**Shilun (Sherry) Dai**

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**QUALIFICATIONS**

* Passed SOA P & FM / CAS Exam 1 & 2, and SAS Base *May 2020 – Nov. 2020*
* Sitting for SOA Exam IFM / CAS Exam 3F, and SAS Advance *Sept. 2022 – Dec. 2022*
* Skills: Python (PyTorch, JAX), R (tidyverse, dplyr), SAS, SQL, Power BI, Microsoft Excel (VBA, pivot table), Radar

**EDUCATION**

**Department of Statistics, University of Toronto Toronto, Canada**

*Bachelor of Science, Actuarial Science Specialist and Statistic Science Major**Sept. 2018 - Jun. 2023*

**PROFESSIONAL EXPERIENCE**

Munich Reinsurance Company of Canada Toronto, Canada

*Actuarial Co-op –* *Property & casualty Reserving & IFRS 17 Team Sept. 2022 - Apr. 2023*

* Developed a R program to summarize cash flows to a particular granularity and compared them under IFRS 4 and IFRS 17, utilized Power BI to visualize cash flow patterns across several quarters and lines of business
* Supported the 2022 Appointed Actuary Report by gathering financial statement data, justifying the methods used, and comparing reference information with original files

Intact Financial Corporation Toronto, Canada

*Actuarial Analyst Intern – Commercial Lines Automobile Actuarial Pricing Team* *May 2022 – Aug. 2022*

* Extracted Motor Vehicle Records data in SAS, investigated reasons for broker orders going over budget, exported data to Excel for cost analysis, reducing total loss by 13%
* Imposed SQL to eliminate the endorsement calculation errors in Auto Strategy Monitoring Report, reconciled the outcome with system files in Excel, and improved the Execution by 9.8%

The Wawanesa Mutual Insurance Company Toronto, Canada

*Actuarial Intern – Enterprise Risk Management Department* *Jan. 2022 – Apr. 2022*

* Enforced VBA to execute sensitive test which investigates the factors that significantly affect final indication value, created bottoms 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

**Guorong Securities Hangzhou, China**

*Product Manager Assistant* *Jan. 2020 – Apr. 2020*

* Monitored capital flow and data classification, checked abnormal data or outliers, and completed relevant reports
* Created individual stock benefit models and portfolio strategies, optimized investment portfolios

**PROJECT EXPERIENCE**

**Trading financial derivatives on RPM Toronto, ON**

*Independent work* *Jul. 2022 – Aug. 2021*

* Consulted the 10 companies’ annual financial reports and investigated the historical stock prices of related commodities, exchange rates, and other assets to determine whether to hedge or speculate
* Priced financial derivatives using the Black-Scholes model and designed portfolios incorporating options and futures, executed the strategies using NASDAQ ticker symbols in RPM
* With the allotted $200 million dollars in RPM, the account ended up with $242 million dollars and the report achieved first place in the class with a grade of 93

**Research on the relationship between CNN heterogeneity and between-group heterogeneity Toronto, ON**

*Group member* *May 2022 – Aug. 2022*

* Selected the PATHMNIST dataset with obvious differences in the average pixel intensity values, utilized Python to split the training dataset into 4 groups based on their labels
* Applied Cochran’s Q as a metric to describe between-group heterogeneity and measured the deviation of each group’s mean from the grand, used the average pixel intensity of each image as the population descriptor
* Implemented K-means clustering analysis to record the predicted accuracy of each cluster, reported the coefficients of variation (CV) accordingly to measure the heterogeneity described by CNN image features
* Cochran’s Q was proved to be a plausible metric in quantifying the between-group and it has a positive correlation with CV

**Analysis of reserving for Medical Rehabilitation and Direct Compensation Toronto, ON**

*Group Leader* *Oct. 2021 – Nov. 2021*

* Enforced Excel to build development triangles, selected loss development factors (LDFs) from age-to-age factors in each maturity period to represent future trends of ultimate claims, IBNR etc., adjusted ultimate claims by LDFs
* Exercised Chain Ladder method, Loss Ratio method and Bornhuetter-Ferguson method to project ultimate claims
* Documented and present the methods and results in class, achieved a grade of 91% which is top 3 of the class

Research on the Intention of US President Election in 2020 Toronto, ON

*Group Member* *Oct. 2020 - Nov. 2020*

* Implemented R to fit 2020 survey data of 64,798 U.S. citizens into a multilevel logistic regression
* Utilized post-stratification method to partition survey data into demographic cells based on explanatory variables, which improves the efficiency of estimators by summing the cell estimates as adjusting weights for different states
* Applied the obtained weights to the model using 2018 population data, summed up the electoral votes from each state if the probability of voting Donald Trump is greater than 0.5
* The prediction of the final result is only 37 votes different from the actual outcome

**EXTRACURRICULAR ACTIVITIES**

**TCS Toronto Waterfront Marathon Toronto, Canada**

*Volunteer Oct. 16, 2022*

* Assisted as a course marshal at the 33 TCS Toronto Waterfront Marathon
* Made sure the course route was safe for participants, guided them along the route, supported pedestrians and vehicles in navigating road closures, and was a positive ambassador for the race

**Pride Toronto Toronto, Canada**

*Volunteer Jun. 2022 – Jul. 2022*

* Supported LGBTQ2S+ family, guided the Parade team, answered questions at Street fair

**Maixi Primary School Shanxi, China**

*Volunteer* *May 2021 - June 2021*

* Taught Computer science and Statistic science using PowerPoint, organize 1-1 office hours, benefited 50+ students

**Chinese Volunteer Association, University of Toronto Toronto, Canada**

*President* *Sept. 2019 - May 2020*

* Initiated Reading Week Camping and Food Festival activities, cooperated with 7 departments, raised $3000+ donations

**Recognized Study Group, University of Toronto Toronto, Canada**

*RSG Leader* *May 2018 – Aug. 2019*

* Led the group in course material study and collaborative question-answering sessions prior to the midterms and final exams
* Gathered unresolved questions and sent them to professors/course instructors

**INTERESTS**

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