

**SUMMARY** ML engineer and M.Sc. with 5+ years' software development experience and 3+ years' varied data project ownership. Deep understanding of statistics and ML; comfortable with data projects end to end, from reading research papers, to data wrangling and analysis, to model building, to writing production-level code and deployment.

## EDUCATION

### Applied Quantitative Methods (AQM), Vancouver, BC

Data science workshop for graduate students; selected for Lululemon capstone project. Jan. – Nov. 2020.

### The University of British Columbia, Vancouver, BC

**M.Sc. Bioinformatics**, March 2021; GPA: 3.33/4.0

*Coursework included:* Stat. Methods for High Dimensional Bio., Stochastic Processes, Topics in Probability

### The University of Chicago, Chicago, IL

**M.S. Computer Science**, June 2011; GPA: 3.69/4.0

**B.A. Economics, B.A. Mathematics**, June 2008; GPA: 3.19/4.0

## WORK EXPERIENCE

### Versatile Media, Vancouver, BC

*Machine Learning Research Engineer*, Jan 2021 – present

- Adapt, implement, deploy CNN pipeline based on published research for inferring 3D output from video input
- Created faster solution than published, with comparable accuracy on larger problem size and fewer samples

### Industrial Data Associates, Chicago, IL (fully remote)

*Software Developer*, August – September 2012, September 2014 – May 2017

- Full-stack maintenance, development, testing of taxonomy and reference content management web platform.

### HP Autonomy, Chicago, IL

*Software Engineer*, April 2012 – July 2014

## RESEARCH AND PROJECT EXPERIENCE

### Bioinformatics Technology Lab, Michael Smith Genome Sciences Centre, Vancouver, BC

*Graduate research assistant*, August 2017 – December 2020

- Created unsupervised classifier for genome sizes from bacterial to human, and wide range of heterozygosity levels
- Performance: binary  $F_1 > 0.99$ , multiclass accuracy  $\sim 0.9$ . 8 to 435% improvement over existing alternatives.

### AQM projects: TransLink, April 2020; Lululemon capstone, August – November 2020

- Investigated complex transit and survey datasets with  $\sim 50$  to  $\sim 200$  features; reported to Lululemon stakeholders
- EDA, feature selection & engineering, PCA, clustering (hierarchical,  $k$ -means, OPTICS, affinity propagation)

### Shmulevich Lab, Institute for Systems Biology, Seattle, WA

*Intern*, June – August 2018

- Preliminary hypotheses validation using cancer miRNA and mRNA expression dataset with 20,000+ variables

## SKILLS

**Statistics & ML:** model selection; regression (linear, GLMs, nonlinear); random forests; dimensionality reduction; regularization; EM; neural networks and deep learning; hyperparameter tuning; etc. Quick learner; stays current on ML research and industry practices, including in MLOps, through regular ML reading group participation and other means.

**Data analysis & visualisation:** lmfit, NumPy, SciPy, Pandas, Scikit-learn, Keras, TensorFlow, Matplotlib, Seaborn, Jupyter. Fluent in Python and associated tools as listed.

**Other:** SQL (3 years' prior experience); Unix CLI; Git; AWS; Docker

## AWARDS

*PyData New York City diversity scholarship*, November 2019

*NSERC-CREATE bioinformatics graduate studies scholarship*, 2017 – 2018

*Public Services Agency of Malaysia undergraduate scholarship*, 2004 – 2008

## PORTFOLIO

[Data science samples](#) | [Parallel tridiagonal linear solver](#) | [Writing and presentation](#) | [Other](#)