Andre Mello Fortes

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Education & Certifications

University of British Columbia — Vancouver, BC
Bachelor of Science in Physics; Average: B+ — *Sept. 2019 – May 2023*

Google Data Analytics Professional Certificate — Aug 2023

Experience

Software Engineer, Co-Founder — May 2023 – Present
Triple Leads — *Vancouver, BC*

- Engineering automated real estate analysis and lead generation systems for investors and property developers, employing AWS components like API Gateway, Lambda, Aurora Relational Database, and Spot EC2.
- Developing a specialized web-based real estate data dashboard for investors and developers.
- Formulated a strategic business plan while fostering investor relations and maintaining key partnerships with organizations like CREA and REBGV.

Undergraduate Research Assistant — May 2022 – Dec 2023
University of British Columbia — *Vancouver, BC*

- The UBC Park Lab focuses on improving and developing methods in privacy-preserving machine learning, which aims at facilitating data analyses without sacrificing privacy.
- Engineered a differential privacy-based method, mathematically verified, to optimize dataset size while preserving privacy and data accuracy, thereby boosting the utility of secure datasets.
- Utilized Python and PyTorch to train and evaluate both fully-connected and convolutional neural networks, assessing the effectiveness of the condensed datasets on model generalization.

Python & Algorithms Instructor — May 2022 – Dec 2022
Sager Education — *Vancouver, BC*

- Conducted comprehensive Python training courses, covering beginner to advanced levels, while integrating essential tools like Git and SQLite to supplement the curriculum.
- Employed Python to design algorithm-focused lessons aimed at preparing students for the Waterloo Canadian Computing Competition.
- Managed codebase and educational materials using Git and Github, ensuring version control and streamlined collaboration.

Projects

Media Aggregator app | *Golang, FastAPI, MongoDB, Docker, NGINX*

- Engineered a secure backend CRUD API featuring user authentication, enabling functionalities such as user sign-up, posting, viewing others' posts, as well as liking and disliking posts.
- Prioritized security by deploying the backend within a Docker container, incorporating hashed, salted, and peppered passwords, while limiting external access through a single exposed port.
- Adopted a modular architecture for the backend, facilitating easy extensions, and it is currently being augmented to integrate a modular recommender system for data-driven enhancements.

Private Graph Neural Network Metrics | *PyTorch, Git*

- Teamed up with two UBC research associates to develop and optimize a graph neural network based on the GAP architecture by Sajadmanesh et al.
- Introduced various aggregation functions centered on similarity metrics and adjusted the graph topology to enhance privacy, especially for nodes with limited neighbors.
- Implemented continuous delivery using TravisCI to build the plugin upon new a release

Technical Skills

Languages: Python, C++, SQL (Postgres), JavaScript, Golang
Frameworks: React, Node.js, Flask, WordPress, FastAPI
Developer Tools: Git, Docker, TravisCI, AWS, VS Code
Libraries: Pandas, NumPy, Matplotlib, Pytorch