Vaud Burton

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Professional Experience

NCR Voyix, Machine Learning Engineer 2, Innovation Lab, Atlanta, GA **Jul. 2022 - Now**

- Developed a **Production-Level Kubeflow Machine Learning** pipeline to forecast Inventory and Labor needs at restaurants
- Performed **Large-Scale** feature engineering and optimization using **XGBoost, PySpark,** and **KATIB**
- Conducted in-depth **data analysis**, and **data visualization** to optimize model performance using **SQL, pandas,** and **plotly**.
- Spearheaded initiative to improve **algorithm** performance, **reduce cost by 60x and error by 33%**
- Planned out the **pipeline architecture** and roadmapped improvements to the process
- **Mentored** multiple new-hires and interns after onboarding them onto the project.
- Presented reports requiring **technical communication** skills to 30 employees across 5 teams

Manhattan Associates, Co-op Student, Research and Development, Science Team, Atlanta, GA **May 2020 – Dec. 2021**

- Implemented **Multiclass-Classification** support to **Production-Level Cloud Based ML pipeline** using **sklearn**
- Generated nested **SQL** queries using **Java** and **JSON** Schemas to enforce internal standards

Education

Georgia Institute of Technology, Atlanta, GA, M.S. in Computer Science **Aug. 2021 – May 2022**
Specialization: Machine Learning

Georgia Institute of Technology, Atlanta, GA, B.S. in Computer Science, GPA: 3.75: Highest Honors **Aug. 2017 – May 2021**
Specialization: Intelligence and Devices; Minor: Economics

Projects

whatsgood?: Group project, HackGT 8 **Fall 2021**

- Designed a Natural Language Processing, **NLP**, pipeline for **product recommendations** of menu-items by analyzing Yelp reviews
- Created multiple datasets for menu-item **named entity recognition**, and **categorization** of menu-items

ChatASM: NCR Voyix Hackathon **Fall 2024**

- Architected a system leveraging a **Large Language Model**, a **SQL** database, and code in production.
- Designed a procedurally generated **prompt engineering** system to interface with a **LLM**
- Created **interactive visualizations** of the data returned in a dashboard using plotly

Multi-Bracket Optimization for March Madness Brackets: Personal Project **Spring 2024**

- Conducted a **literature review** of existing research on multi-bracket optimization techniques.
- Devised a novel approach that combines a **machine learning pipeline** with a **Genetic Algorithm**.
- Implemented a custom, efficient **Genetic Algorithm** in **numpy** to improve on the model alone by 25%.

Self Training for Molecular Property Predictions with Limited Supervised Data: Master's Degree Research Project **Spring 2022**

- Experimented with **Self Training** techniques to improve the drug discovery process using Graph Neural Networks in **PyTorch**
- Leveraged **Unlabeled Data** to improve accuracy in applications with **Limited Supervised Data**

Generative Few-Shot Augmentation: Group project, Deep Learning for Textual Data **Fall 2021**

- Designed a Natural Language Processing, **NLP**, pipeline for **few-shot** domain classification of Amazon reviews
- Implemented, trained, and tested a category-aware text GAN, **CatGAN** using **PyTorch**
- Researched the effect of generative data augmentation on an **open research problem** in **text-based Generative AI**

BachOrNot?: Group project, Machine Learning with Limited Supervision **Fall 2021**

- Designed a Generative Adversarial Network (**GAN**) for the controllable generation of music using **PyTorch**
- Integrated a combination of **neural network architectures** from state of the art research papers **Generative AI**

Skills

Technical: Machine Learning, Artificial Intelligence, Gen AI, Data Visualization, Python, Pandas, NumPy, PyTorch, TensorFlow, SQL
Relevant Coursework: Natural Language Processing, Computer Vision, Machine Learning with Limited Supervision, Game AI, Machine Learning, Artificial Intelligence, Data Structures and Algorithms, Systems and Networks, Statistics, Prototyping Devices