

SKILLS

LANGUAGES | Python, Java, C, Bash, R, JavaScript

FULL STACK | HTML/Bootstrap, Django, SQL, Mongo, Android, iOS, Git, Unix/Linux

ML & CLOUD | NumPy, PyTorch, Tensorflow, scikit-learn, Azure, Google Cloud, Conda, cluster OS

CREATIVE | CAD, Adobe Suite, Microsoft Office

AWARDS

1st Place + Axelrad Award for Best Computer Science Research | 2018

Princess Margaret Cancer Research Studentship for best undergraduate research | 2018

British Columbia Provincial Achievement Scholarship | 2018

Silver Medal + Top 20 at Canada Wide Science Fair | 2017

1st Place Honours at Sanofi Biogenius Challenge | 2017

EDUCATION

UNIVERSITY OF TORONTO

COMPUTER SCIENCE 2017 -
& STATISTICS 2021
& MATH (MINOR) 3.89/4.0

CS Core | Software Design, Object-Oriented Programming, Computational Theory, Algorithms + Data Structures, Linear Algebra, Machine Learning (audit)

Life Science (2017-18) | Evolution, Probability Theory, Chemistry, Genetics

EXPERIENCE

COMPUTER SCIENCE INTERN

2018-Present

MARS MEDICAL + VECTOR INSTITUTE | MACHINE LEARNING GROUP

- Developed **de novo epigenetic assembly** & custom **annotation pipelines** that transform + semi-automate the synthesis/analysis of data from **2 new** ChIP-seq technologies
- Trained & validated an **unsupervised machine learning model** on high-res epigenetic data from **20+** genomic datasets to **predict** key cancer-linked proteins
- Improved annotation specificity** by **60%** & generated **insights on data resolution utility**

IMAGING AUTOMATION DEVELOPER

2017-Present

UNIVERSITY OF TORONTO | IBBME

- Created **ImageJ macros** to **automate** the detection and measurement of **>8 thousand muscle fibres** in **microscopy images**, **reducing manual analysis time by 75% (1000+ hrs)**
- Accelerated by 2X** the validation of novel cancer drug screening tissue interface device
- Contributed key validation figure to **publication under review** in **high impact** journal

BIOTECHNOLOGY RESEARCH INTERN

2016-17

UNIVERSITY OF BRITISH COLUMBIA | MEDICINE

- Characterized novel roles of Podocalyxin** protein, discovering an **80% structural role** in keeping **blood-brain-barrier** integrity & signifying a new **drug delivery target**
- 1st Place** Sanofi Biogenius, **6th Place** National Biogenius, Intel ISEF **Semi-Finalist**

PROJECTS

MIRROR DIAGNOSTICS | Co-Founder, Lead Data Engineer

2019-Present

- Saliva testing service using **microRNA informatics** to predict early breast cancer
- Pitched to over **15** investors as Queen's Entrepreneur's **finalist**; won **\$2K** in prizes

ICLR REPRODUCIBILITY CHALLENGE | Team Co-Lead

2018

- Implemented *Initialized Equilibrium*, **back-propagation-less** deep learning, algorithm using **Pytorch/Numpy** along with full coverage **unittests**
- Contributed to **peer review** process leading to paper **acceptance** on **OpenReview**

SOCIALBIT

HackMIT 2018

- Real-time '**social Fitbit**' that tracks social interactions at the micro-scale and then visualizes the frequency of encounters with location details using **D3.js & Firebase**
- Implemented **facial recognition algorithm** with **OpenCV/dlib + YOLOv3** that detects select acquaintances in live video from a glasses-mounted **Raspberry Pi** camera

GAME CENTRAL

2018

- Built **Android** app in **Java** with implementations of 2048, Sliding Tiles & Match Up
- Has sign-in, load-saved serialization, undo, leaderboard, modern UI w/ **Kotlin/XML**

OCCUBOT

Hack the North 2018

- Real-time human traffic detection adapting **OpenCV** facial + limb detection algorithm
- Built web-app with **Flask** to display tallied room occupancy from live public video feed

COMMUNITY

UNIVERSITY OF TORONTO CONSULTING ASSOCIATION | Events Director

2018

- Diversified outreach** to **200+** non-commerce students by raising resource accessibility
- Piloted a tech-oriented consulting series; strengthened partnerships w/ **MBB & Big Four**

OPERATION MED SCHOOL | Conference Chair

2017

- Generated **\$2K+** in revenue along w/ **\$3K+** in corporate sponsorships with **sold-out** event
- Received **350+** attendees and **featured** segment on **CBC + The Globe and Mail**