

Shilun (Sherry) Dai

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EDUCATION

Honours Bachelor of Science, University of Toronto

Actuarial Science Specialist and Statistic Science Major

Courses: Programming in Python, Data Structures, Machine Learning, Time Series, Stochastic Processes, Asset pricing

Toronto, Canada

Sept. 2018 – Apr. 2023

PROFESSIONAL EXPERIENCE

Munich Reinsurance Company of Canada

Actuarial Co-op – Property & Casualty Reserving - IFRS 17 Team

Toronto, Canada

Sept. 2022 - Apr. 2023

- Collaborated with Accounting and Central teams to extract two million cashflows, designed R templates to merge and map files, summarized cashflows to different granularities under IFRS 4 and IFRS 17 standards, utilized Power BI to visualize patterns across quarters and lines of business; successfully developed a cashflow generator template and reconciled all cashflows between IFRS 4 and IFRS 17
- Justified the methods (e.g., Loss Ratio method) utilized in the 2022 Appointed Actuary Report by conducting stress tests, financial condition tests (FCT), and scenario tests for the report, reconciled data ranging from 1996 to 2022 in Excel

Intact Financial Corporation

Actuarial Analyst Intern – Commercial Lines Automobile Actuarial Pricing Team

Toronto, Canada

May 2022 – Aug. 2022

- Imposed SAS to conduct cost analysis on Motor Vehicle Records orders which go over budget, proposed suggestions (spot check renewal policies rather than a general check) to reduce total loss by 13%
- Conducted research on unexpected executions from the Auto Strategy Monitoring (ASM) Report in SQL, eliminated an issue with \$ vs. % based endorsements, improved the Execution from 93% to 111%

The Wawanesa Mutual Insurance Company

Actuarial Intern – Enterprise Risk Management Team

Toronto, Canada

Jan. 2022 – Apr. 2022

- Enforced VBA to execute sensitive tests investigating the factors (e.g., Credibility, LDF) that significantly affect the indication, created templates to automate the whole procedure in Excel, saving 90% of the labor for the following year
- Implemented Radar to perform reinsurance earthquake data review, identified invalid sources or data fields, and documented from completeness, accuracy, and consistency perspectives to reveal potential implications and ramifications

PROJECT EXPERIENCE

Trading financial derivatives on RPM

Independent work

Toronto, Canada

Jul. 2022 – Aug. 2022

- Consulted Starbucks' annual financial report, investigated the historical stock prices of relevant commodities (e.g., coffee beans), exchange rates and interest rates, and designed a butterfly portfolio incorporating the stock and options
- Priced financial derivatives using the Black-Scholes model and binomial tree, adjusted strategies according to breaking news, executed the portfolio using NASDAQ ticker symbols in a trading simulation platform Rotman Portfolio Manager (RPM)
- With the allotted \$200 million in RPM, the account grew to \$242 million in two months, the Retention rate achieved 3.14 and Sharpe ratio reached 1.3%, and the final report earned a grade of 93

Research on the Intention of US President Election in 2020

Group Member

Toronto, Canada

Oct. 2020 - Nov. 2020

- Designed a multilevel logistic regression model using R to fit 37 independent variables such as age, education, and income to predict the result of the 2020 President Election based on 2017 survey data of 64,798 U.S. citizens
- Utilized post-stratification method to partition 2020 population data into demographic cells, assigned the cell estimates as adjusting weights for different states in the model to improve the efficiency of estimators
- Summed up the electoral votes from each state whose probability of voting for Donald Trump is greater than 0.5, the accuracy of the final prediction reached 89.3%

EXTRACURRICULAR EXPERIENCE

University of Toronto Chinese Volunteer Association

President

Toronto, Canada

Sept. 2019 - May 2020

- Initiated Reading Week Camping and Food Festival activities, cooperated with 7 departments, raised over \$3000 donations
- Volunteered to tutor high school students in China, organized one-on-one office hours, benefited over 50 students

QUALIFICATIONS

- Passed SOA P & FM / CAS Exam 1 & 2, and SAS Base *May 2020 – Nov. 2020*
- Skills: Python (numpy, pandas, PyTorch, JAX), R (tidyverse, dplyr), SAS, SQL, Power BI, Microsoft Excel, VBA, Radar

INTERESTS

- Interests: Scuba Diving (PADI Open Water & Dry Suit Diver), rock-climbing, snowboard