

Justin Kim

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CERTIFICATIONS

- Exam Fundamentals of Actuarial Mathematics – *Society of Actuaries (SOA)* *Sitting in Oct 2025*
- Exam Probabilities – *Society of Actuaries (SOA)* *May 2024*
- Exam Financial Mathematics – *Society of Actuaries (SOA)* *Apr 2024*

PROFESSIONAL EXPERIENCE

Co-operators

Guelph, Ontario

Actuarial Analyst

Jan 2025 - Present

- Built and maintained the Future of Portfolio Monitoring dashboard in **Power BI** using advanced **DAX** calculations to track merging trends for in-force business, quotes, premium, CY/AY claims, enabling proactive portfolio steering and executive level insights
- Developed Automated Investigation app with **R Shiny** for rate review monitoring, building **GLM** models for Non-Renewal, Quotes, and Premium Realization, providing a centralized foundation for exploratory analysis and reducing manual analysis time by 60%
- Collaborated with the reserving team to implement **stochastic modeling workflows** using **Python**, enabling simulation of reserve variability under unique scenarios and improving the precision of reserve adequacy and loss development factor estimation by 20%
- Calibrated pricing models in **Earnix**, incorporating key rating variables to optimize profitability across three provinces, resulting in a 5-7% increase in target loss ratio and improved competitive positioning across both Auto and home product lines
- Conducted **causal inference analysis** on 2M+ risks across 3 LoB using **Python** to inform assumption testing and rate impact studies
- Supported OSFI-aligned insurance emissions reporting by collaborating with the Finance team and using **SQL** to extract, transform, and aggregate risk-level data valued at ~\$3b for regulatory submissions

Ontario Hose Specialties

Mississauga, ON

Data Scientist

Sep 2024 – Dec 2024

- Revamped **ETL workflows** as part of a company-wide ERP migration using **SQL**, streamlining legacy production and inventory data integration and reducing pipeline runtime by 60% through optimized query performance
- Produced sales forecasts using **Python** by applying ARIMA to 5 years of data, significantly enhancing inventory and demand planning
- Developed interactive dashboards in **Power BI** to visualize key sales, inventory, and production metrics to monitor real-time data

Ernst & Young

Toronto, Ontario

Staff Accountant

Jan 2022 – May 2023

- Automated an **income distribution model** for 20+ key clients using **Power Query and VBA**, streamlining large-scale financial calculations and reducing reporting time by 60% across multiple teams
- Generated **100+ tailored financial summaries** for Non-Resident clients using Excel, providing compensation breakdowns, multi-jurisdictional calculations, and comprehensive foreign tax credit analyses for filings
- Prepared and reviewed **1,400+ personal tax returns** for Canadian and U.S clients, ensuring compliance with tax regulations and timely submission for Residents, cross-border and Non-Resident clients

Statistics Canada

Toronto, ON

Data Analyst

Apr 2021 – Jul 2021

- Coordinated the **end-to-end data collection and processing** of 50,000+ household responses for the 2021 Canadian national census
- Developed **Tableau dashboards** to monitor real-time census response rates and demographic coverage, enabling weekly reporting
- Strategized with various teams to design **survey instruments** and optimize data collection procedures, improving response rates

PERSONAL PROJECTS

SAP - Sustainability & Multidimensional Poverty Index

Feb 2025 – Mar 2025

- Placed **2nd** by developing **Multidimensional Poverty Index** with differential weighting for 250+ countries with 87% accuracy by applying both unsupervised ML techniques (**K-Means, PCA**) and supervised models (**Random Forest, Naïve Bayes**) using **Python**

EY – Predicting the Impact and Security of Wildfires

Feb 2024 – Mar 2024

- Placed **Top 4 of 50+ teams** by building deep learning models (**LSTM, U-Net**) to accurately predict the onset and progression of wildfires, integrating high-resolution spatial-temporal datasets to enhance predictive capabilities, achieving an F1-score of 0.72

EDUCATION

University of Waterloo

Waterloo, Ontario

Bachelor of Mathematics – Mathematics/Business Administration & Statistics

Graduation Date: 2025

- Relevant Courses:** Computational Statistics & Data Analysis, Databases, Deterministic Operations Research Models, Experimental Design, Forecasting, Investment Sci & Corporate Fin, Management Information System, Stochastic Simulation
- Activities:** Vice President of UW Data Science Club, Sponsorship Coordinator of Quantify – Risk & Insurance Competition

SKILLS & INTERESTS

Technical Skills: Python | R | SQL | VBA | Flask | HTML | JavaScript | Excel | MATLAB | Power BI | Tableau | Earnix | JIRA | Confluence

Interests: Financial Services | Data Science | Machine Learning | Quantitative Analysis | Strategy | Fitness | Electric Veh | Traveling