

EDUCATION

**Bachelor of Applied Science**  
Electrical-Biomedical  
Engineering  
Minor in Physics  
*University of British Columbia*  
Year 3, expected May 2022

**International Exchange**  
Tomorrow's Youth Track  
*Tsinghua University*  
August 2018

AWARDS

**June 2017**  
Tuum-Est Experiential Award  
for upcoming undergraduate  
students

**September 2018, 2019**  
Trek Excellence Scholarship  
for top 5% standing in Faculty  
of Applied Science

**July 2019**  
NSERC Undergraduate  
Student Research Award

**August 2017, 2018, 2019**  
Suncor Energy Scholarship

INTERESTS AND  
ACTIVITIES

UBC Badminton Club  
Cross country running  
Bodyweight fitness  
Piano  
Snowboarding  
Travelling; experiencing new  
cultures  
Ultimate intramurals

TONY XU

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Skills

**DEEP LEARNING:** PyTorch, Keras/TensorFlow, scikit-learn, Pandas

**LANGUAGES:** Python, C++, C, MATLAB, JavaScript

Experiences

SUMMER RESEARCH STUDENT

- Sunnybrook Research Institute – Physical Sciences** | May 2019-present
- Used deep learning and computer vision techniques to analyse digitized breast cancer slide images for cancer detection and classification with PyTorch
  - Innovated pipeline for cancer detection, achieved 91% accuracy on slide-level segmentation
  - Preprocessed using “tissue classifier” network to distinguish important cellular regions, improving accuracy of overall pipeline by 5%
  - Communicated with medical professionals to receive qualitative feedback on network performance, built continuous discussion to ensure a useful and usable product

ELECTRICAL DESIGNER and ML LEAD

- UBC Biomedical Engineering Student Team (BEST)** | October 2018-present
- Member of the Medical Innovation in NeuroTechnology (MINT) project
  - 3<sup>rd</sup> place in NeurotechX student competition for creating and designing home-made EEG
  - Gained experience with PCB soldering and using Python libraries to process signals

Technical Projects

- Doggin’ Dog GAN** | July 2019-August 2019
- work
  - in
  - progress

- Music Genre Classifier** | February 2019-April 2019
- Designed and trained a neural network using TensorFlow/Keras to classify genre of any song
  - Optimized hyperparameters (learning rate, momentum, network depth) using GridSearchCV
  - Performed preprocessing and feature extraction with Librosa

- Doctor Christina** | January 2019
- nwHacks project creating voice-activated communication device for sterile environments
  - Implemented voice activation, speech-to-text, and data transfer using Python back-end