

# Andrew Fleck

Toronto, ON, Canada

☎ (613) 600-6019 | ✉ [afleck@yorku.ca](mailto:afleck@yorku.ca) | 🌐 [andrewwfleck](https://andrewwfleck.com)

## Personal Statement

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Quant currently validating Pricing, Risk Factor and CCR/XVA models across TD Securities global trading and banking books. Previous industry experience in variable and income annuity modelling and forecasting. Additionally a doctoral candidate (awaiting defence) in Applied Mathematics concerned with problems arising from finance and insurance. Research interests in pricing, risk modelling and estimation, capital allocation and decision theory. Looking for exciting industrial work that leverages this knowledge.

## Education

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### Carleton University

B.Sc. DOUBLE HONOURS IN MATHEMATICS AND PHYSICS

June 2014

### Toronto Metropolitan University

M.Sc IN APPLIED MATHEMATICS

Sept 2016

### York University

PH.D IN APPLIED MATHEMATICS (ONGOING)

Awaiting Defence (2024)

## Skills and Expertise

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<b>Mathematics</b>	Probability and Statistics, Analysis, Stochastic Processes, Optimization, Numerical and Analytical DEs
<b>Finance/Insurance</b>	Derivative Pricing, Volatility & Rate Modelling, Calibration & Estimation, Risk Measurement & Capital Allocation
<b>Programming</b>	MATLAB, Python (numpy, scipy, pandas, scikit-learn), C++
<b>Software/OS</b>	Mathematica, Maple, MS Office, Unix/Linux

## Industrial Experience

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### Power Structurer

INTEGRATED SUPPLY AND TRADING, BP NA GAS AND POWER

- Currently work with the power trading and origination teams.
- Pricing energy derivatives and other risk products for generators and utilities.

April 24-Ongoing

### Senior Quantitative Analyst

MODEL VALIDATION, TD SECURITIES

- Currently work on initial and ongoing validation of models across TD's trading and banking book.
- Especially focused on fixed income derivative pricing, CCR/XVA modelling and backtesting therein.
- Required to validate the theoretical and analytical basis of models as well as test and replicate results.

Jan 2023-April

### MITACS Accelerate Intern

CANNEX FINANCIAL EXCHANGES LIMITED (FORMERLY QWEMA GROUP)

- Completed two MITACS roles with CANNEX with significant work in between and after. The project formed the basis of some of my dissertation research.
- The project was concerned with the precise and consistent forecasting of fixed income annuity and structured product performance.
- We used machine learning to accurately simulate relevant indices in a generic way and studied the stochastic volatility properties of said indices.

Summer 2019 & 2021

## Academic Experience

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### Course Director

YORK UNIVERSITY

- Math 4281: Ruin Theory and Credibility is an introduction to intermediate level mathematical risk theory. The course ensures an adequate preparation for exam C of the Society of Actuaries.
- Math 2030: Introduction to Probability, Random Variables and Expectation as preparation for further study in either mathematical or applied probability and statistics.

Winter 2021/23

### Academic Internship Supervisor

THE RISK AND INSURANCE STUDIES CENTRE (RISC), YORK UNIVERSITY

- Every year RISC hosts graduate "HAILIVE" interns from YorkU. These interns "present solutions to real world problems in climate risk, strategic management, consumer research, nowcasting, and demographic projections".
- Each cohort is supervised by an industry supervisor and a academic supervisor (typically a faculty member).
- As academic supervisor joint with a counterpart at RBC we oversaw interns design a segregated fund style product with an associated maturity guarantee.

Fall 2021

## Notable Honors/Awards

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| 2016 | <b>Winner</b> , Ontario Graduate Scholarship |
| 2017 | <b>Recipient</b> , CAS and SOA CKER Grant    |