Anthony Coache | CV

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anthony-coache • English and French

Degrees

Ph.D., Statistics (3.95/4.00), University of Toronto 2024
Thesis: Risk-Sensitive Reinforcement Learning With Dynamic Risk Measures.

M.Sc., Statistics (4.30/4.30), Université du Québec à Montréal 2019
Thesis: Stochastic Portfolio Optimization under Coherent Risk Measures.

B.Sc., Mathematics & Statistics (4.18/4.30), Université du Québec à Montréal 2017

Work Experience

Imperial College London, Research Associate 2024–26
Conducted research in mathematical finance, taught and supervised M.Sc. students

Oxford-Man Institute, University of Oxford, Visiting Researcher 2022
Worked on problems at the intersection of quantitative finance and machine learning
Invitation for a 6-month research visit from Prof. Álvaro Cartea

Collaboration between Oanda and Fields-CQAM, Research Assistant 2020
Investigated order-flow trading data and hedging with dynamic barriers

University of Toronto, Ph.D. Candidate 2019–24
Published novel results in risk management and reinforcement learning

Université du Québec à Montréal, Research Intern 2016–17
Interdisciplinary projects related to statistics, portfolio optimization, and epidemiology

Publications

Published and Accepted Papers

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

Papers Submitted

Coache, A. & Jaimungal, S. (2024) Robust Reinforcement Learning with Dynamic Distortion Risk Measures. *Revised & resubmitted to SIAM J. Math. of Data Sci*. DOI: 10.48550/arXiv.2409.10096

Cheng, Z., **Coache, A.**, & Jaimungal, S. (2023) Eliciting Risk Aversion with Inverse Reinforcement Learning via Interactive Questioning. *Submitted at JMLR, revisions requested*. DOI: 10.48550/arXiv.2308.08427

In Preparation

Capponi, A., **Coache, A.** & Muhle-Karbe, J. (TBD) Optimal Trading Across Coexisting Exchanges: Limit-Order Books and Automated Market Makers

Selected Scholarships & Awards

Mathematical Finance (Wiley) Top Cited Article among work published in 2023 2025
G-Research Grant for PhDs and Postdocs in Quantitative Fields 2025
NSERC Postdoctoral Fellowship 2024–26
UofT DoSS Doctoral Early Research Excellence Award 2023
SIAG/FME Conference Paper Prize 2023
Oxford-Man Institute Visitors Programme 2022
NSERC Alexander Graham Bell + **FRQNT** + **OGS** Doctoral Awards 2019–24
NSERC Alexander Graham Bell + **FRQNT** Master's Awards 2017–19
NSERC Undergraduate Student Research Awards + **FRQNT** Supplements 2016–17

Invited Talks

SIAM Conference on Financial Mathematics and Engineering, Miami, USA	July 2025
ETH-HKG-ICL Mathematical Finance Workshop, Hong Kong, China	Apr. 2025
King's College London Mathematical Finance Seminar, London, United Kingdom	Feb. 2025
Control and Optimization Seminar at University of Connecticut, Online	Nov. 2024
Mathematical Finance Seminar at Illinois Institute of Technology, Online	Oct. 2024
Mathematical Insights from Markets, Control and Learning, Aussois, France	Sep. 2024
STATQAM Seminar, Montréal, Canada	Feb. 2024
SIAM Conference on Financial Mathematics and Engineering, Philadelphia, USA	June 2023
INFORMS Annual Meeting, Indianapolis, USA	Oct. 2022
Oxford-Man Institute Workshop, Oxford, United Kingdom	May 2022
SIAM Conference on Financial Mathematics and Engineering, Online	June 2021

Selected Contributed Presentations

Advanced Mathematical Methods for Finance, Verona, Italy	June 2025
Fields-CFI Recent Advances in Math. Finance & Insurance, Toronto, Canada [poster]	Sep. 2023
UofT Statistics Graduate Student Research Day, Toronto, Canada	Apr. 2023
World Congress of the Bachelier Finance Society, Online	June 2022
Annual Meeting of the SSC, Calgary, Canada	May 2019

Selected Teaching Experience

Imperial College London

Instructor/Lecturer: Convex Optimisation	2024
Instructor/Lecturer: Quantitative Risk Management	2024

University of Toronto

Instructor/Lecturer: Stochastic Methods for Actuarial Science	2023
Workshop leader: Matlab & Python bootcamps for MFI program	2021–22
Teaching assistant: 5 courses in statistics and financial insurance	2020-24

Université du Québec à Montréal

Teaching assistant: 4 courses in statistics	2016–19

Student Supervision

M.Sc. Thesis at Imperial College London

Jeanne Gauthier (Morgan Stanley): Lead-lag Detection & Clustering of Barra Style Factors	2024
Eloi Godier (Sakana Research): Mid-Frequency Signals for Digital Asset Trading	2024
Linze Li (Ocean Leonid): Network Momentum in Systematic Trend-Following Strategies	2024
Oussama Saadi (Deutsche Bank): Dynamic Default Correlation Models	2024
Dean Yang (Qube RT): Predicting Hidden Liquidity Within The Bid-Ask Spread	2024

Academic Community Involvement

Journal Referee

Quant. Finance; IMA J. Math. Control and Information; SIAM J. Control and Optim.

Conference Organizing Committee

ACM International Conference on AI in Finance (program committee)	2021–24
Canadian Statistics Student Conference (translation, session chair, moderator)	2020–21
First Edition of the Statistics Student Summit in Montréal (co-chair)	2019

Misc

Research Interests: RL; DeFi; risk measures; stochastic modeling; statistical learning; optimization
Programming: Strong knowledge of R, Python, Matlab, TeX. Knowledge of C/C++, SAS, Java, SQL

Last updated on April 15, 2025. Full academic CV available upon request.