

INVESTIGATING JAMB PERFORMANCE: CAUSES & FUTURE TRENDS(2020-2030)

Data-driven insights and actionable recommendations for improving JAMB outcomes in Nigeria.

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CRITICAL CHALLENGE IN JAMB PERFORMANCE

Exploring increased failure rates and goals for data-driven research solutions



RISING JAMB UTME FAILURE RATES (2020-2025)

Significant increase in failure rates is adversely affecting access to tertiary education and national growth.



RESEARCH AIMS TO IDENTIFY ROOT CAUSES

The project seeks to uncover the underlying reasons behind the declining JAMB performance through data analysis.



FORECASTING FUTURE PERFORMANCE TRENDS

Research will project JAMB performance trends for 2026 to 2030 to better inform policy and interventions.



PROPOSE ACTIONABLE RECOMMENDATIONS

Based on findings, the study will suggest practical measures to improve performance and educational outcomes.

1

DATA SOURCE

Survey of 450 recent JAMB candidates (2020-2025) focusing on their demographics, study habits, and JAMB scores.

2

DATA CLEANING & PREPROCESSING

Ensuring processed data is reliable and ready for analysis to facilitate accurate results.

3

EXPLORATORY DATA ANALYSIS (EDA)

Identifying patterns and correlations within the dataset to inform future analyses and interpretations.

4

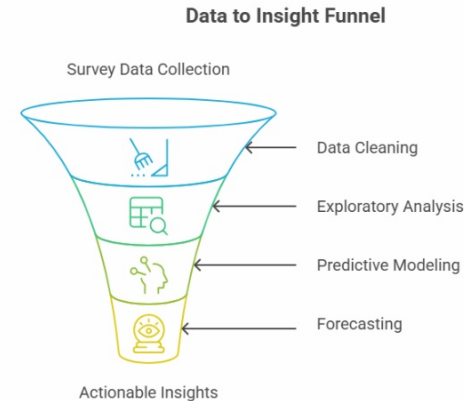
PREDICTIVE MODELING (ML)

Utilizing machine learning techniques to construct models that predict future success tiers among candidates.

5

FORECASTING

Projecting future performance trends based on insights gained from the data analysis process.



CURRENT PERFORMANCE: TIERS OF SUCCESS

Insights on JAMB Performance Metrics

FAILING RATES

19.33% failing rate, directly highlighting the project's core concern

LIMITED OPTIONS

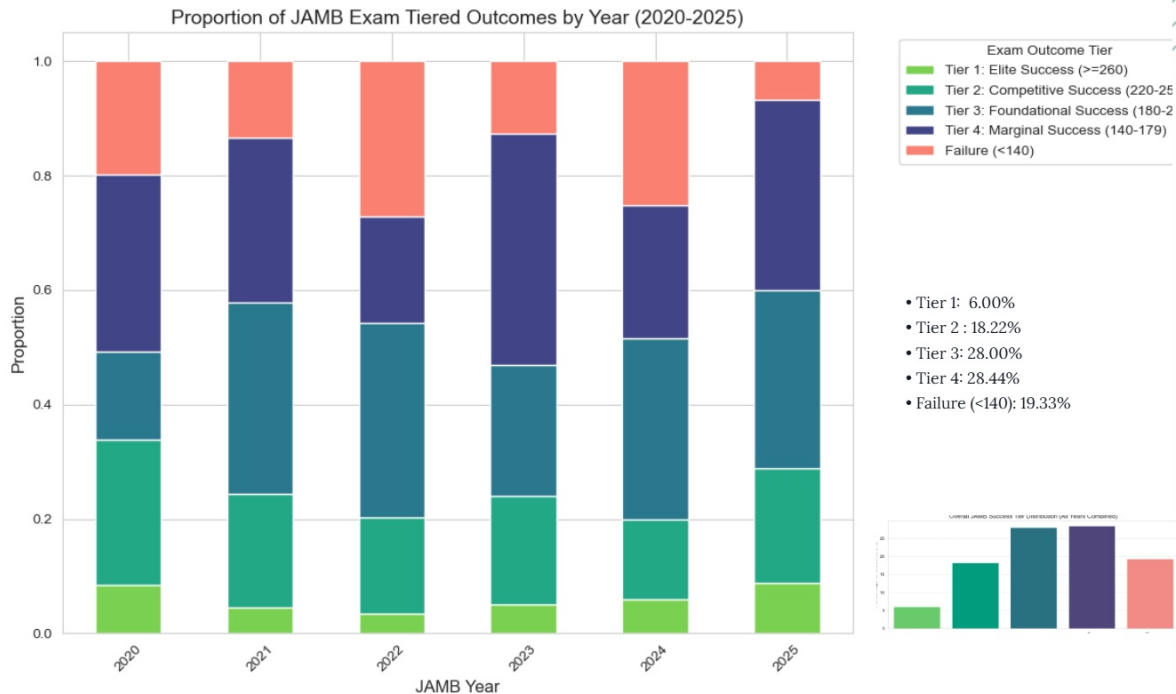
Over 56% of students fall into the Foundational and Marginal categories

2023 TREND

High concentration in Marginal Success (40.51%),

2 PEAK YEARS

Notable failure peaks in 2022 and 2024.



PREDICTING FUTURE TRENDS

Key Insights from Our
Predictive Model

jamb_year	Failure	Success
2020	62%	38%
2021	62%	38%
2022	56%	44%
2023	63%	37%
2024	64%	36%
2025	56%	44%
2026	58%	42%
2027	58%	42%
2028	57%	43%
2029	57%	43%
2030	56%	44%

MODEL PREDICTS FUTURE CHALLENGES

Our model indicates ongoing challenges without significant intervention to change outcomes.

PREDICTIVE ACCURACY ACHIEVED

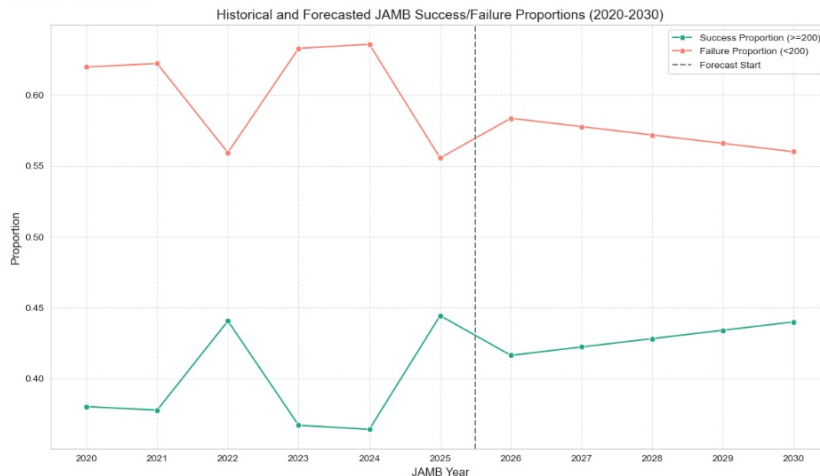
The Random Forest Classifier achieved approximately 52.22% accuracy in predicting success tiers.

LINEAR REGRESSION USED

Forecasting employed a Linear Regression model based on historical success and failure proportions.




CONTINUATION OF TRENDS

Forecasts from 2026 to 2030 suggest a continuity in success and failure rates, stressing urgent action.



DRIVING IMPROVEMENT: DATA-BACKED SOLUTIONS

Concrete recommendations for enhancing JAMB outcomes

Characteristic	Students	Educators & Schools	Policymakers/ Government
 Study Habits	Structured study implementation	Promote study groups	Fund intervention programs
 Resource Usage	Use past questions	Integrate JAMB prep early	Standardize resource provision
 Tech Skills	Enhance CBT familiarity	Invest in teacher development	Prioritize rural infrastructure

SHAPING THE FUTURE OF NIGERIAN EDUCATION

Collaborative, Data-Guided Actions for Sustainable Educational Progress



COLLABORATIVE ACTION IS ESSENTIAL

Unified efforts among all stakeholders are vital to build a brighter educational future in Nigeria.



TARGETED INTERVENTIONS NEEDED

Focus on improving study habits, resource access, and addressing regional disparities to enhance outcomes.



URGENCY OF DATA-DRIVEN ACTIONS

Immediate interventions backed by concrete data are critical to reversing negative educational trends.



CALL TO ACTION FOR STAKEHOLDERS

Encourage all parties to collaborate effectively for the implementation of recommended measures.

IMPLEMENT RECOMMENDATIONS EFFECTIVELY

Engage in collaborative efforts to implement the recommendations outlined and ensure a proactive approach to improving JAMB outcomes for future candidates.

