Aryan Rastogi

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Education

University of Waterloo — *Waterloo, Ontario*
Candidate for Bachelor of Computer Science — *September 2020 – April 2025*

Relevant Coursework: Data Structures and Algorithms, Object Oriented Programming, Operating Systems

Skills

Languages: Python, JavaScript, C++, C#, TypeScript, C, Java, Kotlin, SQL, R, VBA, HTML, CSS
Frameworks: React, Node.js, Flask, MongoDB, Express, Jetpack Compose, Pandas, Numpy, GraphQL, PyTorch, Bootstrap
Technologies/Tools: AWS, GCP, Postman, Docker, Postman, Microsoft Office (Excel)

Experience

BMO Capital Markets — *Toronto, Ontario*
Quantitative Software Engineer — *September 2024 - December 2024*
- Worked on and enhanced system for pricing hundreds of financial notes and options daily in C#
- Added functionality to web dashboard for viewing clients and sold products using Python and React
- Optimized web refresh architecture to refresh current page upon web socket call from backend API
- Implemented database upserting for existing data rows containing market information using SQL and C#

Bank of Montreal — *Toronto, Ontario*
Software Developer — *May 2024 - August 2024*
- Developed APIs and microservices used for banking and money transfer using Node.js and Python
- Deployed to the cloud using AWS API Gateway and Lambda Functions, with data storage in S3 buckets and DynamoDB database
- Created script to analyze application data and extract service dependencies using Python and Pandas
- Implemented AWS workflow to read and process Dynatrace API data for keeping inventory of services through Node.js

Boosted.ai — *Toronto, Ontario*
Frontend Engineer — *May 2023 – August 2023*
- Managed and worked on React and JavaScript web platform, adding new functionality and fixing bugs as required
- Refactored web framework and design components in React, helping increase client favorability by 10%
- Created and integrated GraphQL endpoints for web server handling of user stock watchlist creation
- Implemented backend functionality for creating and editing stock watchlists using Python and SQL

Canadian Imperial Bank of Commerce — *Toronto, Ontario*
Software Developer — *September 2022 – December 2022*
- Facilitated end-to-end creation and deployment of website for project management and handling using Python and React
- Utilized Flask to create endpoints for information handling and database connections
- Leveraged SQLLite3 to build and maintain lightweight databases for client, employee, and project information
- Built and trained AI models to process and classify news articles using PyTorch to simplify tech research

BMO Capital Markets — *Toronto, Ontario*
Quantitative Software Engineer — *January 2022 – April 2022*
- Worked on a dashboard for displaying sales information through capturing and manipulating data using Python and React
- Adjusted database call complexity by refactoring infrastructure using SQLAlchemy and Python
- Employed Excel and VBA to create spreadsheets for trader use in calculating stock correlations for a given basket
- Constructed tools to automate the processing of hundreds of incoming emails daily using Flask and Python

Projects

TripWay
Kotlin, Jetpack Compose, SQL, GCP
- A social media desktop application that allows users to create, display, and explore trips and travel plans
- Used Kotlin to create endpoints for user, trip, and location data and GCP to host service and SQL database
- Created reactive frontend using Compose with functionality for viewing, creating, and editing trips

Factor Investing Stock Portfolio Model
Python, Pandas, Numpy
- Utilized Eugene Fama and Kenneth French's factor prediction model amongst financial factors from other academic papers in order to create a stock portfolio based upon future returns
- Constructed various factors based on historical S&P 1500 stock returns using Pandas and Numpy
- Trained model to predict future returns using Fama-MacBeth regression and machine learning (ridge regression)