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**SUMMARY OF SKILLS**

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- **Economics/Finance Related Programming:** Proficient in Python and R for use in applied economics and finance, excelling in data analysis, portfolio optimization, forecasting, and modelling.
- **Machine Learning:** Proficient in the use of Python packages like scikit-learn in use for finance related machine learning applications (Regression, Trees, Neural Net).
- **Data Analysis and Visualization:** Experienced in presenting and exploring data using PowerPoint, Excel, Power BI, Tableau, SQL, Python, Jupyter Notes, R, and R Markdown.

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**EDUCATION**

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- **University of Guelph** Guelph, ON  
*Master of Arts in Economics; Avg. Grade: 83.5%* *Sep. 2022 – May. 2023*
  - **Artificial Intelligence for Finance Course & Project:** Proficient in using Python for data analysis, linear regression and regularization, supervised and unsupervised learning, tree-based methods, and deep learning models relevant to financial applications. Incorporated techniques into a project based on classification of weekly stock returns.
  - **Labor Economics Course & Project:** Empirical methods and Python programming for applied micro-economic analysis (Linear Regression, Regression Discontinuity, and Fixed Effects). Conducted a comprehensive labor project utilizing over 50 years of Labor Force Survey data to investigate the impact of federal and provincial wage increases on youth unemployment throughout Canada.
  - **Special Topics in Finance Course:** Covered financial forecasting, modeling, and risk management with Python. Proficient in time series forecasting (ARIMA), volatility modeling (ARCH, GARCH), and deep learning models (RNN, DL) for finance.
  - **Teaching Assistant:** Introduction to Econometrics, providing weekly R programming and econometric problem set support.
  - **Research Assistant:** Data analysis on safeguard tariffs for US and Chinese trade and additional data analysis for a paper on developing bond markets in developing countries.
- **University of Guelph** Guelph, ON  
*Bachelor of Commerce in Management Economics and Finance; Avg. Grade: 85.5%* *Sep. 2017 – May. 2022*
  - **Advance Topics in Finance Course & Project:** Proficient in using R for data analysis and machine learning methods relevant to economic and financial applications. Incorporated techniques into a project based on forecasting future bitcoin prices.
  - **Advanced Financial Econometrics Course & Project:** Financial data with GARCH models, extensions, multivariate generalizations, stochastic volatility models, and realized volatility. Project focused on risk forecasting and optimizing portfolios for multiple equities using standardized methods.
  - **Relevant Courses Completed:** Financial derivatives, advanced econometrics, business analytics, industrial organization, investments, and both advanced micro and macroeconomics.

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**EXPERIENCE**

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- **Linamar Corporate** Guelph, ON  
*Data Analyst Co-op Student* *May 2021 - Sep. 2021 & Sep. 2020 - Dec. 2020*
  - **Duties:** Assisted with data manipulation, reporting, and analysis using R, Excel, and Power BI for finance/business related projects.
  - **Forecasting:** Contributed and created new models to forecast working capital and developed a forecast ranking method using linear optimization to empirically define the best model out of hundreds of thousands of unique forecast combinations.
  - **Outlier Detection:** Implemented a method to quickly validate tens of thousands of invoices for syntax and errors using algorithms, list based rules, and regular expressions in R.
  - **Excel Automation:** Automated performance analysis documents using a combination of R, Python, and Excel to process model performance in minutes saving hours of manual work.
  - **Data Visualization:** Created Power BI reports integrated with R visuals and R programs to visualize immense amounts of data and presented to senior executives.
  - **Overall Performance:** Recognized for a proactive approach and foresight, rapid adaptability, and curiosity for learning. Completed two consecutive four-month co-op positions, receiving outstanding performance reviews that emphasized contributions to project advancement.

• **Skyjack**

Guelph, ON

*Accounting Co-op Student*

*May 2019 - Jan. 2020*

- **Duties:** Assisted with month end and quarter end close process, accounts payable and accounts receivable, and other general accounting duties.
- **Accounts Receivables:** Recorded the collection of millions in cheques, wires, and intercompany payments.
- **Data Entry:** Inputted thousands of data entries with minor room for error into multiple ERP systems.
- **Collaborative:** Worked independently and with teams of one to three in a fast-paced environment.
- **Excel Proficiency:** Created and updated excel spreadsheets with VLOOKUPS, match index functions, pivot tables, and basic macros for new and existing processes.
- **Overall Performance:** Reliable and quick to learn, excellent performance under pressure, and consistently met deadlines. Completed two terms and received outstanding performance reviews.

EXTRA-CURRICULAR INVOLVEMENT

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• **Godot 2D RTS Game**

Guelph, ON

*Solo Developer*

*Jan. 2024 - Present*

- **Description:** A multiplayer medieval-fantasy strategy game emphasizing resource and population management, with elements of military tactics, economics, diplomacy, and espionage.
- **Key Features:** Developed using Godot Engine (GDScript), group path-finding using A\*, fog of war rendering via GPU shaders, and multiplayer networking.

• **Financial Data Tool**

Guelph, ON

*Solo Developer*

*October. 2024 - Present*

- **Description:** Finance tool to run APIs from FRED and "yfinance" to download, manage, and visualize data via a Python GUI interface.
- **Key Features:** Data downloading and file structure creation for organizing financial instrument and stock data, integrated export functionalities to save data to Excel or CSV formats, and utilized 'pandastable' for data visualization and interactive table display.

• **Extended Play (EP) Project**

Guelph, ON

*Instrumental Guitarist*

*Aug. 2021 - Jun. 2022*

- **Industry Meetings:** Engaged in weekly meetings with industry professionals on writing, recording, mixing, and mastering for the future EP.
- **Recording Techniques:** Researched industry recording techniques, such as digital audio workstations, plugins, mixing, and mastering.
- **Recording Software:** Developed knowledge on software such as Audacity, Guitar Pro Seven, EZ Drummer, and Reaper.
- **Release:** Completed composing and recording six songs with bass, drums, rhythm, and lead guitars ready for mixing, mastering, and final release in June 2022 for all major platforms.

TECHNICAL SKILLS

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**Languages:** Python, R

**Software:** Microsoft Office, Power BI, Tableau,

**Developer Tools:** Spyder, Jupyter Notes, R Studio, R Markdown, Visual Studio Code

**Python Libraries:** pandas, NumPy, Matplotlib, scikit-learn, keras

**R Libraries:** tidyverse, dplyr, ggplot2, glmnet, randomForest, gbm, knitr, pls, stargazer