

# Shilun (Sherry) Dai

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## QUALIFICATIONS

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

## EDUCATION

### Honours Bachelor of Science, University of Toronto

**Toronto, Canada**

*Actuarial Science Specialist and Statistic Science Major*

*Sept. 2018 – Apr. 2023*

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

## PROFESSIONAL EXPERIENCE

### Munich Reinsurance Company of Canada

**Toronto, Canada**

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

*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

**Toronto, Canada**

*Actuarial Analyst Intern – Commercial Lines Automobile Actuarial Pricing Team*

*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

**Toronto, Canada**

*Actuarial Intern – Enterprise Risk Management Team*

*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

### Analysis on reserves of Medical Rehabilitation and Direct Compensation

**Toronto, Canada**

*Group Leader*

*Oct. 2021 – Nov. 2021*

- Enforced Excel to construct eight development triangles, applied several diagnosis methods and concluded the age-to-age factors regarding to reported/paid claims/counts
- Selected age-to-age factors in each maturity periods representing future trends as loss development factors (LDFs), adjusted ultimate reported/paid claims/count by LDFs
- Exercised Frequency Severity method, Claim ratio & Pure Premium method, BF method and etc. to project ultimate claims, selected ultimate claims
- Documented the result in a report, accomplished a presentation using PowerPoint and a real-time Q&A with professors, achieved 93% marks which is top 3 of the class

### Research on the Intention of US President Election in 2020

**Toronto, Canada**

*Group Member*

*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

**Toronto, Canada**

*President*

*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

## INTERESTS

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