Vaud Burton

770-312-5831, vaudalexburton@gmail.com
github.com/vab10266 | linkedin.com/in/vaudburton | vab10266.github.io

EXPERIENCE

Machine Learning Engineer 2 **Jul. 2022 - Now**
NCR Voyix, Innovation Lab *Atlanta, GA*
- Developed a **Production-Level Kubeflow Machine Learning** pipeline to forecast inventory and labor needs at restaurants
- Performed **large-scale** feature engineering and model optimization using **XGBoost**, **PySpark**, and **KATIB**
- Conducted in-depth **data analysis** and **data visualization** to optimize model performance using **SQL**, **Pandas**, **Plotly,** and **Python**.
- Automated the team's **MLOps** using **Kubernetes, Docker**, **GCP**, **BigQuery**, **Grafana**, and **Terraform** to scale to customer demand.
- Spearheaded initiative to improve the forecasting pipeline performance, **reducing costs by 60x and error rates by 33%**
- Structured project into components to roadmap epics and create user stories
- Drove user stories to completion by running stand-up and sprint retrospective as Scrum Master
- Created onboarding documentation for the project and **mentored** 4 new-hires and interns since May 2024
- Produced technical reports and presented them to stakeholders across 5 teams to facilitate cross team collaboration

Co-op Intern **May 2020 – Dec. 2021**
Manhattan Associates, R&D Science Team *Atlanta, GA*
- Implemented **Multiclass-Classification** support to **Production-Level** Cloud Based ML pipeline using scikit-learn
- Generated nested **SQL** queries using **Java** and **JSON** Schemas to enforce internal standards
- Managed **MLOps** with **Docker** containers and **Postman** Requests

EDUCATION

Georgia Institute of Technology **Aug. 2021 – May 2022**
M.S. in Computer Science — Machine Learning *Atlanta, GA*
Key Classes: Natural Language Processing, Computer Vision, Machine Learning with Limited Supervision, Game AI

Georgia Institute of Technology **Aug. 2017 – May 2021**
B.S. in Computer Science: Highest Honors — Intelligence and Devices, Minor: Economics *Atlanta, GA*
Key Classes: Data Structures and Algorithms, Systems and Networks, Statistics, Prototyping Devices, Artificial Intelligence

PROJECTS

Self Training for Molecular Property Predictions with Limited Supervised Data **Spring 2022**
- Collaborated with a Professor for my Master's Degree Research Project to further Machine Learning research
- 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**

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 an **LLM**
- Created interactive visualizations of the data returned in a **dashboard** using **Plotly**

RapidReorder: Honorable Mention, NCR Hackathon **Summer 2023**
- Engineered a **computer vision** pipeline in **Python** for the AutomaticLicencePlateRecognition (ALPR) library using **OpenCV2**
- Utilized a JetsonNano for video analysis to perform license plate **object detection**
- Leveraged knowledge to implement **Image-Preprocessing**, **Image-Segmentation**, and **Object-Character-Recognition**

Multi-Bracket Optimization for March Madness Brackets **Spring 2023 – Spring 2025**
- Conducted a **literature review** of existing **research** on multi-bracket optimization techniques.
- Implemented a custom, efficient **Genetic Algorithm** in **numpy** to improve on the model alone by 25%.

SKILLS

Technologies: Machine Learning, Artificial Intelligence, Gen AI, Data Visualization, Computer Vision, Natural Language Processing
Languages/Libraries: Python, Pandas, PyTorch, TensorFlow, NumPy, Plotly, sklearn, XGBoost, SQL, MatPlotLib, pytest, Java
Tools: Kubeflow, Kubernetes, KATIB, Docker, Postman, GCP, GCS, BigQuery, Grafana, Terraform