

Matteo Esposito

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Skills

Programming/Software

• Python | Java | R | Git | SQL | SAS | Dataiku | \LaTeX

Languages

• English | French | Italian

Work Experience

Intact Insurance | Data Lab

INCOMING DATA SCIENCE INTERN (NEW GRAD)

Montreal, Quebec

May 2020 - Aug. 2020

Aviva Canada | Data Science & Analytics

ANALYTICS CO-OP

Montreal, Quebec

May 2019 - Dec. 2019

- Developed and maintained a package in python for actuarial calculations to integrate with current modelling pipeline and to replace current SAS process. (5-6x improvement in average runtime)
- Exploratory data analysis: Tested 3rd party geolocation/telematic data for improvements in current predictive models.

Intact Insurance | Contact Personal Lines

ACTUARIAL CO-OP

Montreal, Quebec

Sept. 2018 - Dec. 2018

- Validated and reconciled premium calculations and ensured that they were correctly implemented from previous systems in new policy viewing software.
- Maintained and modified policy reconciliation SAS/SQL programs.

Aviva Canada | Pricing Analytics

ANALYTICS CO-OP

Montreal, Quebec

Jan. 2018 - Aug. 2018

- Built predictive models to model frequency and severity of personal auto insurance claims for the Atlantic region of Canada.
- Reduced error of variable imputation in Ontario pricing databases by 20% using multiclass classifiers.
- Built a database of at risk clients in SAS & trained binary classifiers to predict risk of default with 85% accuracy for the optimization of the current risk/client selection process.

Economical Insurance | Product, Pricing & Analytics

ACTUARIAL CO-OP

Montreal, Quebec

May 2017 - Aug. 2017

- Responsible for personal auto and miscellaneous lines rate filings and indications using SAS and Excel.
- Worked on proposed rate changes and indications through the analysis and manipulation of current rating structures in Radar.

Academic Tutor in Mathematics

MATH TUTOR

Montreal, Quebec

2013 - 2016

Education

Concordia University

B.SC. ACTUARIAL MATHEMATICS CO-OP WITH MINOR IN COMPUTER SCIENCE

Montreal, Quebec

Sept. 2016 - May 2020

- GPA: 3.36/4.30
- Member of the Co-op Institute
- Member of the Golden Key International Honour Society (Top 15% of students in actuarial mathematics program)
- Received invitation to "Top Students" on behalf of the department Mathematics and Statistics for being selected as being among the top undergraduate students at Concordia.
- Actuarial exams passed during studies: P (Probability), FM (Financial Mathematics), MFE (Models for Financial Economics)

Vanier College

DEC IN PURE & APPLIED SCIENCES

Montreal, Quebec

Sept. 2014 - May 2016

- Dean's List and Honour Roll Student.
- Earned highest grade in cohort for Probability & Statistics (100%) and Calculus I (98%).

Vincent Massey Collegiate

HIGH SCHOOL DIPLOMA

Montreal, Quebec

Sept. 2009 - May 2014

- Magna Cum Laude
- Tutor in mathematics in secondary 4 and 5.

Projects & Extracurricular

Automated Web Scrapers

- Bot built in python with automated user authentication for fetching of semester grades on the Concordia student portal. *Summer 2019*
- <https://github.com/matteo-esposito/grade-fetcher>
- Similar bot built for automated downloading and collection of class documents (.pdf, .xlsx, .pptx) from Concordia moodle page.
- <https://github.com/matteo-esposito/moodler>

Maze Solver (Gridworld Reinforcement Learning Agent)

- <https://github.com/matteo-esposito/uni/blob/master/3-reinforcement-learning/project/report.pdf> *Winter 2019*
- Built a maze solving agent using reinforcement learning approaches.
- Methods implemented: Q-Learning, SARSA (State-action-reward-state-action), n-step SARSA.
- Codebase written in R as part of Dr.F.Godin's STAT497 Reinforcement Learning course.

Leetcode & Project Euler

- 75+ data structure and algorithm questions solved of varying difficulty (Easy, Medium, Hard) *Winter/Summer 2019*
- <https://github.com/matteo-esposito/leetcode>
- In top 3.5% of all users with 63 project Euler questions solved (computational mathematics-related question solved in Java and Python).
<https://github.com/matteo-esposito/project-euler>

Member of Data Innovation Society of Concordia

- <https://disconcordia.com/the-innovative-society> *Fall 2018*
- Became a member of the data innovation society of Concordia, whose goal was to host weekly meetings with graduate students and industry professionals in data science related fields and collaborate to work on ground-up data science projects.

Desjardins Lab DataCup

- Data science competition with the goal of predicting risk of credit default. *Summer 2018*
- Placed 29th out of 150+ teams. (AUROC = 0.895, 1st place AUROC = 0.920)

Systematic Review on Random Matrix Theory

- Conducted a systematic review documenting the current state of research of Random Matrix theory. *Winter 2016*
- Collaborated with mathematics professors Ivan Ivanov and Christian Stahn at Vanier college.
- Held weekly meetings with the to go over notes, published articles and relevant topics to include in paper.

Research Article on Statistical Modeling & Simple Linear Regression

- <https://www.vaniercollege.qc.ca/science/files/2016/05/simple-linear-regression.pdf> *Winter 2016*
- Produced a paper presenting theorems and proofs related to linear regression. Paper was selected to be 1 of 4 papers published in the Vanier College Science Journal.

Relevant Courses

Coursera

MACHINE LEARNING, ANDREW NG

- Topics covered: supervised/unsupervised learning, neural networks, support vector machines, dimensionality reduction, recommender systems, ml pipelines. <https://github.com/matteo-esposito/coursera-ml> *Online Feb. 2019*

COMP 346 - Operating Systems

GRADE: IN PROGRESS

Processes and threads, synchronization, critical section problem, CPU scheduling, memory management, file systems. *Fall 2019*

STAT 497 - Reinforcement Learning

GRADE: A

Temporal difference, Monte Carlo methods, Markov decision problems, multi-armed bandit problem, dynamic programming. *Winter 2019*

COMP 352 - Data Structures & Algorithms

GRADE: A-

Analysis of algorithms, recursion, trees, stacks, queues, heaps, maps, sorting algorithms, graphs, graph-based algorithms. *Winter 2019*

COMP 228 - System Hardware

GRADE: A

Binary and floating point numbers, two's complement, ASCII, memory structure, CPU, registers, ISAs, I/O interfaces and programming, logic gates and circuits. *Summer 2019*

STAT 360 - Linear Models

GRADE: A-

Course done in Minitab & R. Linear regression, measures of association, ANOVA, least squares estimation of model parameters, inferences in regression, multiple regression, regression coefficient tests. *Winter 2018*