

Mingyi (Iris) Jiang

MATHEMATICAL FINANCE · STATISTICS

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Skills

Programming	Proficient in R, MATLAB, SQL, Excel/VBA and SAS (Certified Advanced Programmer for SAS 9) Experience in C, Scheme, C++, JAVA, Python and Unix/Linux
Financial Engineering	Option Pricing Modelling, Monte Carlo Simulation, Time Series Analysis, Stochastic Process
Data Science	Exploratory Data Analysis, Data Visualization, Principal Component Analysis, Regression Modelling
Markup	T _E X, HTML, Markdown
Languages	English, Mandarin

Education

Candidate for Bachelor of Mathematics

Sept. 2017 - Exp. Aug. 2022

UNIVERSITY OF WATERLOO

Waterloo, Canada

- Majors in Mathematical Finance and Statistics
- Minors in Pure Mathematics and Computational Mathematics

Research Experience

Undergraduate Research Assistant

Dec. 2019 - Present

UNIVERSITY OF WATERLOO, SUPERVISED BY PROF. BEN FENG

Waterloo, Canada

- In-depth study on pricing and hedging of large portfolios of variable annuities
- Analyzed, updated and maintained the R package `vamc` (A Monte Carlo Valuation Framework for Variable Annuities)
- Working paper: "vamc: An R Package for Variable Annuity Portfolios Valuation by Monte Carlo Simulation"

Working Experience

Quantitative Research

Jan. 2020 - Apr. 2020

ONESIXTYTWO CAPITAL INC

Toronto, Canada

- Developed a portfolio optimization strategy reducing $\sim 30\%$ portfolio dimension while maintaining the tracking error below 10^{-7} , reducing $\sim 25\%$ execution cost
- Designed various portfolio analysis and construction functions using R (block bootstrapping, principal component analysis, etc)
- Conducted exploratory data analysis visualizing and reporting portfolio performance
- Built up R packages for report templates (portfolio analysis, factor exposure analysis, etc.)

Financial Engineering

Jan. 2019 - Apr. 2019

IBM CANADA LMT.

Toronto, Canada

- Significantly improved regression test efficiency by analyzing, merging and removing 300+ test cases under Linux environment
- Validated financial model functions according to clients' request and created validation spreadsheets and benchmarks for RiskWatch model verification and regression test using Excel/VBA
- Generated formal financial specs explaining the model validation process
- Developed strong problem-solving abilities by debugging and polishing existing model validation code
- Created a 14-page formal financial work report with an in-depth study on interest rate risk scenario analysis in asset-liability management

Financial Analyst Assistant

May. 2018 - Aug. 2018

INDUSTRIAL AND COMMERCIAL BANK OF CHINA

Nanjing, China

- Aggregated large datasets (40,000+ pieces) using Excel and Pivot Tables to meet business requirements
- Generated quarterly Financial Management and Investment Risk Monitoring Analysis reports and Comprehensive Risk Management reports
- Regrated 180 clients of ICBC in the internal grading management system based on their credit
- Outreached and successfully invited the 5 biggest Chinese asset management companies' managers to ICBC's non-performing assets bidding conferences

Activities

Bayesian Risk Management Case Competition - Second Place

Oct. 2019

UNIVERSITY OF WATERLOO

Waterloo, Canada

- Conducted in-depth analysis and prediction on the company's profitability using discounted cash flow model and linear regression model
- Collaborated with 3 other students and delivered a 10-minute presentation, achieving the second place

BDO New Venture Competition - Semi-Finalist

Sept. 2017 - Apr. 2018

BDO CANADA

Waterloo, Canada

- Analyzed business environment with business models (PEST, Porter's Five Forces) to build up a new business called LocFresh
- Conducted market research and investigated potential customers through online surveys and in-person interviews
- Collaborated with 4 other students and created a 15-page formal business report presenting findings on LocFresh's potential market, competitiveness, revenue model, etc.
- Demonstrated excellent public speaking skills, delivering a 10-minute presentation, reaching semi-finals (top 45 among 250 groups)

Awards

2020 University of Waterloo President's Research Award

Waterloo, Canada

2017 University of Waterloo President's Scholarship of Distinction

Waterloo, Canada

Interests

- Go, Robotics, Model Airplanes, Basketball, Guitar and Old Movies
- Jiangsu Provincial Teenager GO Contest - First Place
- Jiangsu Provincial WER (World Educational Robot) Contest - First Price
- Jiangsu Provincial Wireless Model Airplanes Race - First Price