

## Education

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### The University of British Columbia

MSc, Bioinformatics

BASc, Engineering Physics

- Graduated with Distinction
- Dean's Honor List
- Chancellor's Scholar Designation

2019 – Current

2014 - 2019

## Professional Experience

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### Canada's Michael Smith Genome Sciences Centre

Master's Research Student

05/2019 – Current

- Using computer vision to detect, identify, and quantify features in histopathological images across different cancer types

Bioinformatics Research Student

05/2017 – 05/2018

- Implemented, optimized, and analyzed an autoencoder model in Python, to determine the most predictive gene clusters in cancer classification, using large-scale transcriptome data
- Configured and utilized Tensorflow framework
- Processed, visualized, and presented data and results
- Presented poster on project, receiving 3<sup>rd</sup> place at the International Conference of Physics Students (Torino, Italy, August 2017), out of over 200 scientific contributions; award sponsored by Nature Physics

Software Developer Intern

08/2016 – 09/2016

- Participated in development efforts to establish data sharing infrastructure with the GA4GH database
- Performed development, testing, and configuration in Python, of a GA4GH reference server
- Loaded and validated genomic data within reference server
- Created documentation for new software and procedures

### Dental Recruitment Service and Database

Co-founder/Lead Software Developer

01/2019 – Current

- Startup service that automates the recruitment of dentists and hygienists for short-term contract work, using self-developed software
- Assembled team and formulated the concept
- Built up a network in the Lower Mainland, and have a number of dental clinics beta-testing our product
- In process of incorporating company

### Software Contract Work, Dr. Paul Waraich

Software Developer

01/2018 – Current

- Developing the software for a "Chatbot" application, which gathers patient information, stores it, and uses it in an effective and safe manner (open source and decreases manual work for doctors using it)
- Creating statistical calculation tools that analyze clinical testing scales

### Stanford University, Department of Bioengineering

Computational Biostatistics Research Student

06/2018 – 08/2018

- Used machine learning models and performed statistical analyses to understand how DNA sequences affect CRISPR/Cas9 technologies
- Implemented and analyzed deep learning models (LASSO, Random Forest, SVM) in R, to predict ricin susceptibility and identify highly active sgRNA sequences for CRISPR activation
- Processed, visualized, and presented data and results

## Non-Invasive Neurostimulation Therapies Lab

Work-Learn Student

09/2016 – 05/2017

- Formulated mixed-effects models and wrote methods section for pilot study manuscript
- Managed servers for 5 projects, overseeing data quality, data export, and user rights
- Set-up database and surveys for a new study the lab is conducting on novel treatments for depression
- Maintained and updated lab website

Work-Learn Student

09/2017 – 05/2018

- Implemented variable selection methods and deep learning algorithms in R, to predict biomarkers in depression, using clinical scales
- Processed, visualized, and presented data and results
- Designed and created dynamic and informative lab website in Javascript, HTML, and CSS
- Managed servers for 5 projects, overseeing data quality, data export, and user rights

## SMART Technologies

Software Test Developer Intern

01/2016 – 04/2016

- With a team of six interns, created an “Image Search” add-on in Javascript, HTML, and CSS, for the newest release of SMART Technologies’ Notebook software (used by millions of teachers worldwide)
- Coded automated software testing methods in Python
- Actively participated in Nerf gun ambushes on other project sub-teams

## Presentations

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**Jenny Yang**, Matthew Hill, Fidel Vila-Rodriguez, Dorian Aur. Improving Clinical Outcomes and Decreasing Unwanted Side-Effects of rTMS Treatment with a Shielding Device. *UBC Department of Psychiatry Research Day*, Vancouver, Canada. June 7, 2018. [poster]

**Jenny Yang**, Daniel Blumberger, Zafiris J Daskalakis, Colleen Northcott, Joe Tham, Raymond Lam, Jonathan Downar, Fidel Vila-Rodriguez. Machine Learning Predicts Response to rTMS in Depression. *UBC Undergraduate Neuroscience Conference*, Vancouver, Canada. January 25, 2018. [poster]

**Jenny Yang**, Jasleen Grewal, Steven Jones. Identifying Functional Clusters of Genes for Personalized Therapy in Medicine. *The International Conference of Physics Students*, Turin, Italy. August 7-14, 2017. [oral] [poster]

**Jenny Yang**, Daniel Blumberger, Zafiris J Daskalakis, Colleen Northcott, Joe Tham, Raymond Lam, Jonathan Downar, Fidel Vila-Rodriguez. Machine Learning Predicts Response to rTMS in Depression. *UBC Department of Psychiatry Research Day*, Vancouver, Canada. May 25, 2017. [poster]

Afifa Humaira, **Jenny Yang**, Katie Green, Nick Ainsworth, Marlon Danilewitz, Colleen Northcott, Daniel Blumberger, Jonathan Downar, Zafiris Daskalakis, Joe Tham, Raymond Lam, Fidel Vila-Rodriguez. Side Effects of rTMS in HFL vs. TBS Study for Major Depressive Disorder Treatment. *UBC Undergraduate Neuroscience Conference*, Vancouver, Canada. September 9, 2016. [poster]