

EXPERIENCE

BioAI • PyTorch · OpenCV · MapReduce · Docker · GCP Aug 2023 - Present
Machine Learning Engineer Remote

- **Impact:** Engineer #3 at a cancer research startup. Led technical infrastructure & client-facing AI projects
- **Software lead:** Built the ML development codebase from scratch; with configurable and reusable code for data processing, model training, evaluation, etc. Set up online experiment logging & tracking services.
- **ML ops lead:** Engineered a horizontally scalable batch processing infrastructure on GCP, that runs 100s of experiments in parallel. Improved image batch processing time by 50x via distributed computing
- **AI product lead:** Technical lead on a client-facing AI project. Analyzed medical datasets, & trained custom neural networks to predict cancer from histopathology images, and identify rare cancer subtypes

PathAI • PyTorch · OpenCV · Pandas · MapReduce · NumPy Aug 2022 - Aug 2023
Machine Learning Engineer Boston, MA

- **Impact:** Technical owner of PathExplore Melanoma, a customer facing flagship AI product for cancer histology images. Product used by researchers to create new cancer research
- **Engineering:** Engineered and tuned custom neural networks through 80+ experiments. Identified complex failure modes; targeted failures through resampling inputs, augmentations, loss parameters, active learning
- **Research:** Implemented a MapReduce algorithm for quantifying model uncertainty using Monte Carlo dropout, that generates uncertainty heatmaps 20x faster than the existing solution.

University of Toronto • PyTorch · TensorFlow · OpenCV · Pandas May 2020 - July 2022
Machine Learning Researcher Toronto, ON

- **IEEE 2022 ML publication [first author]:** Built versatile machine learning systems for emulating clinical predictions on a new kind of rapid diagnostic test (RDT), applied for blood-typing and COVID-19
- **BMVC 2021 computer vision publication [co-first author]:** Developed a probabilistic algorithm for contour completion that significantly improves edge detection quality, integrated with image inpainting
- **Infra:** Coded ML pipelines from scratch, for data annotation, processing, experiments, & deployment

The Aphrodite Project • Docker · Scikit SDK · Pandas · React · Node Sept 2020 - Sept 2024
Co-creator & Data Science Lead (personal project) Remote

- **Impact:** Co-created a web platform for students, where they fill out a personality survey with 75 questions, and get matched with another student through a compatibility algorithm; **70,000+ users matched**
- **Leadership:** Mentored two data scientists across several projects; e.g improving algorithm fairness
- Trained ML classifiers to predict relationship success, using data from a follow-up survey. Applied model interpretability algorithms (SHAP, boosting) to highlight what survey answers indicate relationship success

Apple • Typescript · GraphQL · SQL · Node · React Jan 2020 - Apr 2020
Software Engineering Intern Cupertino, CA

- **Engineering:** Built a ticketing API that reads errors from hardware devices, and assigns tasks to internal engineers. Implemented a 'ticket search' feature with GraphQL query & mutation endpoints to find tickets

EDUCATION

University of Toronto · Computer science Sept. 2017 – May 2022
Bachelor's of Science · 3.5 cGPA · High Distinction

- Entrepreneurship & research awards (\$15K) • Teaching assistant (4 semesters) • Learning community mentor