

WILLIAM KONG

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<http://wwkong.github.io>

Summary

- » Comfortable and familiar with mathematical rigour and computational mathematics
- » Solid understanding of statistics, optimization theory, and differential equations
- » Strong programming and database skills
- » Able to work well individually or collaboratively in a team
- » Adept at multitasking and managing multiple concurrent projects

Programming Languages

- » Natively spoken SAS, R, SQL, and Haskell
- » Experience with UNIX, Matlab, \LaTeX , VBA, and Python
- » Dabbled in C/C++, Git, Julia, and Scheme

Work Experience

Senior Risk Modeling Analyst

January 2015 – Present

TD Bank Financial Group, Toronto ON

- » Validated and audited credit risk models using SAS and R on datasets between 1MM to 100MM observations
- » Developed a retail credit risk stress testing framework for several regulatory stress tests including OSFI MST and Basel EWST
- » Created and programmed a competing risks multinomial modeling framework with differing risk drivers for each decrement with another analyst for US CCAR retail credit risk quantification
- » Pioneered a logistic regression variable selection method based on mutual information and variable effect maximization with another analyst

Risk Modeling Analyst (Co-op)

September 2013 – December 2013

TD Bank Financial Group, Toronto ON

May 2014 – August 2014

- » Validated and audited internal credit risk models using SAS and R
- » Developed custom benchmark models and numerical algorithms to test the validity of Basel II and Basel III AIRB retail risk-metrics using time series analysis and R
- » Programmed production-ready code and macroeconomic models in SAS and R for use in Basel II and Dodd Frank Act risk reporting as well as internal and regulatory retail credit risk stress tests

Enterprise Risk Management Analyst (Co-op)

January 2013 – April 2013

TD Bank Financial Group, Toronto ON

- » Developed an interactive business intelligence dashboard, programmed in SQL and Tableau
- » Programmed VBA macros to optimize several periodic risk reports by up to 61% and 99% in time and memory efficiency respectively
- » Programmed R scripts to validate and transform monthly data used in TD's front end risk metrics

Education

Bachelor of Mathematics

September 2010 - December 2014

University of Waterloo, Waterloo ON

Major GPA : 3.85, Major Average: 88.13%

» Professional Risk Management Program

September 2010 - December 2014

» Mathematical Finance Program, Statistics Minor

May 2011 - December 2014

Relevant Courses: Forecasting, Theoretical ODEs and PDEs, Measure Theory, Advanced Optimization, Numerical Methods for Finance, Databases, Mathematical Models for Finance, Deterministic Operations Research Models, Numerical Methods for PDEs, Data Analysis (Online), Game Theory (Online)

Professional Certifications: Passed two Society of Actuaries exams (P, FM)

Independent Projects

Project Euler Competitor

January 2013 - Present

- » Actively competing in an international mathematics and computer science problem repository
- » Ranked in the top 5% using the programming language *Haskell*

Data Mining Algorithm

July 2012

- » Programmed a data miner in *VBA* to mine pension valuation rates from the Bank of Canada

Vanilla Options Simulator

November 2011

- » Programmed an options and stock simulator in *Python* using the Black-Scholes model and Monte Carlo methods

Awards

» Queen Elizabeth II Aiming for the Top Scholarship

2010 - 2014

» Waterloo President's Scholarship

2010

Activities & Interests

Undergraduate Marker for Applied Real Analysis, University of Waterloo

2014

President, UW Mathematical Finance Student Association

2014

VP of Finance, UW Mathematical Finance Student Association

2013 - 2014