

# Saul George

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saulgeorge13.github.io/home

## Skills

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**Languages:** Python (Pandas, Numpy, Matplotlib, SciPy, Dash, Plotly, Dask, Pytorch), Java, C/C++, SQL, R

**Tools/Frameworks:** Microsoft Excel (VBA), GitHub, JUnit, Swing, Jupyter Notebooks, MATLAB

**Competencies:** Algorithm Design, Object-Oriented Programming, Data Structures, Data Analysis, Data Visualization, Data Cleaning, Data Mining, Machine Learning, Agile Software Development, Statistical Analysis, Time Series Analysis.

**Soft Skills:** Innovative, Team Player, Excellent-Communicator, Adaptable, Organized, Creative, Reliable.

## Experience

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### Intern – Quantitative Equity, Public Markets

May 2022 – Dec 2022

*British Columbia Investment Management Corporation (BCI)*

May 2023 – Aug 2023

- Data cleaning and exploratory data analysis into new, large datasets during the start of new research projects.
- Setup SQL queries and python functions to read raw data from our research databases.
- Conducted alpha factor research including the implementation, backtesting and analysis of factors built using Carbon Emissions data (Trucost), Options data (Optionmetrics) and Institutional Ownership data.
- Implementation and testing of a Carbon constraint at a portfolio level to reduce portfolio carbon emissions by a set percentage compared to benchmark indexes.
- Implemented parallel processing using Dask and local persistence using ZODB to achieve a linear improvement in model evaluation and backtesting efficiency within the research pipeline.
- Developed a centralized backtest analytics script to easily analyze and compare the performance of 100+ potential factors across various metrics of interest.
- Took part in factor data checks during fund rebalancing days.

### Intern Analyst – Exposure Leverage Liquidity Management (ELLM), Total Fund Management (TFM)

Jan 2022 – Apr 2022

*Canada Pension Plan Investment Board (CPPIB)*

- Designed and developed a scalable dashboard using Plotly and Pandas to visualize and compare performance of CAD Fixed Income Securities using index data allowing the team to conduct historical analysis more efficiently on chosen securities at a time of interest.
- Developed a Trade Approvals Tool using VBA for use by ELLM to streamline and simplify the previous trade approval process while ensuring ease of use and systematic storage of approved trades.
- Writing, debugging, updating, and automating various Python reporting scripts and VBA macros to improve the teams daily reporting processes on PnL, Synthetic Exposures, Sector Holdings, and Overweights and Underweights within our portfolio.

## Teaching Assistant – CPSC 322: Introduction to Artificial Intelligence

Jan 2023 – Present

University of British Columbia, Vancouver

- Assisted professors during lectures with in-class activities and driving student discussions on clicker questions.
- Hosted weekly office hours to help students struggling with the course material and its bi-weekly assignments.
- Monitored and answered 100+ student questions on the course Piazza discussion board.
- Took part in the grading of assignments and exams for the course.

## Technical Projects

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### Movie Recommender – Python, Pandas, Sklearn

- Implemented 3 different methods of analyzing a database of 1000 movies listed on IMDB to provide recommendations to users.
- Used Python Pandas to effectively clean the data before tokenizing keywords in the database as vectors using the Sklearn library for easy comparisons between records.
- Utilized a cosine-similarity matrix in conjunction with the vectors to then suggest recommendations based on a movie previously liked by a user.
- Implemented a UI for easy user access using Python's tkinter package.

### Stock Market Analysis – Python, Pandas, Matplotlib, Jupyter

- Used a Jupyter notebook in conjunction with Pandas Datareader and Python's matplotlib library to visualize and analyze the performance of my personal investment portfolio.
- Compared stocks to competitors by visualizing relevant trends.
- Currently working on automating this to email a daily report.

## Education

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### Bachelor of Science: Combined Major in Computer Science and Statistics

Expected: 2024

University of British Columbia, Vancouver

#### Outstanding International Student Award

- Merit based entrance scholarship of \$10000 awarded to incoming students showing strength academically and displaying involvement outside the classroom.

#### Faculty of Science Dean's Honor List

- Designation awarded to students promoted with a standing of 80% or higher.

### Relevant Courses

**Computer Science:** Basic Algorithms and Data Structures, Intermediate Algorithm Design and Analysis, Introduction to Artificial Intelligence, Machine Learning and Data Mining, Topics in CS: Natural Language Processing, Advanced Machine Learning (ongoing), Intelligent Systems (ongoing).

**Statistics:** Intermediate Statistics for Applications, Introduction to Probability, Introduction to Statistical Inference, Methods for Statistical Learning, Time Series and Forecasting (ongoing).