Saumitra Mazumder

 SAMazumder

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About Me

Experience in model development and model validation/audit. Solid knowledge of a range of quantitative finance, risk management (e.g., VaR/Expected Shortfall for Market Risk, credit portfolio models, stress testing), derivatives models and pricing theory. Interested in the intersection of machine learning, quantitative finance, and climate change. Thorough and analytical; able to apply logic to solve problems. Excellent verbal and written communication skills. Proven ability to collaborate effectively with diverse individuals and strengthen relationships to achieve well-designed solutions.

Education

M.Sc. Applied Mathematics
Toronto Metropolitan University
(formerly Ryerson University)
2020-2022
Ryerson Graduate Fellowship, Graduate Development Award, Mathematics Graduate Award

B.Sc. Mathematics and Economics
Toronto Metropolitan University
(formerly Ryerson University)
2015-2019
Dean's List 2016, 2017
Ryerson Barbell Club, Ryerson Math Problem Solving Club

Knowledge

Financial Mathematics	Financial Time Series Analysis, Risk Measures, ASRF model, Derivative Pricing, Regression, Monte Carlo/Copulae/Variance-Covariance Methods, Decision Theory.
Tools	R (Dplyr, QRM, xts, dynlm), Python (NumPy, SciPy, PANDAS, XGBoost. SKLearn), MATLAB, SAS, LaTeX, SQL.

Recent Employment History

2022-Current **Ernst & Young LLP**   FRSM
Staff consultant in the Financial Services Risk Management Group - Consulting Practice.
Assisting clients in auditing their credit risk models (ECL, PD, LGD, EAD) on both the retail and non-retail side per IFRS 9 standards.
Major tasks included validating the conceptual soundness of clients credit risk models as well as code replication and corroboration.
Assisted in development/re-development of IFRS9, CECL and stress testing models post M&A by client firm.

2022-2022 **Scotiabank**   Velocity Intern - Model Audit, Credit Risk. Toronto, Canada
Member of the team auditing ECL models (PD, CCI, EAD, LGD) per IFRS 9 guidance provided by OSFI. Used internal audit methodology to provide independent oversight of models.
Closed audit issues pertaining an end-to-end retail model procedure.

2018-2022 **Toronto Metropolitan University, Department of Mathematics**
Graduate Research Assistant under Dr. Foivos Xanthos
Completed research in Functional Analysis and its use in coherent and convex risk measures on L^p-spaces.
Developed empirical algorithms to implement general-moment market risk measures using R and Python.
Analysed financial data using non-parametric methods to demonstrate the potential benefits of general-moment models.

Graduate Teaching Assistant
Lead tutorials for graduate and undergraduate courses. Marking and test invigilation for assigned courses.
Teaching Assistant for various mathematics courses. In particular, assisted students in becoming familiar with fundamental and advanced statistical concepts like MLE estimation, hypothesis testing, linear and non-linear regression models and solving various statistical problems using R.

Undergraduate Research Assistant under Dr. Foivos Xanthos
Completed research on time series, probability theory, functional analysis and their applications to financial instruments. In particular, modelled credit risk via the asymptotic single factor Vasicek (Merton) credit risk model.

Major Projects

Graduate Thesis	STATISTICAL CONSISTENCY FOR RISK MEASURES WITH THE LEBESGUE PROPERTY When estimating the risk of a P&L from historical data or Monte Carlo simulation, the robustness of the estimate is important. Analyzed a refined notion of robustness that applies to tail-dependent law-invariant convex risk measures on Orlicz spaces.