Anthony Coache | CV

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Education

2019 – ... **PhD in Statistics**
University of Toronto
Thesis: ... (Advisor: Prof. Sebastian Jaimungal).

2017 – 2019 **M.Sc. in Mathematics, Concentration in Statistics** (4.3/4.3)
Université du Québec à Montréal
Thesis: Stochastic Portfolio Optimization under Coherent Risk Measures (Advisor: Prof. François Watier).

2014 – 2017 **B.Sc. in Mathematics, Concentration in Statistics** (4.18/4.3)
Université du Québec à Montréal

Scholarships & Awards

2019 – 2022 **NSERC** [1] Alexander Graham Bell Doctoral's Award (105 000$)
2019 – 2023 **FRQNT** [2] Doctoral Scholarship (84 000$)
2017 – 2018 **NSERC** Alexander Graham Bell Master's Award (17 500$)
2017 – 2019 **FRQNT** Master's Award (30 000$)
2017 **NSERC** Undergraduate Research Award (5 125$) + **FRQNT** Supplement (2 000$)
2017 **Faculty of Sciences** Honorable Mention for my Bachelor of Science
2016 **NSERC** Undergraduate Research Award (5 125$) + **FRQNT** Supplement (2 000$)
2015 – 2016 **Dean's Honour List** for Winter 2015, Fall 2015, Winter 2016 and Fall 2016 terms
2014 **UQAM Foundation** Admission Scholarship of the Faculty of Sciences (2 000$)

Research Interests

Stochastic Modeling, Computer Science, Optimization, Applied Statistics, Statistical Learning.

Publications

Posters

- Binette, O. & **Coache, A.** The Significance of the Adjusted R Squared. (Bio)Statistics Research Day, Montréal. September 21, 2018.
- **Coache, A.**, Larose, F. "Do schools kill creativity?" Well, they help analyze popularity! Annual Meeting of the SSC, Montréal. June 4, 2018.
- Ferland, R., Froda, S., **Coache, A.** Comparison of surveillance flu data across regions. Annual Meeting of the SSC, Winnipeg. June 12, 2017.

[1] Natural Sciences and Engineering Research Council of Canada
[2] Fonds de recherche du Québec – Nature et technologies

Talks

Contributed

- *Annual Meeting of the SSC:* Stochastic Algorithms for Solving a Multiperiod Quantile-Based Portfolio Optimization Problem. Calgary. May 27, 2019.
- *Probability and Statistics Student Seminar - UQAM:* Non-Parametric Estimation of the Quantile Function. Montréal. July 13, 2017.

Work Experience

2020 – ... **Teaching Assistant at University of Toronto**
Statistical Consultation, Communication and Collaboration (STA490Y)
In charge of project meetings for groups of 4-5 students and individual mentoring sessions.

2020 **Research Assistant with Prof. Sebastian Jaimungal**
Goodness-of-Fit, Order-Flow and Hedging.
Collaboration between Oanda and Fields-CQAM. Investigated hidden trends in tick count and order-flow trading data and explored hedging strategies with dynamic hedging barriers using hidden Markov models.

2016 – 2019 **Teaching Assistant at Université du Québec à Montréal**
Regression (STT2120), Statistical Software Laboratory (STT2100), Statistical Methods for the School of Management (MAT2080), ANOVA for Biology (MAT1285)
In charge of weekly exercises sessions for classrooms of 10 to 40 students.

- Winter 2019: STT2120 & MAT1285
- Fall 2018: STT2100 & MAT2080
- Winter 2018: STT2120 & MAT2080 (2x)
- Fall 2017: STT2100 & MAT2080
- Fall 2016: MAT2080

Summer 2017 **Research Internship with Prof. François Watier**
Stochastic Optimization with Convex Risk Measures.
Familiarized myself to stochastic optimization methods and analyzed the single-period portfolio optimization problem with convex risk measures. Investigated the multi-period portfolio optimization problem with convex risk measures.

April 2017 **Research Internship with Prof. Sorana Froda and Prof. René Ferland**
Estimation of parameters from surveillance data on past epidemics.
Familiarized myself to epidemiology and programmed R and SAS scripts for data analysis and visualization. Led to a contribution in a poster.

2017 – 2019 **Mathematics Tutor**
Quantitative Analysis in Psychology (PSY4031)
Preparation of lessons and weekly exercises sessions for individual tutoring.

Summer 2016 **Research Internship with Prof. François Watier**
Monte Carlo Evaluation of Sensitivities for Risk Measures.
Programmed Harrell-Davis and kernel density estimation algorithms and developed confidence intervals for risk measures and sensitivities. Joint work with Prof. René Ferland.

Leadership

- Prepared and ran a Matlab Bootcamp for students of the Masters of Financial Insurance program at U of T (January 2021).
- Co-organized the Canadian Statistics Student Conference 2020 (May 2020) and 2021 (June 2021), both held online due to the COVID-19. Part of the translation team, responsible for translating all content that was published in the program booklet, as well as all communications with students and slides of the keynote speaker.
- Contributed on a professional development guide aimed at UQAM's Math & Stats majors (Winter 2019).
- Co-organized the Statistics Student Summit in Montréal (March 2019).
- Volunteered for the organization of the R in Montréal seminar (July 2018).
- Promoted the UQAM's Probability and Statistics Student Seminar (Summers of 2016 and 2017).
- Co-creator and main administrator of the Facebook page UQAM Statistics (September 2016). The goal of the page is to bring Statistics students together and keep them informed about upcoming events within the department.
- Co-organized orientation activities for new undergraduate students in Statistics (2016 – 2019).

Skills

Programming: Strong knowledge of R, SAS, Matlab and TeX/LaTeX. Knowledge of C/C++, Python, Java and SQL.

Multitasking: Experience carrying out several projects in parallel from start to finish.

Versatility: Worked on multiple interdisciplinary projects related to statistics, mathematics, finance and epidemiology. Particular ease in creative work and fast learning.

Organization: Experience organizing and publicizing various events and seminars.