

# Dela Akpalu

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## Summary

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Data Scientist with expertise in Python, R, SQL, and big data tools (Spark, Hive) to clean, analyze, and interpret large datasets for actionable insights. Skilled in statistical modeling, machine learning, and communicating complex findings to diverse audiences, with a focus on enhancing healthcare and operational outcomes. Proficient in end-to-end analytics life-cycle, from data grooming to model productionalization, with a knack for simplifying processes to improve stakeholder experience.

## Technical Skills

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- **Programming & Data:** Python, R, SQL, Spark, Hive, Databricks, Snowflake, C++, Julia
- **Visualization:** Power BI, Tableau, Matplotlib, Seaborn, Redash
- **Data Tools:** MySQL, REDCap, Salesforce (basic), Splunk (familiarity)
- **Methods:** Statistical Modeling, Machine Learning, Predictive Analytics, Anomaly Detection, A/B Testing
- **Platforms:** Cloud-based infrastructures (AWS, Azure familiarity)

## Key Achievements

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- Developed a 90%-accurate ML model for patient activity prediction, cutting false positives by 18%, improving healthcare decision-making.
- Built a Python/SQL recommender system that reduced query time by 30%, streamlining operations at scale.
- Automated REDCap data pipelines for healthcare research, boosting efficiency and reproducibility.
- Delivered clear, actionable dashboards in Power BI and Tableau for technical and non-technical stakeholders.

## Professional Experience

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### Research Assistant – Wake Forest University

*Summer 2024 – 2025*

- Enhanced data quality in REDCap for healthcare research, applying statistical techniques to ensure reliable, policy-relevant insights.
- Automated data cleaning and validation in Python and R, reducing manual effort and improving reproducibility.
- Conducted exploratory data analysis, identifying trends and anomalies to guide research decisions.
- Presented insights via Power BI visualizations and Python reports, tailoring findings for researchers and administrators.

### Teaching Assistant – Wake Forest University

*2023 – 2025*

- Guided 50+ students in applied statistics, fostering clear communication of data-driven insights to diverse audiences.
- Collaborated with faculty to design engaging lessons, incorporating real-world examples to simplify complex concepts.

## Selected Projects

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### Patient Activity Prediction – Healthcare Analytics

*Aug 2024 – Dec 2024*

- Built and validated ML models (Python, Scikit-learn) to predict patient activity with 90% accuracy, reducing false positives by 20%.
- Partnered with stakeholders to refine model requirements, ensuring actionable healthcare insights.

### Logistics Analytics & Recommender System

*Aug 2024 – Dec 2024*

- Engineered a Python/SQL pipeline with Spark, cutting query time by 30% for operational efficiency.
- Developed real-time Tableau dashboards to support data-driven decision-making across teams.

### Stock Market Nowcasting with Big Data

*Feb 2023 – Apr 2023*

- Designed hybrid VAR and neural network models for time series forecasting, leveraging big data tools (Hive, Python).
- Created reproducible Python pipelines for stakeholder-ready visualizations and reports.

## Education

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### Wake Forest University – M.S. in Statistical Science

*Aug 2023 – May 2025*

- **Relevant Coursework:** Machine Learning, Database Management, Data Mining, Bayesian Statistics

### African Institute for Mathematical Sciences – Structured Masters in Data Science

*2022 – 2023*

- **Relevant Coursework:** Computational Statistics, Big Data Analytics, Optimization

### Kwame Nkrumah University of Science and Technology – B.S. in Statistics

*2016 – 2020*

- **Relevant Coursework:** Statistical Learning, Regression Analysis, Stochastic Processes

## Certifications

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- **Data Science Certificate** – Wake Forest University (2025)
- **Distinguished Teaching Assistant Award** – Wake Forest University (2025)