

Ali Raisolsadat

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Work and Research Experiences

Summer Research Assistant - NSERC Grant

University of Prince Edward Island, Charlottetown, PEI

May 2022 – August 2022

- Worked on a research project with Dr. Xander Wang, which proposes a new data-driven methodology that quantitatively measures the amount of synergy (cooperation) among countries using SDG indicators.
- In depth analysis of the United Nations' Sustainable Development Goals (SDGs) indicators using various R graphical and statistical packages and functions.
- Gathered and wrote the results and the methodology of the project for the purpose of submitting to the Nature Climate Change journal.
- Presented at the 2022 AARMS (Atlantic Associate for Research in Mathematical Sciences) CRG conference on Computational Aspects in Finance and Actuarial Sciences.
- Presented at the 2022 IME (International Congress on Insurance: Mathematics and Economics) conference.
- Attended PEOPLE 2022 International Conference on Persistent, Emerging, and Organic Pollution in the Environment and participated in setting up the conference as a student volunteer.

Undergraduate Research Assistant

University of Prince Edward Island, Charlottetown, PEI

May 2021 – September 2021

- Conducted research about the United Nations sustainable development goals (SDGs).
- Analyzed the United Nations' SDG indicators using various R graphical and statistical packages and functions.
- Constructed and tested machine learning algorithms and defined a new climate index using the results.

Summer Research Assistant

Veterans Affairs Canada, Charlottetown, PEI

May 2020 – September 2020

- Research with Dr. Julian Velez regarding Cannabis for Medical Purposes (CMP) time series data for the purpose of writing a scientific paper.
- Conducted data aggregation and demographic analysis of CMP data provided by the VAC administration and research team.
- Constructed time series models over the CMP insurance claim data.

Undergraduate Research Assistant

University of Prince Edward Island, Charlottetown, PEI

May 2018 – September 2018 and May 2019 – September 2019

- Conducted research to construct a new risk measure over buy and hold and option hedging portfolios using geometry of data in risk neutral measure (such as distances) with Dr. Alex Alvarez for the purpose of writing a scientific paper.
- Constructed models for European option pricing using Monte Carlo methods and stochastic volatility models.
- Modeled and implemented asset pricing models and geometric risk measures in MATLAB and R Software.
- Presented the research project in Science Atlantic 2018 (Université de Moncton) and achieved second place in the Statistics section of the presentations.
- Presented the research project at University of Prince Edward Island, both for the SPUR program (through SPUR scholarship) and as a colloquium presentation.

Administrative Office Assistant

Agriculture and Agri-food Canada (Science and Technology Branch), Charlottetown, PEI

July 2017 – September 2017

- Helped organizing the Agriculture Canada semi-annual open house event
- Created financial reports/forecast for executive/supervisors' trips and events
- Office duties, such as printing, making binders for Charlottetown regional executive, filling out different forms, typing documents and setting up conference rooms

Education

Master of Mathematics (MMath) - Computational Mathematics

University of Waterloo, Waterloo, Ontario

September 2022 – September 2023

- Courses: Fundamentals of Optimization, Numerical Analysis (MATLAB), Data Visualization (R Tidyverse), Numerical Solution for Partial Differential Equations (MATLAB), Neural Networks (Python), Exploratory Data Analysis (R)
- Research Project Synopsis: Conducted research for my Master's project to create a pioneering Loss Layering framework, facilitating strategic risk allocation for improved catastrophe coverage.
- Academics: Fong Computational Math Graduate Award, 90% GPA average standing

Bachelor of Science – Actuarial Sciences

University of Prince Edward Island, Charlottetown, PEI

January 2020 – May 2022

- Relevant coursework: Interest Theory, Probability Theory, Long Term Actuarial Science Mathematics, Loss modeling, Statistical Learning, Machine Learning, Data Structures in Java, Data Mining and Visualization

Bachelor of Science – Financial Mathematics

University of Prince Edward Island, Charlottetown, PEI

September 2014 – May 2019

- Relevant coursework: Financial Mathematics, Financial Economics, Advanced Corporate Finance

Volunteer History

School of Mathematical and Computational Society

University of Prince Edward Island, PEI

September 2015 – April 2019

- Assisted with planning and setting up events in Mathematics faculty
- Financial executive of SMCS (School of Mathematical and Computational) society for year 2017-2018

Citizenship Class Teacher

Prince Edward Island Newcomers Association, Charlottetown, PEI

September 2015 – July 2018

- Organized and assisted with teaching the PEI's Newcomers Association citizenship classes

Programming Languages

- Proficient in R programming (Data Analysis, Machine Learning, Data Visualization)
- Intermediate level in Java, MATLAB, and Python programming (Data Structures, Numerical Analysis, Machine Learning, Neural Networks)
- Intermediate level in Microsoft Excel, Microsoft Office, PowerPoint, Outlook, and Google Drive

Skills

- Personable with the ability to work well with coworkers and the public
- Organized with the ability to work well in high pressure environment
- Excellent written and verbal communication skills (and experience)
- Strong mathematical and analytical skills
- Extensive knowledge of techniques in data analysis, data visualization, statistical learning and machine learning models
- Bilingual in English and Farsi (Persian)

Interests

- Rock climbing, Reading books (Genres: Science Fiction, Fantasy Fiction, and Philosophy), Cooking, Playing guitar