

NATHAN CHU

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SKILLS

Programming Languages:	Python, Java, Javascript, Typescript, C++, C, Racket, R
Backend:	MongoDB, NodeJS, Flask, FastAPI, Firebase
Frontend:	HTML/CSS, React, NextJS, TailwindCSS
Tools:	Git, Docker, Postman, Google Cloud, Linux, Tableau, Microsoft Power Suite
Certifications:	Azure AI Fundamentals, Azure Fundamentals

EXPERIENCE

Privy Council Office - Corporate Analytics and Special Projects

Data Analyst

Jan 2024 - Apr 2024

- Leveraged Tableau and PowerBI to update, refine, and compose interactive tailored dashboards for detailed meta-analysis of cross-functional organization metrics for Employment Equity, Security and Intelligence, and Foreign and Defence Policy.
- Engineered automated workflows using Tableau prep, Power Automate, and Python scripts and conducted stringent reviews to actively enhance efficiencies, lowering overhead costs.
- Spearheaded the migration of on-premises data to an Azure data lakehouse to take advantage of cost savings, improve scalability and security, and enable advanced analytics including machine learning.

Microsoft

Azure Artificial Intelligence for Financial Advising

May 2023 - Aug 2023

- Prototyped an intuitive and interactive financial advising chatbot with Azure AI services, to help open up investment options to the 77% of Canadians that own investments.
- Outlined machine learning and NLP pipelines with Azure Language Studio and Azure Bot Service to allow the chatbot to comprehensively answer general or specific questions about investments.
- Preprocessed and validated data from various sources to ensure the chatbot provides accurate responses.

PROJECTS

Our ML Churney *Python, sklearn, seaborn, numpy, matplotlib, pandas*



- Orchestrated the development of a custom machine learning model leveraging over 70 million data points from Infinite Investment Systems to predict customer churn and improve customer retention.
- Guided the end-to-end exploratory data analysis process, encompassing data cleaning, visualization, and feature selection to fine-tune the model for optimal accuracy and precision in test-set predictions.
- Cross-validated various classification models to determine the most performant one, culminating in a 95.3% F1 score using an XtremeGBRF Classification model - won 2nd in CxC Powered by EY Datathon.

Tag Team *Python, React, Flask, Google Cloud, MongoDB*



- Linked a Google Cloud Vision OCR model to parse uploaded base64 image files and pipe them into OpenAI's davinci-003 model and Cohere's xlarge NLP model to perform text correction and prompt generation.
- Created a REST API using Flask that authenticates users with JWT and performs basic CRUD operations using pymongo linked to an Atlas cluster.
- Fetched and displayed data on a React frontend using Axios requests and added sign-in features through bearer token authentication.

Roboadvisor *Python, YahooFinance, numpy, matplotlib, pandas*



- Developed a safe portfolio generator using Python libraries such as numpy, matplotlib, and pandas with the goal of reducing the magnitude of fluctuations in portfolio returns from a given list of stocks.
- Generated a diversified minimal-risk portfolio with a 1.8 percent return by fetching stock data using the Yfinance API to dynamically determine the least volatile stocks from the given list of stocks.
- Reduced the overall risk of the portfolio by creating a stock-pairing algorithm to find the most negatively correlated pairs of stocks.

EDUCATION

University of Waterloo

Bachelor of Computing and Financial Management

Double major in Computer Science and Finance with co-op

Waterloo, ON

Sept 2022 - April 2027