Bethvour Newness Chike

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Education

Jackson State University
Bachelor of Science in Computer Engineering - ***GPA: 4.0/4.0*** *Jan 2023 – present*

Experience

Bloomberg - Software Engineering Intern June 2024 – Aug 2024
ENG Core - Derivates Data Streaming *San Francisco, California*

- Spearheaded the orchestration of the ACS system and optimized DSP Spark jobs with **Argo**, improving data processing efficiency by 40%.
- Implemented **Python** optimizations in the ACS codebase, reducing runtime by 23% and improving system throughput.
- Integrated scalable **machine learning** workflows in **Apache Airflow**, ensuring efficient task scheduling for real-time data processing.

META - Metascholar Mar 2024 – May 2024
Meta - Reality Labs *Remote*

- Collaborated with industry leaders in **web3**, **blockchain**, and **AR/VR technologies**.
- Contributed to projects enhancing virtual reality interfaces, resulting in a 10% performance increase.

Regenstrief Institute, Inc. - Software Engineering Intern Jun 2023 – Jul 2023
Data Engineer Department *Indianapolis, Indiana*

- Developed a decision-support tool "Health Dart" that processed large volumes of clinical data, improving data analysis speed by 37%.
- Leveraged **Python** and **Flask** to enhance system scalability and ensure fast data retrieval across distributed systems.

Technical Skills

Languages: Python, Dart, Flutter, C++, Java, JavaScript, TypeScript, SQL, HTML/CSS, Bash
Frameworks: React, Node.js, Flask, Kubernetes, Airflow, Argo, MongoDB, Apache Kafka
Tools: Git, Docker, TravisCI, Google Cloud Platform, Cloud Infrastructure (AWS)
Libraries: TensorFlow, pandas, NumPy, OpenCV, MediaPipe

Projects

Stock Market Real-Time Data Engineering with Kafka and AWS

- Designed and implemented **ETL** pipelines using **AWS Glue**, **Python**, and **S3** to automate workflows, efficiently manage large-scale stock market data storage, and optimize querying with **AWS Athena** and **SQL**.
- Managed **Kafka** clusters on **AWS EC2** for real-time data streaming, integrating **Glue Crawler** for automatic catalog updates, while optimizing pipeline performance and data processing times by 20%.

Flight Delay Prediction

- Developed a machine learning model to predict flight delays, utilizing **Python**, **XGBoost**, and **scikit-learn** for data preprocessing, model training, and evaluation, improving predictive accuracy and providing valuable insights for airlines and passengers.
- Performed hyperparameter tuning and model optimization, leveraging **XGBoost** and **Logistic Regression** to achieve optimal performance, and evaluated model effectiveness using metrics like accuracy, confusion matrix, and ROC-AUC scores.
- Visualized and communicated model results through clear, actionable insights, including feature importance, confusion matrices, and ROC curves, using **Matplotlib** and **Seaborn** to enhance understanding and decision-making.

Video-to-MP3 Conversion Service

- Developed and deployed a scalable, microservices-based video-to-MP3 conversion system using **Flask**, **RabbitMQ**, and **MongoDB (GridFS)**, ensuring efficient video processing, secure file storage, and asynchronous task handling. Integrated **JWT** authentication for secure user login and token validation, using **Kubernetes** for container orchestration and high availability.
- Designed and implemented a notification service using **RabbitMQ** and **Gmail SMTP**, sending email notifications to users upon completion of MP3 file conversions. Securely managed system configuration with **Kubernetes ConfigMaps** and **Secrets**, ensuring seamless and secure service communication and persistent data storage using **Persistent Volume Claims (PVCs)**.
- Built a robust, containerized CI/CD pipeline leveraging **Docker** and **Kubernetes**, automating deployment and scaling across services. Implemented secure API interactions, including **JWT**-based authentication, and utilized best practices for cloud-native architecture to ensure a resilient, high-performance system.

TradeSim Pro

- Designed and implemented high-performance market data simulation and real-time data integration using **C++** and APIs, while developing and backtesting trading algorithms (market making, arbitrage, momentum) in **C++** and **Python** with **Pandas** and **NumPy**.
- Utilized **Git** for version control, **Docker** for scalable deployment, and created both CLI and GUI interfaces for real-time market data display, portfolio performance, and trading activity management.

Leadership

BVCC - Software Engineering Lead and Chapter President June 2024 – Present
Black Venture Capital Consortium

- Spearheading the development of a venture capital fund management platform, streamlining investor relations and portfolio tracking, projected to increase user engagement by 30%.