Anthony Coache

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anthony-coache • English and French

Degrees

Ph.D., Statistical Sciences (3.95/4.00), University of Toronto — Oct 2024
- *Thesis: Risk-Sensitive Reinforcement Learning With Dynamic Risk Measures*

M.Sc., Statistics (4.30/4.30), Université du Québec à Montréal — Jun 2020
- *Thesis: Stochastic Portfolio Optimization under Coherent Risk Measures*

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

Work Experience

Imperial College London, Research Associate — Jun 2024 – Present
- *Published novel results in mathematical finance, and taught M.Sc. students*

Oxford-Man Institute, University of Oxford, Visiting Researcher — Jan 2022 – Jun 2022
- *Collaborated on problems in quantitative finance and machine learning*
- *Invitation for a 6-month research visit from Prof. Álvaro Cartea*

Collaboration between Oanda and Fields-CQAM, Research Assistant — Jan 2020 – Sep 2020
- *Studied order-flow trading data, implemented hedging with dynamic barriers*

University of Toronto, Ph.D. Candidate — Sep 2019 – Jul 2024
- *Published novel results in risk management and reinforcement learning*

Université du Québec à Montréal, Research Intern — May 2016 – Aug 2017
- *Interdisciplinary works in statistics, portfolio optimization and epidemiology*

Publications

Published and Accepted Papers

Coache, A. & Jaimungal, S. (2025) Robust Reinforcement Learning with Dynamic Distortion Risk Measures. *SIAM J. Math. of Data Sci.* DOI: 10.1137/24M1699802

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. (2024) Reinforcement Learning with Dynamic Convex Risk Measures. *Mathematical Finance*. DOI: 10.1111/mafi.12388

Papers Submitted

Cheng, Z., **Coache, A.** & Jaimungal, S. (2025) Eliciting Risk Aversion with Inverse Reinforcement Learning via Interactive Questioning. *Revised and resubmitted at JMLR*. DOI: 10.48550/arXiv.2308.08427

Capponi, A., **Coache, A.** & Muhle-Karbe, J. (2026) Optimal Trading in Automated Market Makers. *SSRN*. DOI: https://ssrn.com/abstract=6145286

Moghimi, M., **Coache, A.** & Ku, H. (2026) Decoupling Time and Risk: Risk-Sensitive Reinforcement Learning with General Discounting. *Submitted to ICML*. DOI: 10.48550/arXiv.2602.04131

Selected Scholarships & Awards

Mathematical Finance (Wiley) Top Cited Article of 2023 Publications	Mar 2025
G-Research Grant for PhDs and Postdocs in Quantitative Fields	Jan 2025
NSERC Postdoctoral Fellowship	Sep 2024 – Aug 2026
UofT DoSS Doctoral Early Research Excellence Award	Jun 2023
SIAG/FME Conference Paper Prize	Jun 2023
NSERC Alexander Graham Bell + **FRQNT** + **OGS** Doctoral Awards	Sep 2019 – Aug 2024
NSERC Alexander Graham Bell + **FRQNT** Master's Awards	Sep 2017 – Aug 2019
NSERC Undergraduate Student Research Awards + **FRQNT** Supplements	May 2016 – Aug 2017

Selected Invited Talks

London-Paris Bachelier Workshop, London, United Kingdom — Nov 2025
SIAM Conference on Financial Mathematics and Engineering, Miami, USA — Jul 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 — Jun 2023
INFORMS Annual Meeting, Indianapolis, USA — Oct 2022
SIAM Conference on Financial Mathematics and Engineering, Online — Jun 2021

Selected Contributed Presentations

Advanced Mathematical Methods for Finance, Verona, Italy — Jun 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 — Jun 2022
Annual Meeting of the SSC, Calgary, Canada — May 2019

Selected Teaching Experience

Imperial College London
- *Instructor/Lecturer: Optimisation in Machine Learning* — Fall 2025
- *Instructor/Lecturer: Quantitative Risk Management* — Fall 2024 & 2025
- *Instructor/Lecturer: Convex Optimisation* — Fall 2024

University of Toronto
- *Instructor/Lecturer: Stochastic Methods for Actuarial Science* — Fall 2023
- *Teaching assistant: 6 courses in statistics and financial insurance* — Sep 2020 – Apr 2024

Université du Québec à Montréal
- *Teaching assistant: 4 courses in statistics* — Sep 2016 – Dec 2019

Student Supervision

M.Sc. Thesis at Imperial College London
- *Matthieu Fisher (Eisler Capital), Antoine Fuentes (BNP Paribas), Leo Goedhart, Zheyuan Li, Akram Zakriti (ExodusPoint)* — May 2025 – Aug 2025
- *Jeanne Gauthier (Morgan Stanley), Eloi Godier (Sakana Research), Linze Li (Ocean Leonid), Oussama Saadi (Deutsche Bank), Dean Yang (Qube)* — May 2024 – Aug 2024

Academic Community Involvement

Journal Referee
- *Quant. Finance (x3), SIAM J. Control and Optim. (x1), IMA J. Math. Control and Information (x1)*

Conference Organizing Committee
- *Finance & Stochastics Seminar at Imperial College London (organiser)* — Aug 2025 – Apr 2026
- *NeurIPS Workshop Generative AI in Finance (program committee)* — Dec 2025
- *ACM International Conference on AI in Finance (program committee)* — Sep 2021 – Nov 2024
- *Canadian Statistics Student Conference (translation, session chair)* — Jun 2020 & 2021
- *First Edition of the Statistics Student Summit in Montréal (co-chair)* — Mar 2019

Misc

- Technical skills: reinforcement learning, risk measures, stochastic modeling, optimization, decentralized finance, applied statistics, piano, Python, PyTorch, Matlab, R, TeX, C/C++, SAS, SQL.

Last updated on February 5, 2026. Full academic CV available upon request.