing microservice implementations, UI updates, and bug fixes.

ORGANIZATIONS

UBC Open Robotics **September 2020 – Present**
Computer Vision Team

- Designed an algorithm to **detect human poses** and extract/extrapolate key points and construct a 3D vector representing a subject's arm in space and estimate the direction the subject is pointing **all in real time**.
- Implemented several **machine-learning based computer vision** approaches (pose detection, feature recognition, object detection) and integrated software programs with hardware systems with the **Robot Operating System (ROS).**

PROJECTS

Fairify | StormHacks 2021 Winner **https://github.com/bri-yan/StormHacks**
Intuitive tool for verifying fair trade practices

- Won 1st place overall among over 200 participants at the StormHacks 2021 hackathon.
- Developed a user-friendly web-app to **algorithmically evaluate the fair-trade practices of any company** by compiling online community reviews, verifying fair trade certifications, web-scraping for relevant articles, and **employing natural language processing to conduct sentiment analysis**. Built with **React.js** for the frontend and **Python Flask** for the backend.

Jesture | nwHacks 2022 Finalist **https://github.com/StuffByAndrew/ASL-Learner-NWHacks**
Intelligent AI sign language recognition and tutoring

- Designed a web-based **American Sign Language learning platform** which utilizes machine learning and **computer vision** to provide instant feedback, verifying sign language correctness and identifying potential areas to improve. nwHacks 2022 top 5 finalist.
- ASL lessons involve users using their webcams to stream real-time video of themselves practicing while behind the scenes, a lightweight **Tensorflow.js** model identifies the sign and checks for correctness.
- Presented user data via interactive graphs and compiled metrics onto an elegant and intuitive dashboard.

Sentri | Pinnacle Hackathon 2021 Finalist **https://devpost.com/software/sentri**
In-depth route guidance prioritizing safe walking routes

- Created a crime-data driven route planer employing FBI crime data to plot crimes in the area onto a **responsive and animated 3D map** which determines the safest walking path from point A to point B by leveraging Google's Directions API.
- **User reported** crime-data is securely stored using MongoDB and updated on the map in **real time**.