Saumitra Mazumder

SAMazumder

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About Me

Experience with Capital Markets and Market Risk, model development and model validation/audit at a major financial institution. Knowledge of quantitative methodologies in market risk. Thorough and analytical; able to applying 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
Ryerson University
2020-2022 (Expected)
Ryerson Graduate Fellowship, Graduate Development Award, Mathematics Graduate Award

B.Sc. Mathematics and Economics
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, Portfolio Optimization Techniques, Derivative Pricing.
Tools	R, MATLAB, Bloomberg, Stata, Java, Python (SciPy, NumPy, PANDAS, OOP, XGBoost), Machine Learning, LaTeX, Microsoft Word, Microsoft Excel, Microsoft PowerPoint, C++, C and SQL

Employment History

2022-Current Scotiabank — Velocity Intern - Audit, Retail Credit Risk.
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-Current Ryerson University, Department of Mathematics
Graduate Research Assistant under Dr. Foivos Xanthos
Completed research in Functional Analysis and its use in coherent risk measures on L^p-spaces.
Developed empirical algorithms to implement general-moment market risk measures
Analyzed 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.
Coached diverse group of students to become 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.

2012-2020 Sylvan Learning Centres, Mentor's Academy and The Academy for Mathematics & English
Tutor specializing in mathematics, chemistry, biology and physics. Provided tutoring services to various centres across the greater Toronto Area.

Major Projects

Graduate Thesis	Extending Coherent Risk Measures to Orlicz spaces (tentative) 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
Graduate Project	An Analyst's Exposition of "*Comparative and Qualitative Robustness for Law-invariant Risk Measures*" A presentation giving a functional analytic exposition of the work of Kraätschmer, Schied and Zähle up to Theorem 2.6.
Undergraduate Thesis	An Extreme Value Analysis of Financial Time Series A study of extreme movements in financial asset returns. Showed that asset returns will have extreme realizations with greater probability than predicted by Black-Scholes model. Modelled the probability of extreme movements using Extreme Value Theory.