

HANZ NATHAN PO

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EDUCATION

University of Waterloo

Bachelor of Computer Science (Co-op)

Waterloo, ON

Sept. 2024 – Apr. 2029

EXPERIENCE

Senior Data Quality Specialist - Advanced Coding Team

Sept. 2024 – Present

Cohere

Toronto, ON

- Improved coding abilities of large language models including Command R7B, helping achieve 71.4% on the MBPPPlus and 22.2% on the LBPP benchmarks by providing reinforcement learning from human feedback
- Recommended optimizations and provided feedback for 275 coding tasks in Python, JavaScript, C, SQL, and C++

Quantitative/Machine Learning Developer

Nov. 2024 – Present

Wat Street

Waterloo, ON

- Utilized PyTorch to reach an accuracy level of 96.8% for neural networks in image classification tasks.
- Employed SciPy to create an implied volatility algorithm using the Newton-Raphson method
- Developing Monte-Carlo simulation based method to predict the future prices of European options

PROJECTS

Albumify - Automated album covers for Spotify playlists — Python, JavaScript, React, SQL, CockroachDB, FastAPI

- Created the user interface and frontend logic for Albumify, a web application aimed at automatic album cover generation for Spotify playlists, using **React, JavaScript, and Chakra UI**, including **Spotify API** integration
- Designed and implemented a highly scalable backend using **CockroachDB** (PostgreSQL-based), enabling distributed data processing and resilience, coordinating with a cross-functional team and utilizing **Git** and **Figma**

Exploring the adoption of clean energy across the world — Python, Pandas, Scikit-learn, Matplotlib

- Using **regression models**, analyzed the correlation between economic factors such as GDP, Human Development Index scores (HDI) against how much of a country's energy comes from emission-free and renewable sources
- Leveraged **Pandas** to import and parse large datasets, observed patterns with **Scikit-learn's** regression functions, then visualized interesting findings through **Matplotlib & GeoPandas** (world maps, scatter plots, line graphs)
- Achieved a **correlation coefficient of 0.43** on one model, indicating a moderate positive correlation between economic development and the use of clean energy

GitGest - Repository commit history summarization — Python, JavaScript, React, Flask, GitHub API, Cohere API

- Constructed the backend logic of GitGest, a tool that provides developers with commit history summaries using **Flask**, including **Cohere API** and **GitHub API** integration with **OAuth** user authentication
- Worked with designers and frontend developers to transform **Figma** designs into a functional and user-friendly web application, using tools such as **Git** and **GitHub**

Intellimailr - AI powered cold emailing platform (MetHacks award winner) — Python, Bootstrap, Flask, Cohere API

- Developed Intellimailr, a Flask-based application that automates personalized cold emails for users seeking potential clients and customers
- Implemented web scraping using Beautiful Soup to gather contact information, enhancing connectivity between user and their target audience
- Designed a user-friendly interface with Bootstrap, HTML, JavaScript, and CSS, facilitating seamless interaction between users and the application's backend

Intuitscape - Intuitive node-based learning tool — Python, JavaScript, React, Flask, Google Vertex AI

- Designed and developed Intuitscape, a web application for generating a node-based mind map about any topic using **React, JavaScript, React Flow, and Flask**
- Integrated an intuitive and accessible user interface with the **Google Vertex AI** API in order to generate subtopics and descriptions to help users learn more about their topic of choice

SKILLS

Programming Languages: Python, JavaScript, TypeScript, SQL, Java, C#, C++, C, Racket (Scheme), C64 BASIC

Libraries/Frameworks: React, Flask, PyTorch, Pandas, NumPy, Scikit-learn, Matplotlib, SciPy, Bootstrap, Express

Tools: Git, GitHub, Visual Studio Code, Node, Jupyter Notebook, Figma, Jira, Trello, Vite, Unity Engine

Hobbies/Interests: Aviation, virtual reality, basketball, keyboards, weightlifting, building cool things