Anthony Coache | CV

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anthony-coache

Education

	University of Toronto (UofT)
2019–24	*Ph.D., Statistics (3.95/4.00), advised by Prof. Sebastian Jaimungal*
	University of Oxford
2022	*Visiting student, 6 months, invitation from Prof. Álvaro Cartea, Oxford-Man Institute*
	Université du Québec à Montréal (UQAM)
2017–19	*M.Sc., Statistics (4.30/4.30)*
2014–17	*B.Sc. with Honours, Mathematics concentration Statistics (4.18/4.30)*

Work Experience

	Course Instructor, UofT
2023	*Stochastic Methods for Actuarial Science (ACT460/STA2502)*
	Teaching Assistant, UofT
2020–24	*Data Science for Risk Modeling (STA2536), Data Analytics in Practice (STA2546), Stochastic Processes (STA447), Dependence Modelling (STA4528), Statistical Consultation (STA490), Matlab & Python bootcamps for MFI program*
	Research Assistant, UofT
2022-23	*w/ S. Jaimungal: Joint work with research group of J. Hull from Rotman School*
2020	*w/ S. Jaimungal: Collaboration between Oanda and Fields-CQAM*
	Teaching Assistant, UQAM
2016–19	*Statistical Software Laboratory (STT2100), Regression (STT2120), ANOVA for Biology (MAT1285), Statistical Methods for UQAM's School of Management (MAT2080)*
	Research Intern, UQAM
2017	*w/ F. Watier: Stochastic optimization in multi-period problems with convex risk*
2017	*w/ S. Froda & R. Ferland: Parameter estimation from surveillance data on past epidemics*
2016	*w/ F. Watier & R. Ferland: Monte Carlo evaluation of sensitivities for risk measures*

Publications

Papers

- Cheng, Z., **Coache, A.**, & Jaimungal, S. (2023) Eliciting Risk Aversion with Inverse Reinforcement Learning via Interactive Questioning. *arXiv*. DOI: 10.48550/arXiv.2308.08427.
- **Coache, A.**, Jaimungal, S. & Cartea, Á. (2023) Conditionally Elicitable Dynamic Risk Measures for Deep Reinforcement Learning. *SIAM J. Financial Mathematics*. DOI: 10.1137/22M1527209.
- **Coache, A.** & Jaimungal, S. (2023) Reinforcement Learning with Dynamic Convex Risk Measures. *Mathematical Finance*. DOI: 10.1111/mafi.12388.

In progress

- **Coache, A.** & Jaimungal, S. (TBD) Robust Reinforcement Learning with Dynamic Risk Measures.

Posters

- **Coache, A.** (2023) Robust Reinforcement Learning with Dynamic Risk Measures. *Fields-CFI Conference on Recent Advances in Mathematical Finance and Insurance*.
- Binette, O. & **Coache, A.** (2018) The Significance of the Adjusted R Squared. *(Bio)Stats Research Day*.
- **Coache, A.** & Larose, F. (2018) "Do schools kill creativity?" Well, they help analyze popularity! *Annual Meeting of the SSC*.
- Ferland, R., Froda, S. & **Coache, A.** (2017) Comparison of surveillance flu data across regions. *Annual Meeting of the SSC*.

Selected Talks

Invited

- *SIAM Conference on Financial Mathematics and Engineering.* (2023) Robust Reinforcement Learning for Dynamic Risk Measures.
- *SIAG/FME Conference Paper Prize Session.* (2023) Conditionally Elicitable Dynamic Risk Measures for Deep Reinforcement Learning.
- *INFORMS Annual Meeting.* (2022) Reinforcement Learning with Dynamic Risk Measures.
- *World Congress of the Bachelier Finance Society.* (2022) RL for Dynamic Risk Measures.
- *SIAM Conference on Financial Maths and Engineering.* (2021) RL with Dynamic Convex Risk Measures.

Contributed

- *Graduate Student Research Day.* (2023) An Introduction to Risk-Aware RL with Dynamic Risk Measures.
- *Research Topics in Statistical Machine Learning.* (2021) Distilling Policy Distillation.
- *Annual Meeting of the SSC.* (2019) Stochastic Algorithms for Solving a Multiperiod Quantile-Based Portfolio Optimization Problem.
- *UQAM Prob/Stats Student Seminar.* (2017) Non-Parametric Estimation of the Quantile Function.

Selected Scholarships & Awards

2023–24	**Ontario** Graduate Scholarship
2023	**UofT DoSS** Doctoral Early Research Excellence Award
2023	**SIAG/FME** Conference Paper Prize
2023	**SIAM** Student Travel Award
2022	**Oxford-Man Institute** Visitors Programme
2019–22	**NSERC** Alexander Graham Bell Doctoral's Award
2019–23	**FRQNT** Doctoral Scholarship
2019–23	**UofT Faculty of Arts & Science** Top Doctoral Fellowship (declined)
2017–18	**NSERC** Alexander Graham Bell Master's Award
2017–19	**FRQNT** Master's Award
2016–17	**NSERC** Undergraduate Research Awards + **FRQNT** Supplements

Academic Community Involvement

	Journal Referee
2022	*Quantitative Finance*
2021–23	*International Conference on AI in Finance*
	Conference Organizing Committee
2020-21	*Canadian Statistics Student Conference*
2019	*First Edition of the Statistics Student Summit in Montréal*
2016–19	*Orientation activities for new undergraduate students in Statistics at UQAM*
	Conference Volunteer
2022	*ML and Quantitative Finance Workshop*
2022	*Conference on NLP for Economic and Financial Modelling*
2018	*R in Montréal*
2016–17	*UQAM Prob/Stats Student Seminar*

Skills

Research Interests: Reinforcement Learning (RL), Risk Sensitivity, Stochastic Modeling, Computer Science, Risk Measures, Optimization, Applied Statistics, Statistical Learning.

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

Strengths: Multitasking, versatility, particular ease in creative work and fast learning.

Full academic CV available upon request.