Andrew **Fleck**

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Personal Statement

Power Structurer at BP T&S America pricing PPAs, load deals and developing tools therien. Former validation quant in rate product pricing, risk factor and CCR/XVA models. Other previous industry experience in variable and income annuity modelling and forecasting.

PhD in Applied Mathematics concerned with problems arising from finance and insurance. Research interests in pricing, risk modelling and estimation, capital allocation and decision theory.

Education

York University *August 2024*
Ph.D in Applied Mathematics

Toronto Metropolitan University *Sept 2016*
M.Sc in Applied Mathematics

Carleton University *June 2014*
B.Sc. Double Honours in Mathematics and Physics

Skills and Expertise

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

Industrial Experience

Power Structurer *April 24-Ongoing*
Integrated Supply and Trading, BP NA Gas and Power
- Currently work with the power trading and origination teams.
- Primarily price energy derivatives and other risk products for generators and utilities.

Senior Quantitative Analyst *Jan 2023-April*
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.

MITACS Accelerate Intern *Summer 2019 & 2021*
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.

Academic Experience

Course Director *Winter 2021/23*
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.

Academic Internship Supervisor *Fall 2021*
The Risk and Insurance Studies Centre (RISC), York University
- Every year RISC hosts graduate "HAIIvVE" 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.

Notable Honors/Awards

2016	**Winner**, Ontario Graduate Scholarship
2017	**Recipient**, CAS and SOA CKER Grant