Okonkwo, Thomas

Software Engineer
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Social Media:

EDUCATION

Prairie View A&M University
M.Sc Computer Science 3.90/4.00 — **AUG. 2021 – May 2023**

University of Lagos, Akoka, Nigeria.
B.Sc Electrical and Electronic Engineering — **SEPT. 2013 - JAN. 2018**

SKILLS

Streaming: Kafka, Spark Streaming **BigData platform**: MapR
Backend: Java (Spring Boot), REST, Python, Flask, Scala, SQL, Apache Beam
Infrastructure: Kubernetes, Docker, Jenkins, AWS cloud, Git, Jira, GCP
Miscellaneous: Algorithms, Big Data, Machine Learning, Postman
Others: S3, Apache Drill, Apache Spark, VPC, DevOps

OBJECTIVE

I am a motivated and solution-oriented engineer with a master's degree in computer science. I have a keen interest in Software Development and Cloud Computing. I have over three years of experience in designing and deploying software solutions utilizing a variety of programming languages and technologies. I am also a highly motivated and detail-oriented engineer able to use Python, Java, Spring Boot, REST, Flask, SQL, Apache Beam, and other technologies. I have experience working with computer networking and troubleshooting skills. I am a strong problem solver with excellent communication skills and a sense of ownership and drive.

SCHOOL PROJECTS

Cerber Malware Detection— *Research and Machine Learning Engineer* **FALL 2022 - Computer Network Security**

- Worked on research for detecting Cerber Ransomware - Created a machine learning model for detecting if a packet capture(pcap) file is a Cerber Ransomware or not.
- Used the Cerber pcap files to train the model using TF-IDF methodology, where the weight of any input parameter from the pcap file will serve as terms used to measure the weight and frequency of occurrence.

Centralized IOT-Based Monitoring for Cell Tower Sites— *Backend Engineer* **FALL 2022 - Software Engineering**

- I worked in a team of 5 on the design of the centralized IOT-based monitoring for cell tower sites. I handled the design of the database using Postgres and python flask for the backend. The project aimed to monitor cell tower sites in different locations remotely.
- I created endpoints for the CRUD operation with Python Flask and also an endpoint for report generation to track which cell tower fails for easy monitoring with a graphical representation of the cell towers on each cell site.

WORK EXPERIENCE

American Express — *Software Engineer* **JUN 2023 – PRESENT**

- Installed and set up password-less SSH in the test and production environment: This enables developers to be able to remotely ssh into different Tomcat servers in the environment without a password.
- Adding new functionalities, maintaining backend applications to meet business demand and unit testing.
- Querying the database using Hive and spark-sql, to retrieve information for business purposes.

Twitter Inc. — *Engineering intern* **MAY 2022 – AUG 2022**

- Built software applications in service of Machine Learning using Apache Beam: Worked with the Machine Learning Data Framework team to build pre-processing data tools for machine learning.
- Wrote beam jobs for different computations using Google Cloud Storage, using a machine learning data framework
- Built libraries using Apache beam, Google Dataflow and Notebooks to inspect behaviors while streaming
- Analyzed and troubleshooted software issues, and worked with other engineers to identify and resolve bugs and improve system performance.
- Designed and optimized database schemas to support efficient data storage and retrieval, and worked with data engineers to develop data pipelines for ingesting and processing data at scale.
- Anchored the intern leadership series event with one of Twitter's executives – A global event where interns meet with Twitter's executives and share their experiences with Interns.

Interswitch Group — *Software/Cloud Engineer* **SEPT 2018– JAN 2021**

- Developed a credit transfer middleware for banks to increase their overall inward transfer success rate across multiple payment channels using Java Spring and deployed the application to Kubernetes.
- Built and operated a distributed, highly available, and scalable microservices architecture on Kubernetes, utilizing Docker and Jenkins for containerization and CI/CD.
- Collaborated with software developers to define and implement infrastructure as code (IaC) using Terraform, CloudFormation, or Azure Resource Manager (ARM) templates.

- Collaborated with a team to develop and implement advanced algorithms and data pipelines that extract, classify, merge, and deliver insights and business value out of heterogeneous structured and unstructured data sets.
- Wrote spark jobs which involved copying data from different sources into MapR DB, jobs for streaming data in real-time (spark structured streaming).
- Managed and extended monitoring solutions for large-scale environments and used Infrastructure as Code (IAC) languages such as Terraform for automated provisioning and management of infrastructure resources.
- Tested software for bugs and operating speed, fixing bugs and documenting processes to increase efficiency by 21%.

RESEARCH / VOLUNTEER EXPERIENCE

Prairie View A&M University- *Research/Graduate Assistant* OCT 2021- Present

- Working on research for accurately and precisely locating the mobile genetic elements (mobile DNA) in the genome to generate phylogenetic trees. Machine learning classification and clustering are used to make phylogenetic trees.
- Working on research in the civil engineering department - building a machine learning model for predicting soil moisture content in Geotechnical engineering, and building different statistical models on data obtained from different sites in Texas and analyzing them.

Oklahoma State University- *Research Assistant (Summer Volunteer)* MAY 2021- AUG 2021

- Developing a Machine Learning model for early prediction of sepsis using clinical data.
- Improving the efficiency of an already existing Machine Learning model to increase the accuracy of the model from 93% to 97%.

Personal Research in Software/Machine Learning NOV. 2017- SEPT. 2018

- Analyzed stock data (from Yahoo data) and built machine learning models to predict estimated output and profits using regression analysis.
- Published machine learning articles on medium to teach newbies on creating machine learning models from scratch.

Personal Skills Development

- Profound knowledge of analytics, automation, and data visualization
- Extensive knowledge of mathematics, statistics, algorithms, and probability
- Practical familiarity with contemporary machine learning methods like clustering, classification, and regression
- Proficient knowledge in Python, Java, SQL, and Python
- Strong negotiating, persuasion, and communication abilities
- Evidence of self-motivation and independence in the workplace
- Understanding the architecture of embedded systems
- Comprehensive understanding of crucial architectural and implementation trade-offs in system engineering
- Knowledge of defect tracking tools and scrum like Jira.