



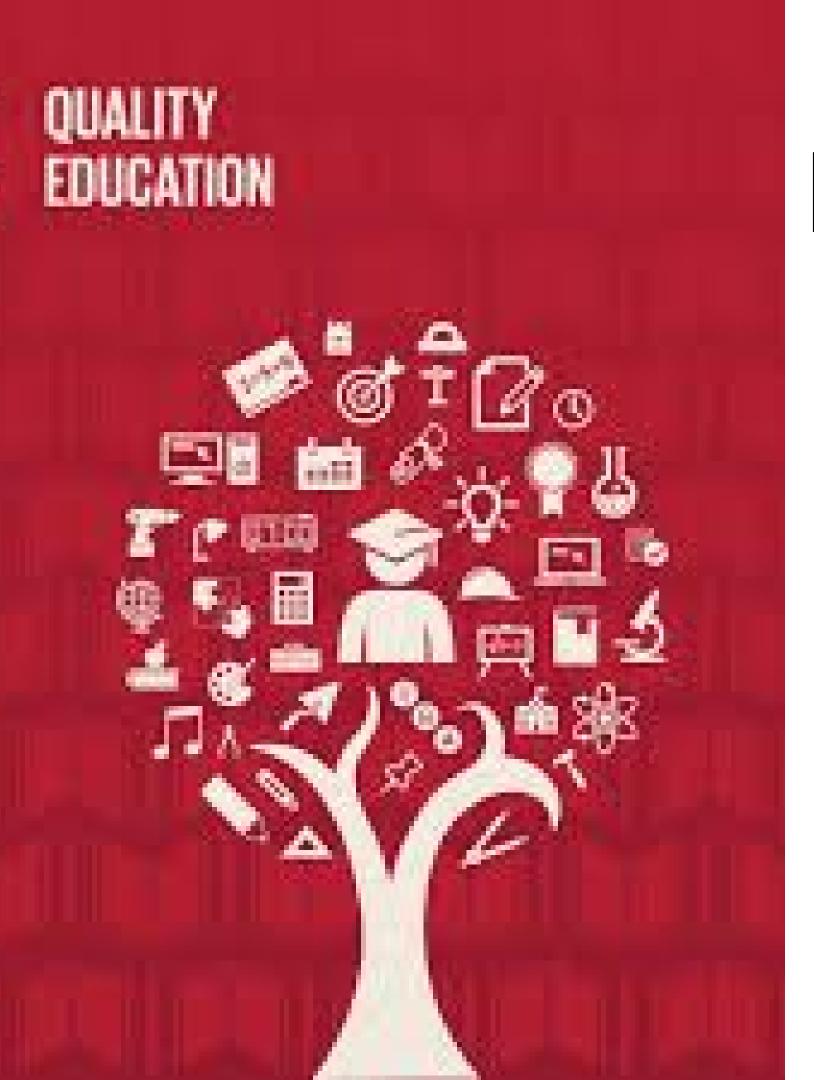
A Global Education Classification Model

Understanding SDG 4

- Sustainable Development Goal 4: Ensures inclusive and equitable quality education for all by 2030.
- Focus: Foundational skills (reading, math), access to education, and equity across gender and regions.
- Challenge: Many countries are not on track to meet SDG 4 targets.

Why It's Important

- Identify struggling countries to prioritize funding and interventions.
- Support data-driven decisions for global education
 organizations.



How I Tackled It

- Used machine learning to analyze UN
 SDG Global Database (Goal 4 indicators).
- Key Features: Proficiency in reading/math, education level, gender, country.
- Models Tested:
 - Logistic Regression (simple baseline).
 - Decision Tree and Random Forest (advanced predictions).
- Goal: Classify countries as "on track" or "off track" for SDG 4.



1.Best Performing Model

Random Forest model performed best (high recall for identifying "off track" countries).

Key Findings



2. Top Predictors

- Type of skill (math vs. reading).
- Education level (primary vs. secondary).
- Country/region.



3. Insight

No country consistently met the 75% proficiency threshold.

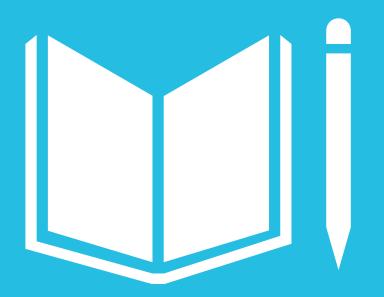
By Deborah Muthoni Omondi

Challenges To Address

Data Gaps	Sparse or outdated data for some countries.
Simplification	Binary "on track" vs. "off track" may oversimplify progress.
Opportunity	Improved data collection can

enhance predictions.

Recommendtions



- Invest in primary education to boost math and reading skills.
- Target interventions in regions with low proficiency (identified by model).
- Enhance data collection for more accurate, real-time monitoring.
- Deploy model as an early warning system for SDG 4 progress.

Ol Refine model with updated data.

Next Steps

Partner with

O2 stakeholders to

implement

recommendations.

O3 Monitor progress toward 2030 goals.

Thank You

We thank you for your continued support in our efforts to contribute to the SDGs.

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