Jed Yeo

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Education

University of British Columbia Vancouver, B.C.

Bachelor of Applied Science in Engineering Physics, Minor in Honours Mathematics *September 2017 – May 2023*

Experience

Research Assistant April 2021 – Present

UBC Computer Science Department – LEAP Research Group *Vancouver, B.C.*

- Investigating **machine learning methods** to conglomerate and classify medical images from multiple data-sites whilst maintaining model classification accuracy and reducing compute time by a factor of 3x
- Researching **data clustering** techniques to process images with similar features in batches such that the model can be up-scaled to process gigabytes of medical data
- Participated in weekly update meetings with the research group to ensure that research methodology is well-reasoned and project direction clear

Developer Co-op January 2020 – March 2020

Plantiga Technologies *Vancouver, B.C.*

- Developed and designed a data pipeline in **Google Cloud Platform** with **Python** and **ReactJS** to showcase and summarize anonymized patient data for an administrative interface, ensuring compliance with HIPAA standards
- Created an internal tool using **Python** and the **Slack API** to generate a patient report containing past data and user activities, streamlining the data retrieval process for the maintenance engineering team
- Coordinated with the administrative team to push weekly fixes to an internal management dashboard, using **ReactJS** to develop features such as data retrieval and information widgets

Electrial & Controls Co-op May 2019 – August 2019

Dynamic Attractions *Port Coquitlam, B.C.*

- Programmed a **Human Machine Interface** for the QA stage of a high voltage ride system which controlled the orientation of multiple robotic arms and monitored values of interest such as robot position and cycle count, expediting the testing phase of the project by weeks at a time
- Managed and configured the communications array of an oil-finding seismic generator to ensure system components were monitored and maintained according to operating procedure

Projects

Machine Learning Models for Cryogenic Microscope Imaging | *Python, Git* March 2022

- Developed a **Python** wrapper class for an open-source **C** program to generate artificial transmission electron microscope images and tilt series of biological samples for use in algorithmic development
- Responsible for spearheading rigorous code review sessions and weekly update presentations in collaboration with UBC Math and Stanford Linear Accelerator Center to ensure design requirements were being met
- Researching an **iterative refinement machine learning** model to estimate alignments of generated 2-dimensional particles and reconstruct a 3-dimensional model

Autonomous License Plate Reading Robot | *Python, ROS, Linux, Git* December 2020

- In a team of 2, collaborated remotely to design and develop a fully autonomous virtual robot in **ROS Melodic** to process and identify license plates within a virtual world
- Utilized classical computer vision techniques to control the robot's movement by leveraging **scipy** functions and achieving a 100% completion rate of the circuit
- Designed a custom convolutional network with **Keras** to identify alphanumeric characters on license plates, with the model reaching 99% accuracy on testing data sets

hireflow – Recruitment Management App | *ReactJS, Postman, Git* September 2020

- Used **ReactJS** to design a modular dashboard for a new recruiting platform to display applicants and their profiles to recruiters
- Collaborated with the back-end team to ensure integration of front-end components with the back-end server and database using **Postman**