PATIENCE SIMULI SIMIYU

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SUMMARY

- Multi-domain big data analyst and machine learning engineer with **2+ years' experience** in the Telecommunications, Finance, retail, manufacturing, and GIS sectors.
- A lifelong love and exceptional ability for **research, innovation and analytics** led me to extend my skills beyond RAN Optimization Engineering/Telecommunications Engineering and explore big data analytics and Machine Learning Engineering early on.
- Proficiency in data mining large data sets.
- Extensive data modeling and data analysis experience with exposure to the Hadoop ecosystem, AWS, Huawei, and Private Cloud deployments, Python, and backend SQL.
- Expertise in ETL operations and tools and report creation using PowerBI, Tableau, and DataLink.
- Professional experience installing Hadoop in AWS and extracting data from traditional database to HDFS.
- Passionate in leveraging my technical skills to contribute to community development initiatives, especially those aimed at environmental preservation.

SKILLS & TOOLS

- ❖ Analytics and Visualization: Python libraries, Machine Learning, Deep Learning, GIS Data analysis, Telecommunications Big Data Analysis, Financial data analysis, IBM Cognos, R Studio, R-Programming, Tableau, Advanced Excel VBA, Macro, Microsoft Power BI.
- ❖ Data Management: Kimball-DW/BI Life cycle methodology, Erwin, Microsoft Visio, MySQL, Mongo DB, Oracle 11g, Oracle 12c, and MS Access.
- ❖ Programming and Scripting Languages: Python, Java, SQL, UNIX shell scripting, C.
- ❖ Domain: Telecommunications, GIS, Finance.
- ❖ Operating systems: Ubuntu, Windows, UNIX.
- ❖ Hadoop Tools & Concepts: HDFS, Map Reduce, Cloudera, CDH5 Hadoop Cluster, Hive, Spark, Impala, Hbase, Flume, Kafka.
- ❖ RAN Engineering: Nokia NetAct, Huawei iMaster (PRS, U2020), Genex Cloud, Probe & Assistant, U-Net, Naster, WMG (Wireless Fault Management Analysis by Huawei), Nokia NSP, Nemo Outdoor, TEMS Investigation, and Atoll.

EDUCATION

AWS Certified Cloud Practitioner   **June 2024**
Amazon Web Services

Cisco Certified Networking Associate   **July 2024**
Cisco Systems, Inc.

Bsc. Telecommunication and Information Engineering   **December 2023**
Jomo Kenyatta University of Agriculture and Technology

Kenya Certificate of Secondary Education (KCSE)   **November 2017**
Moi Girls High School Eldoret

EXPERIENCE

Big Data Analyst | RAN Optimization Engineer   **February 2024 - Date**
Huawei Technologies Kenya Limited

- Bridge between the RAN Optimization team and SOC Big data Analysis team.
- Data pipelines design and migrations for telecom billing, financial, and UE Measurement Reports data.
- Gained hands-on experience with the Hadoop ecosystem, managing data distribution, storage, and processing in a Hadoop cluster deployed in the cloud.
- Utilized SparkSQL to query unstructured data, Spark shell for interactive data analysis, MapReduce, and Python to analyze statistical patterns.
- Developed and executed HiveQL queries and managed the Hive Metastore server (log checking and health checks) to oversee and control advanced data processing activities.
- Wrote Python scripts for data warehousing.
- Worked with JSON scripts, MongoDB, and Unix environment to perform non-SQL data clean-up and grouping, and generated analysis reports for insights.
- Built predictive models using machine learning algorithms to perform predictive analytics
- Implemented machine learning algorithms using MLlib and GraphX APIs for graph-parallel computation.
- Customer value GIS-based analysis and management: Using QGIS and ESRI ArcGIS to create customer profiling polygons, including overall value and services present, then upselling new services.
- Assess client business needs, edit GIS feature datasets, update attributes, deliver map products, and produce analyses using ArcGIS 10.2 Geoprocessing tools.
- Utilizing ArcPy module for Python geoprocessing to profile end users and improve RF services.
- Executed streaming and data warehousing projects, working with Apache Flink, Spark, and Hive to support efficient data flow, integration, and reporting.
- Developed streaming applications using Apache Spark, writing APIs in Scala, Python, and Java to process real-time data and deliver scalable data solutions.
- Strong understanding of Kerberos authentication principles and experience working with Kerberos servers to manage secure access to network resources.
- RF KPI dashboard creation, including visualization charts and reports, using Tableau, DataLink, and DataCube.
- Led and coordinated customer interactions while handling customer projects.
- All other RAN Optimization Engineering tasks.

Environment: Hadoop Ecosystem, HDFS, Hive, HBase, Cloudera, SQL, SAP BusinessObjects, Python, Java, Tableau

Electronics and AI Engineer   **October 2023 - January 2024**
Naivas Supermarket Limited (Via the Industry Meets Talent program)

● Collaborated with Naivas Supermarket to conceptualize and develop a smart Machine Learning Powered IoT weighing scale. Used machine learning algorithms to empower the scale with advanced inventory management, auto-replenishment, and sales forecasting functionalities.

Data Scientist | RAN Optimization Engineer   **Jan 2023 – Jan 2024**
Jamii Telecommunications Limited

● Hands-on experience with Cloudera Manager and Administrator for efficient data management, operations, and system optimization.
● Experienced with Kimball DW/BI Data ware house Life cycle.
● Real time data storage and processing with Apache Flume and Kafka.
● Data model creation using Erwin.
● Hive query and Python – based customer feedback and social media sentiment analysis.
● Machine Learning customer data profiling based on UE Measurement reports, location, and value.
● Customer value GIS-based analysis and management: ESRI ArcGIS to create customer profiling polygons, including overall value and services present, then upselling new services
● Designing and optimizing queries, developing data universes, and crafting tailored reports to meet specific requirements. Proficient in filtering, grouping, and transforming data to provide actionable insights
● RF KPI dashboard creation, including visualization charts and reports, using PowerBI and Tableau
● Report creation to present actionable insights using SAP Webi and Crystal Reports
● Involving, writing, configuring and deploying Spark applications on a cluster
● All other RAN Engineering tasks.

PERSONAL ACHIEVEMENTS

● Developed an RF interference mitigation solution including detection, isolation, and mitigation using advanced algorithms, interference coordination, and power control techniques.
● Built an ML-based cybersecurity threat hunting system with behavioral analysis, baseline profile pattern recognition, and correlation and contextualization.
● Designed and executed a robust Deep Learning solution leveraging artificial neural

networks (ANN) and a Decision Tree Classifier to swiftly identify three-phase faults, locate their positions, and classify fault types within the physical power grid. This research and development initiative aimed to solve Kenya's power outage problem. Streamlining fault location and classification will ultimately reduce downtime and improve operational efficiency. The solution is patent pending.

SKILLS

- Machine Learning and Deep Learning
- Radio Network Planning and Optimization
- SparkSQL
- Hadoop
- LAN and WAN hardware/software
- Routing Protocols
- Programming Skills: C++, C, Python, Java
- AWS and Azure Cloud computing
- Data Centre Infrastructure Setup and Maintenance
- Data Science and Artificial Intelligence
- Communication and interpersonal skills
- Analytical and problem-solving skills
- Organizational and time management skills