

Education

University of British Columbia

August 2022

MSc. in Mathematics, GPA: 87%

Courses: Applied Machine Learning, Machine Learning, Advanced Machine Learning, Probability, Stochastic Processes

Awards: NSERC Canada Graduate Scholarship - Master's (CGS-M), Faculty of Graduate Studies Award

University of New Brunswick

December 2019

BSc. Honours in Mathematics-Physics, GPA: 4.0/4.3

Courses: Probability & Statistics, Numerical Methods, Computational Physics, Measure Theory

Awards: NSERC Experience Award, Arthur & Sandra Irving Primrose Scholarship, and more

Work Experience

C-Therm Technologies

2017-present

Assistant Physicist

- Designed and implemented regression algorithms in Python on solutions to the heat equation in order to obtain thermal conductivity, diffusivity, or effusivity from an experimental curve.
- Solely in charge of creating the regression algorithm used in the software for C-Therm's "Flex TPS" sensor, which is now one of their core test methods and sells for \$9,100 CAD per unit.
- Performed R&D on other unreleased projects, which ultimately resulted in a publication.

Mathematics Department - University of British Columbia

2020-present

Head Teaching Assistant

- Promoted from Graduate TA (2020-2021) to Head TA for in January 2022.
- Manage all workshops and lead all TAs for a Differential Calculus course. Was previously a Graduate TA for an Applied Linear Algebra course.
- Create weekly problem sets and solutions that were used for roughly 200 students, and created lecture plans for other TAs to use in their tutorials. Delivered tutorials to 9 workshop sections with very high reviews from student evaluation surveys.

Projects

- **Publication with C-Therm:** Temperature Fields Generated by a Circular Heat Source (CHS) in an Infinite Isotropic Medium: Treatment of Contact Resistances with Application to Thin Films, International Journal of Heat and Mass Transfer 137:677-689 (April 2019).
- **NHL Supervised Outlier Detection:** Uses LASSO, random forest regressor, support vector regressor, and ultimately a stacking model. Predicts total goals scored by each player in a given year (MAE of 1.6 goals). Finds top N over/underperformers in a season. Roughly 8 of the top 10 underperformers in a given year experience bounce back seasons the following year.
- **Others:** More projects can be viewed on personal website, <https://justin-furlotte.github.io>.

Skills

Programming Languages: Python, Julia, C#, MATLAB

Libraries/Tools: Scikit-learn, NumPy, SciPy, Pandas, Matplotlib, Git, Jira

Process: Agile, Scrum