Ali Raisolsadat (MMATH, BSc)

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Summary of Qualifications

- Demonstrated exceptional research proficiency across varied projects including financial modeling, statistical analysis, and insight extraction, showcasing expertise in conceiving and executing innovative data-driven methodologies.
- Effectively communicated findings and insights by utilizing advanced quantitative analysis techniques in R, including the creation of visualization tools using RShiny dashboard and Tidyverse package, and demonstrated proficiency through presentations at international conferences.
- Effective collaborator with cross-functional team at Canadian Centre for Climate Change and Adaptation to inform, support and execute research strategies.
- Programming skills:
    - R: Proficient (4+ years, RShiny, Tidyverse, ggplot2)
    - Python: Proficient (2+ years, Numpy, Pandas, PyTorch)
    - SQL: Experienced (1+ year, PostgreSQL, ETL)
    - MATLAB: Experienced (2 years)
    - Java: Experienced (2 years, Data Structures)

Relevant Experience

Canadian Center for Climate Change and Adaptation – Charlottetown, PEI Summer 2021, Summer 2022
Researcher

- Spearheaded development of groundbreaking a research project in collaboration with cross-functional teams, quantifying the international synergy among G7 nations using United Nations SDG data.
- Employed cutting-edge machine learning algorithms such as LASSO/Ridge regression and employed advanced dimension reduction techniques like PCA to dissect and interpret SDG data effectively.
- Delivered presentation *IME Conference 2022*, demonstrating strong skill in presenting complex solutions to large audiences.

Veterans Affairs Canada – Charlottetown, PEI May 2020 – September 2020
Research Assistant

- Worked on longitudinal research, forecasting insurance claim reimbursements for veterans' prescribed medications by utilizing novel time series models (e.g. ARIMA, autoregression, moving average) to produce a 5-year forecast with a 95% confidence interval, revealing critical insights for policy-making.
- Presented findings to the research team through an interactive RShiny dashboard, facilitating informed decision-making.

University of Prince Edward Island – Charlottetown, PEI Summer 2018, Summer 2019
Research Assistant

- Applied advanced modeling techniques, including portfolio replication under the Black-Scholes model, to create conservative coherent risk measure, thus enhancing risk-averse portfolio management strategies.
- Achieved second place while showcasing the research project at *Science Atlantic 2018.*

Personal Projects

Maritime Climate and Environmental Analysis Dashboard April 2024 – May 2024

- Designed and developed an interactive dashboard using RShiny to analyze climate indicators (temperature, snowfall, rainfall, total precipitation) and greenhouse gas (GHG) emissions across the Maritime provinces.
- Implemented visualizations showcasing seasonal climate volatility and industry-specific GHG emissions trends, leveraging RShiny for data visualization and user interactivity, to provide comprehensive insights into regional climate and environmental patterns.

Satellite Image Classification February 2024 – April 2024

- Developed a specialized Convolutional Neural Network (CNN) utilizing the PyTorch toolkit to classify satellite images into distinct categories including earth surface, cloud, water, and desert.
- Achieved a noteworthy average test accuracy of 95% in predicting the earth surface classes showcasing my proficiency in image classification methodologies.

Exploratory Data Analysis of IMDB Movie Data February 2023 – April 2023

- Utilized data on IMDB movies, incorporating factors such as rating, genre, and box-office income, employing visualization and classification techniques for movie categorization.
- The findings from classification trees and projected box-office revenues suggest a trend of gradual decline in the art of cinema in recent years.

Education

Master of Mathematics (MMATH) in Computational Mathematics, 4.0 GPA September 2022 – October 2023
University of Waterloo, Ontario, Canada

- **Academics:** Fong Computational Math Graduate Award, 90% GPA average standing, Teacher Assistant Award
- **Masters Essay Topic:** Risk Layering - A Loss Classification Approach
- **Relevant Courses:** Data Visualization (R and RShiny), Exploratory Data Analysis (R), Numerical Analysis and Solutions in PDEs (MATLAB), Numerical Solutions to PDEs, Neural Networks (PyTorch, NumPy, Pandas)
- **Certificates**: Google Data Analytics Professional Certificate (R, SQL, Google Sheets), DataCamp (Associate Data Analyst in SQL, Data Analyst in Python, Pytorch for Neural Networks and Large Language Models)

Bachelor of Science in Actuarial Sciences, 4.0 G.P.A September 2020 – May 2022
University of Prince Edward Island, PEI, Canada

Bachelor of Science in Financial Mathematics, 3.5 G.P.A September 2014 – May 2019
University of Prince Edward Island, PEI, Canada

Volunteer Experience

Society Representative of School of Mathematical and Computational Sciences September 2015 – April 2019
University of Prince Edward island, Charlottetown, Prince Edward Island, Canada

- Participated in planning and setup of Mathematics faculty events.
- Held the role of Finance Executive for SMCS society (2017-2018), managing finances and enhancing success.
- Demonstrated fiscal expertise, contributing to the society's achievements.

Citizenship Class Teacher September 2015 – July 2018
PEI's Newcomers Association, Charlottetown, Prince Edward Island, Canada

- Coordinated citizenship classes for PEI's Newcomers Association, fostering a supportive learning environment
- Developed curriculum materials to enhance learning effectiveness.
- Collaborated on culturally sensitive lesson plans with fellow organizers and instructors, improving program success.