Tanzanian Water Wells

Brought to you by:

The 3 Tanzanian Angels

Overview

- Data Understanding:
  - 75K documented water wells
- Question:
  - Status of water well
- Task:
  - Create a predictive model

Problem at Hand

Background

Around 53% of the population in Tanzania doesn't have basic access to soap and water.

Info from: lifewater.org

Active Problem

Many water wells are non-functional, failing to provide water to locals.

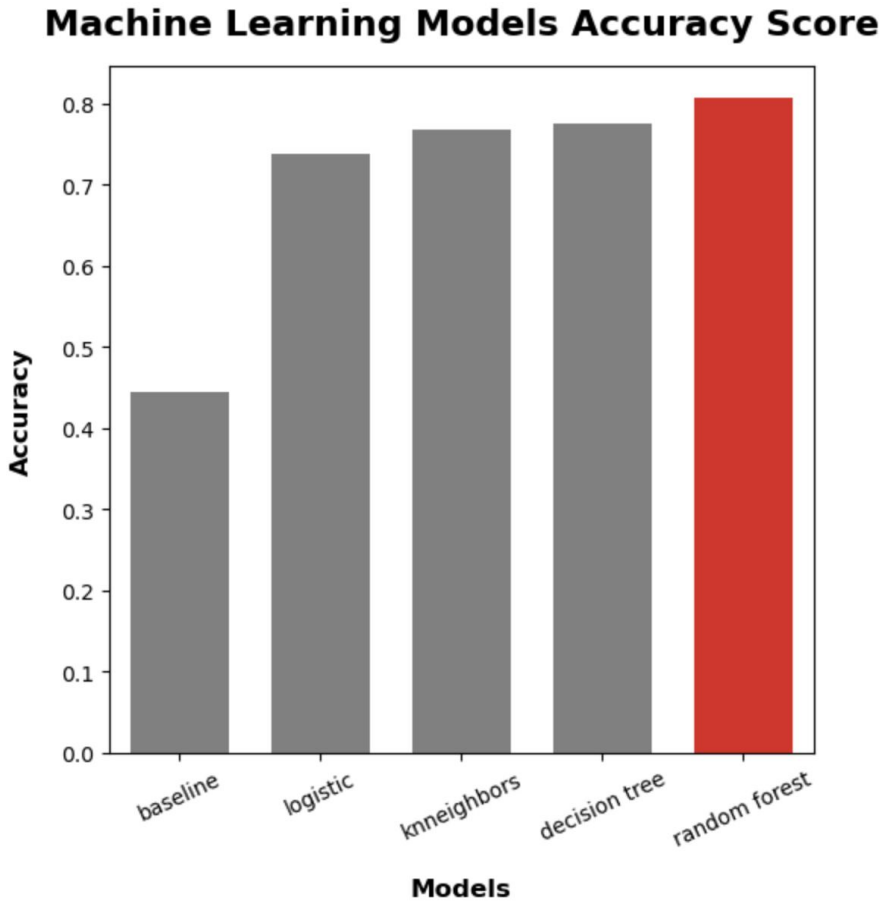
Our Solution

Predicting the status of wells across Tanzania

Use this information to flag failing wells to help repair wells improving quality of lives.

Our Approach with models

1. Baseline Model
2. Logistic Regression
3. k Nearest Neighbor
4. Decision Tree
5. **Random Forest ~81 %**



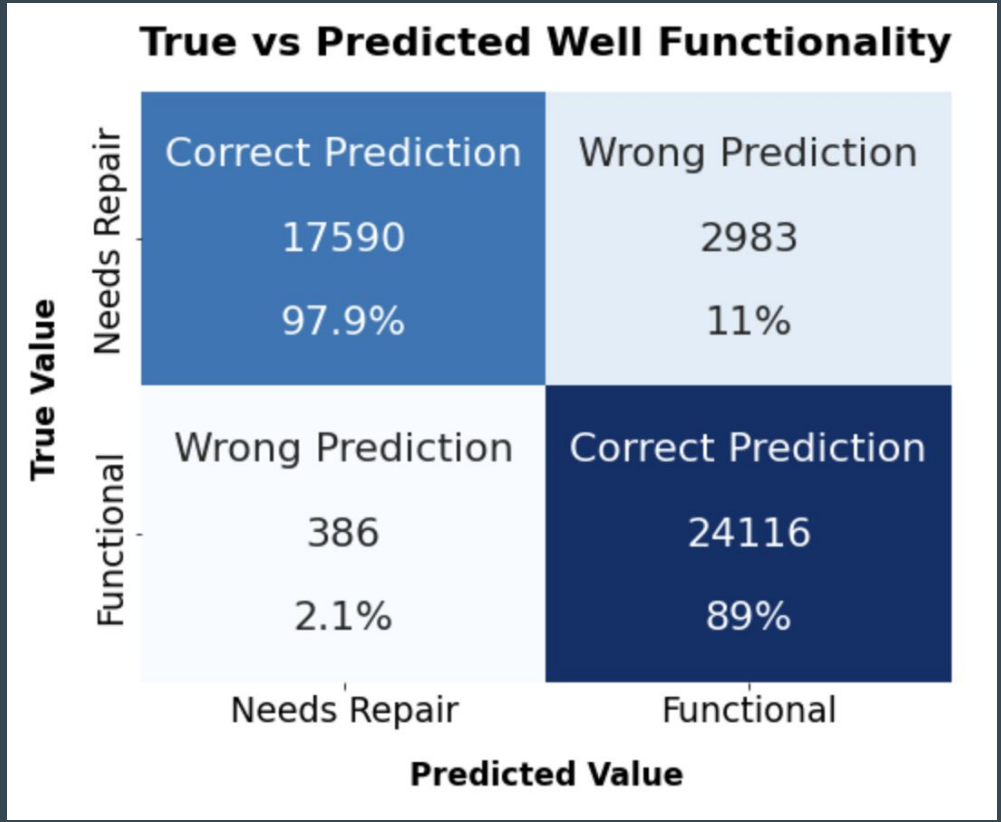
Final Model - Random Forest

Worse Case Scenario:

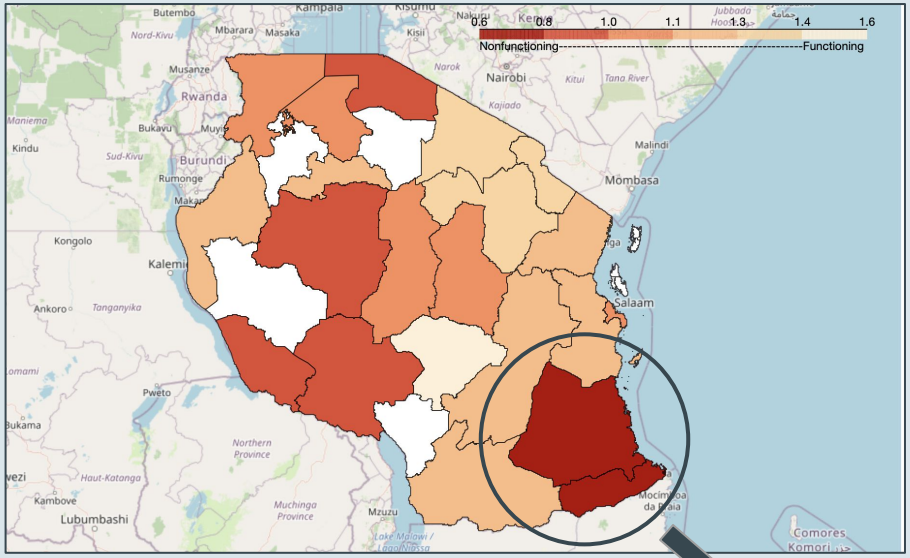
- High False Positive Rate

Our Model:

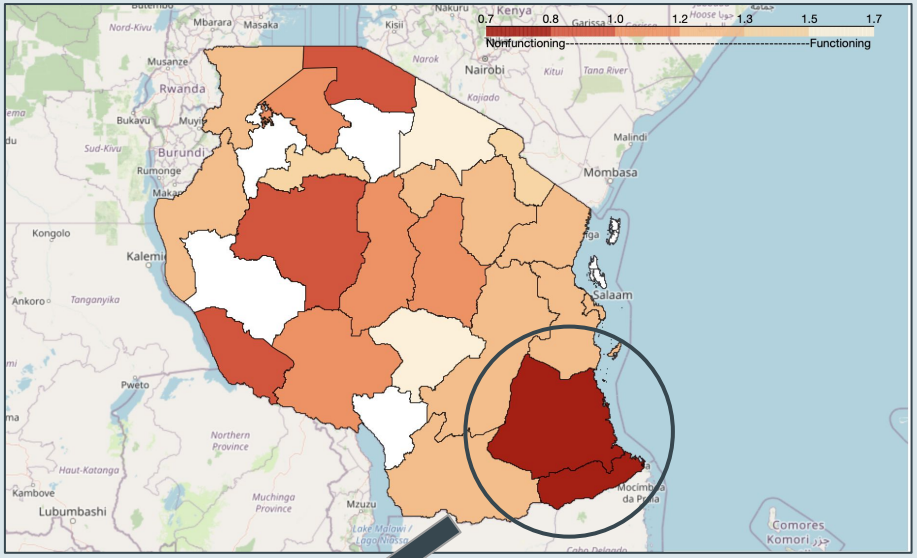
- False Positive Rate: 11 %
  - 89 % Correct



Distribution of Actual Wells



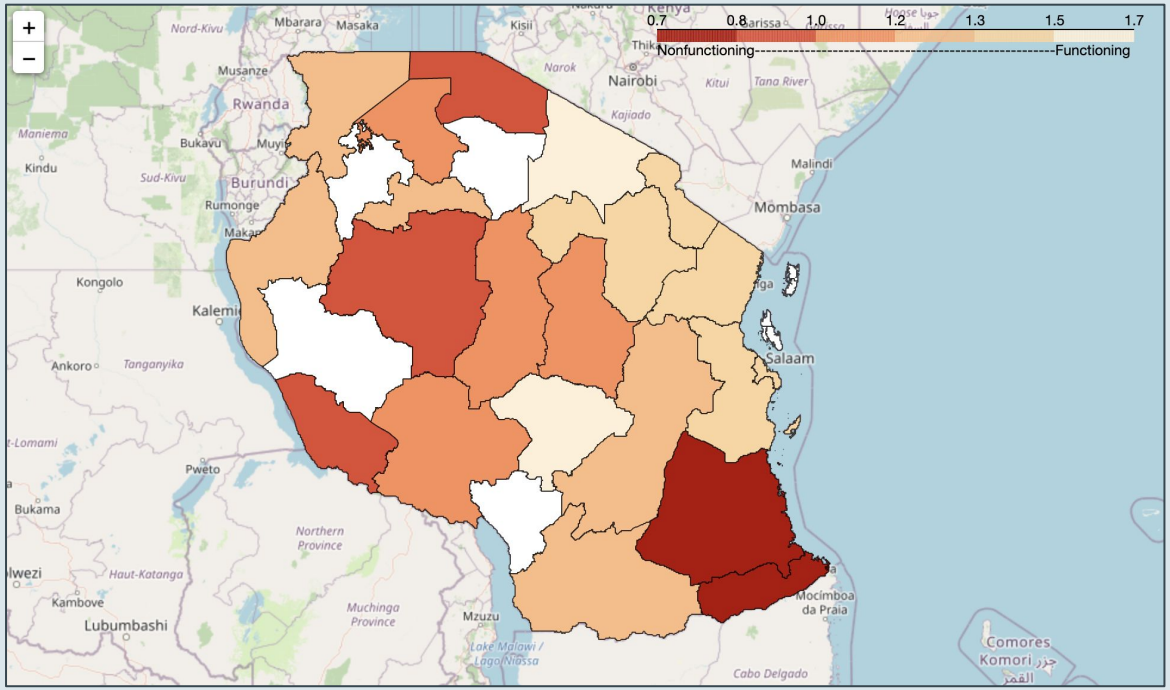
Distribution of Predicted Wells



- Lindi(top)
- Mtwara(bottom)

Next Steps

- Target regions with non-functional wells
  - Mtwara
  - Lindi
- Re-evaluate semi-annually
- Shift efforts accordingly



Questions?

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