

WATER WELL CLASSIFICATION: A MACHINE LEARNING MODEL

Business Understanding

01

The Problem

"Only 61% of households in Tanzania currently have access to a basic water-supply,"

02

Stakeholders

- The government of Tanzania
- UN: Water Aid ORG
- Local non-profit groups

03

The Project

Build a model that best predicts the functionality of a water well using the given data.

04

The Goal

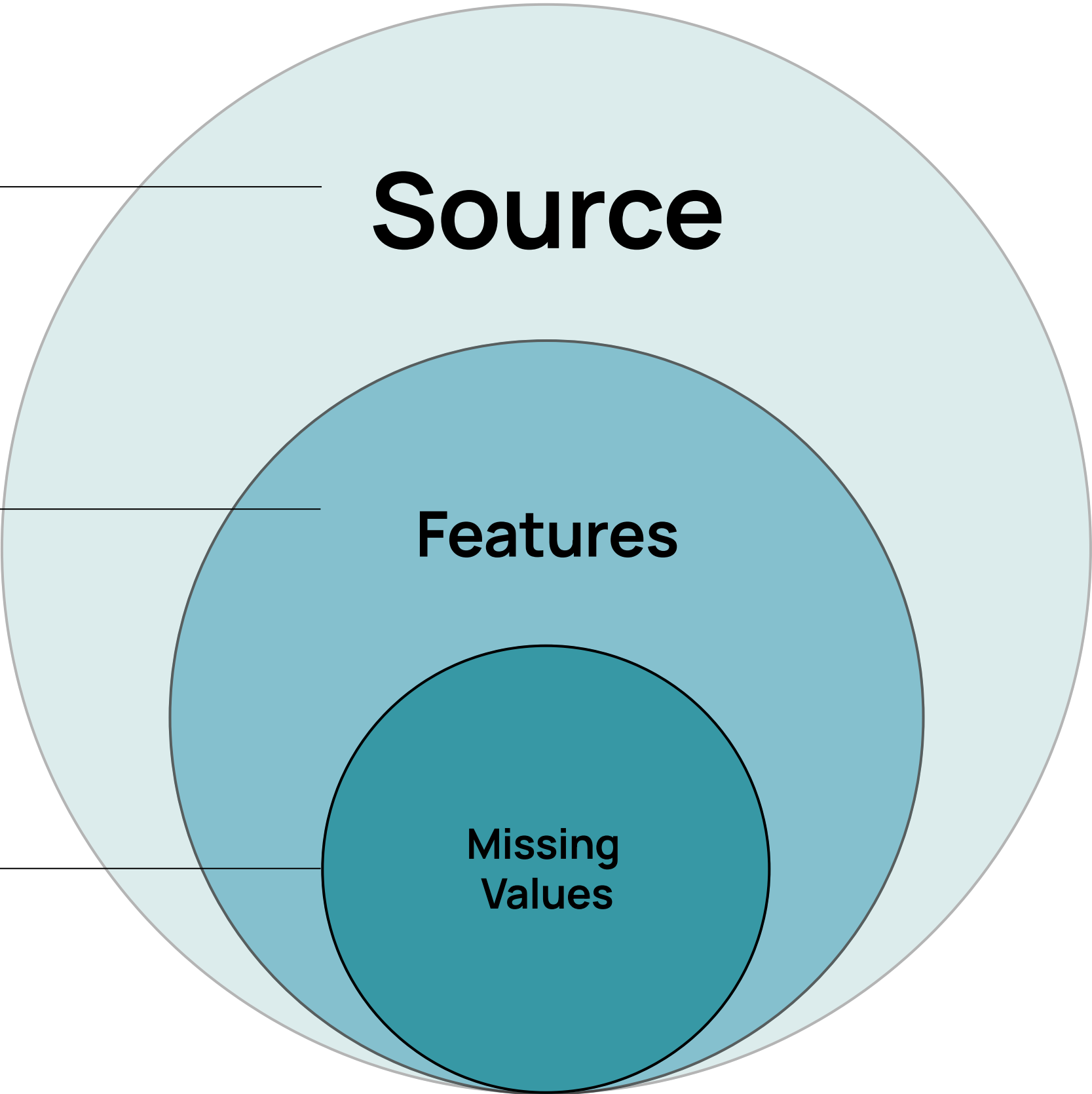
To minimize false negatives so we can promptly deploy our teams to fix them.

THE DATA

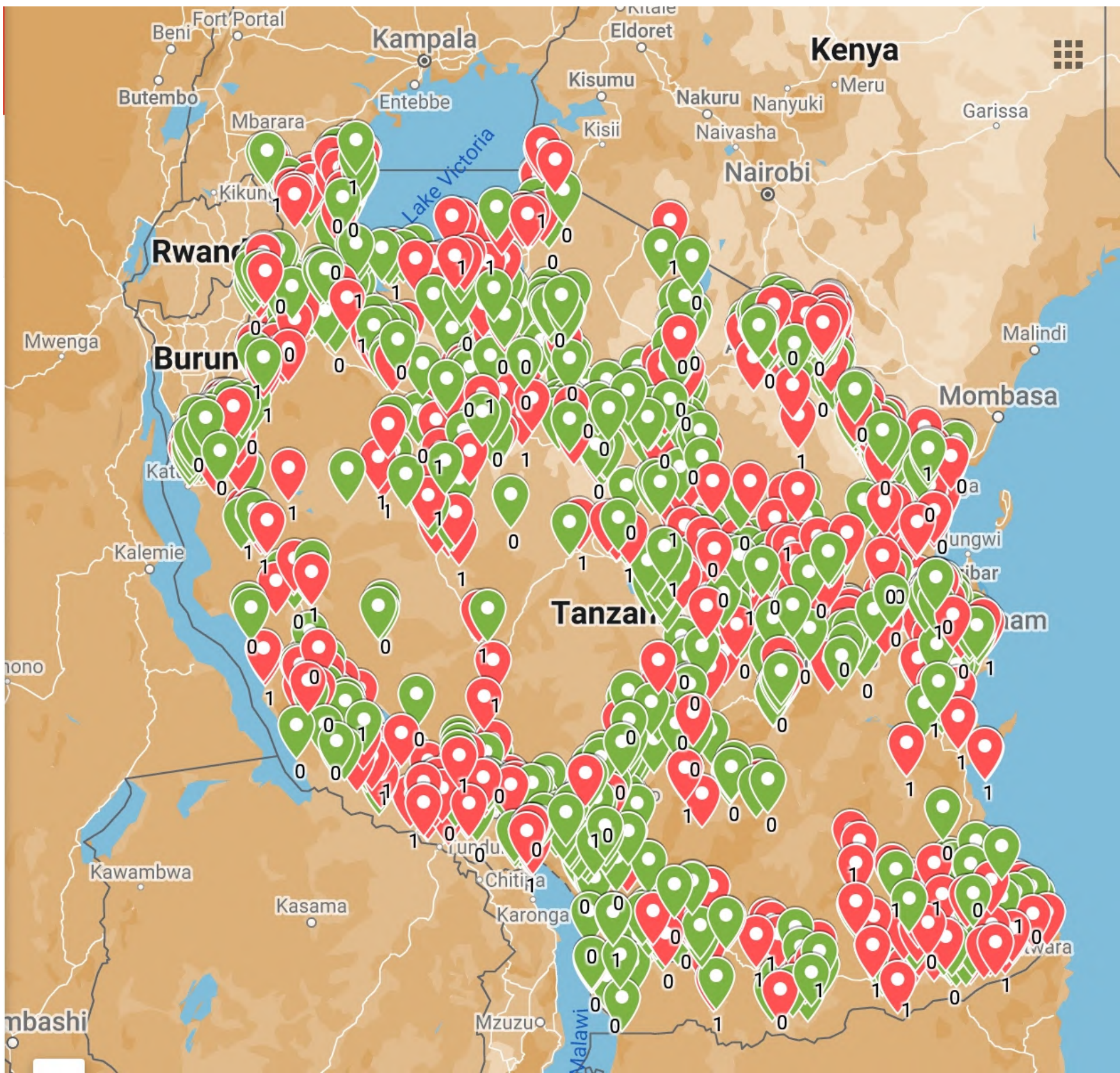
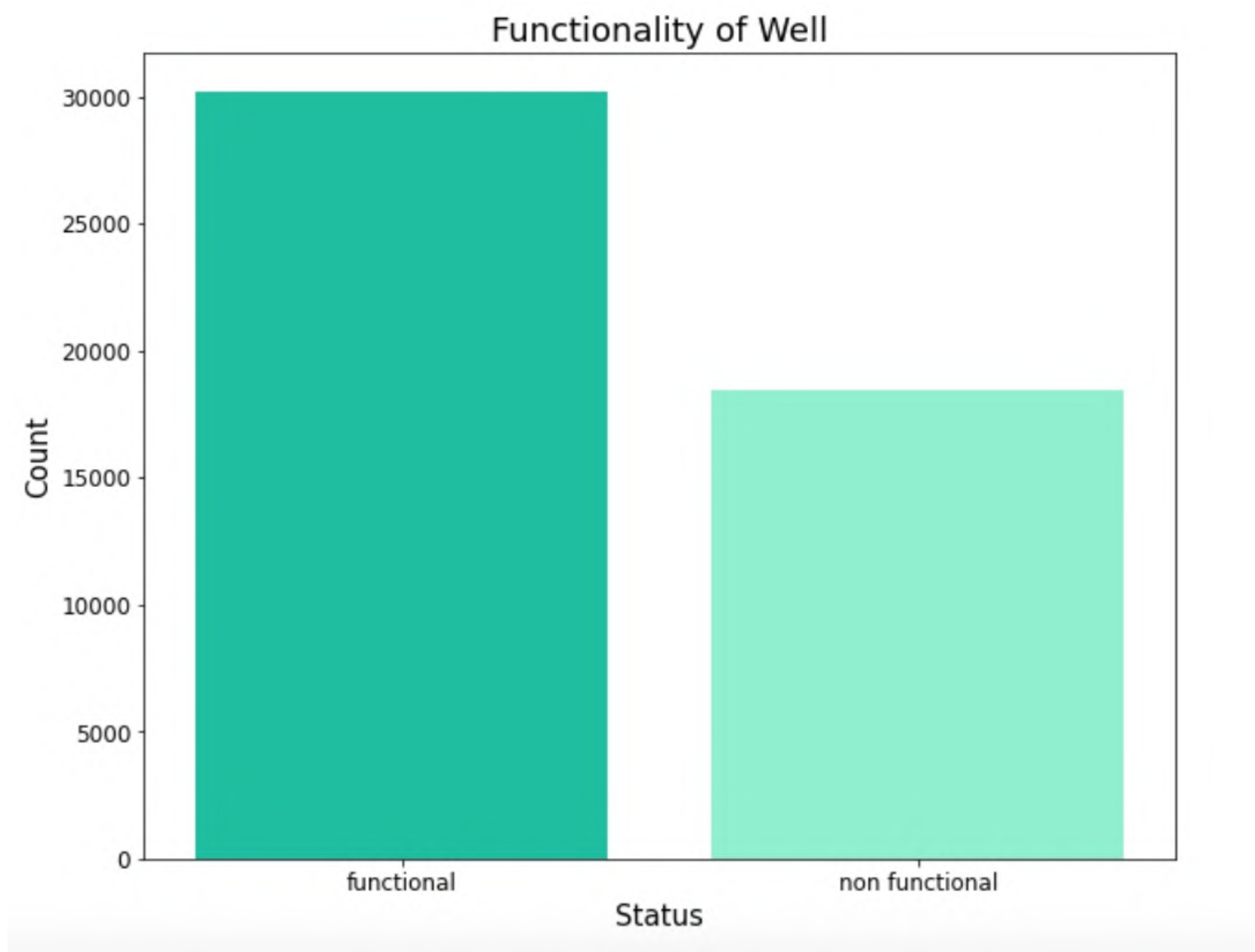
TANZANIA MINISTRY OF WATER

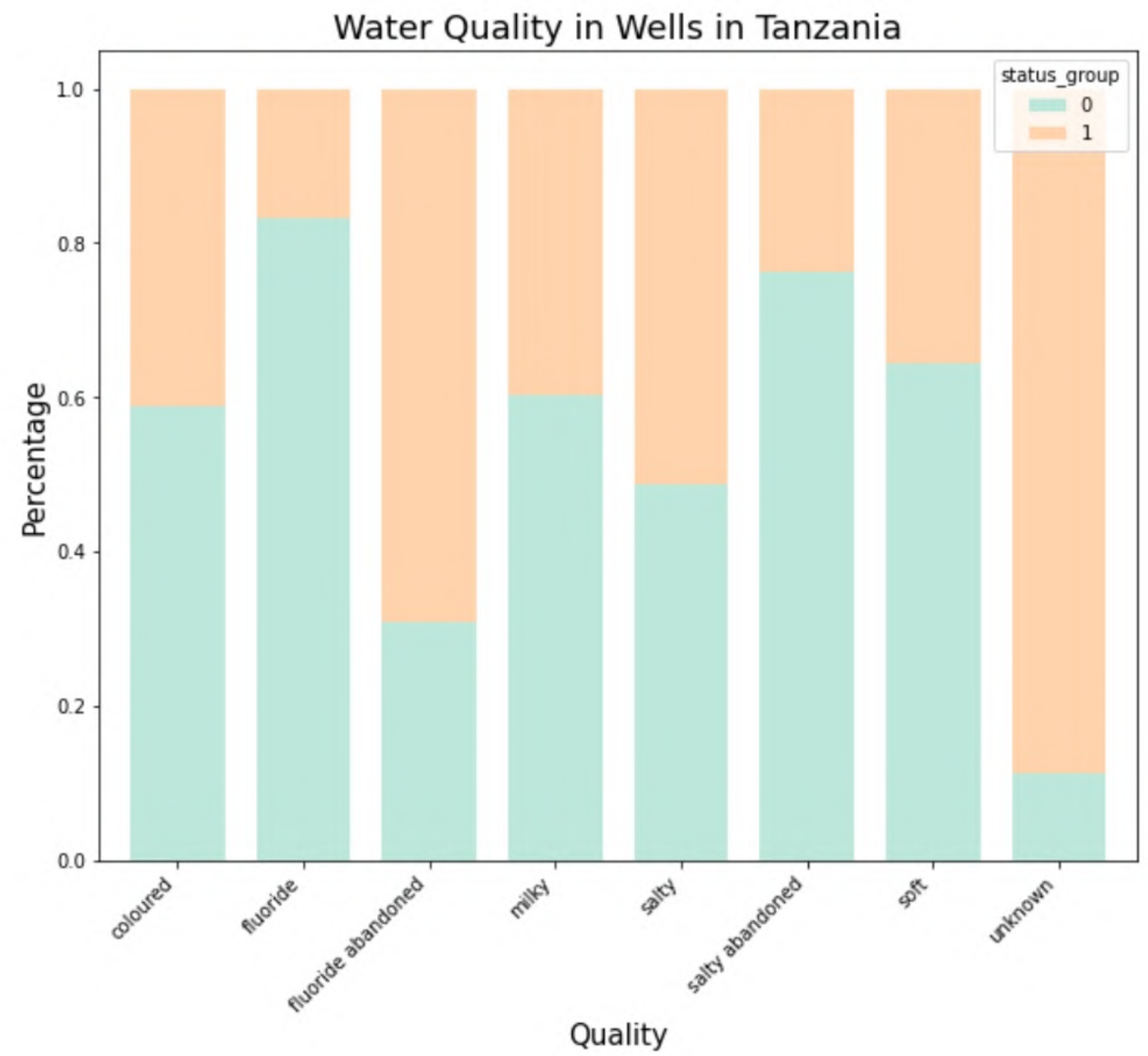
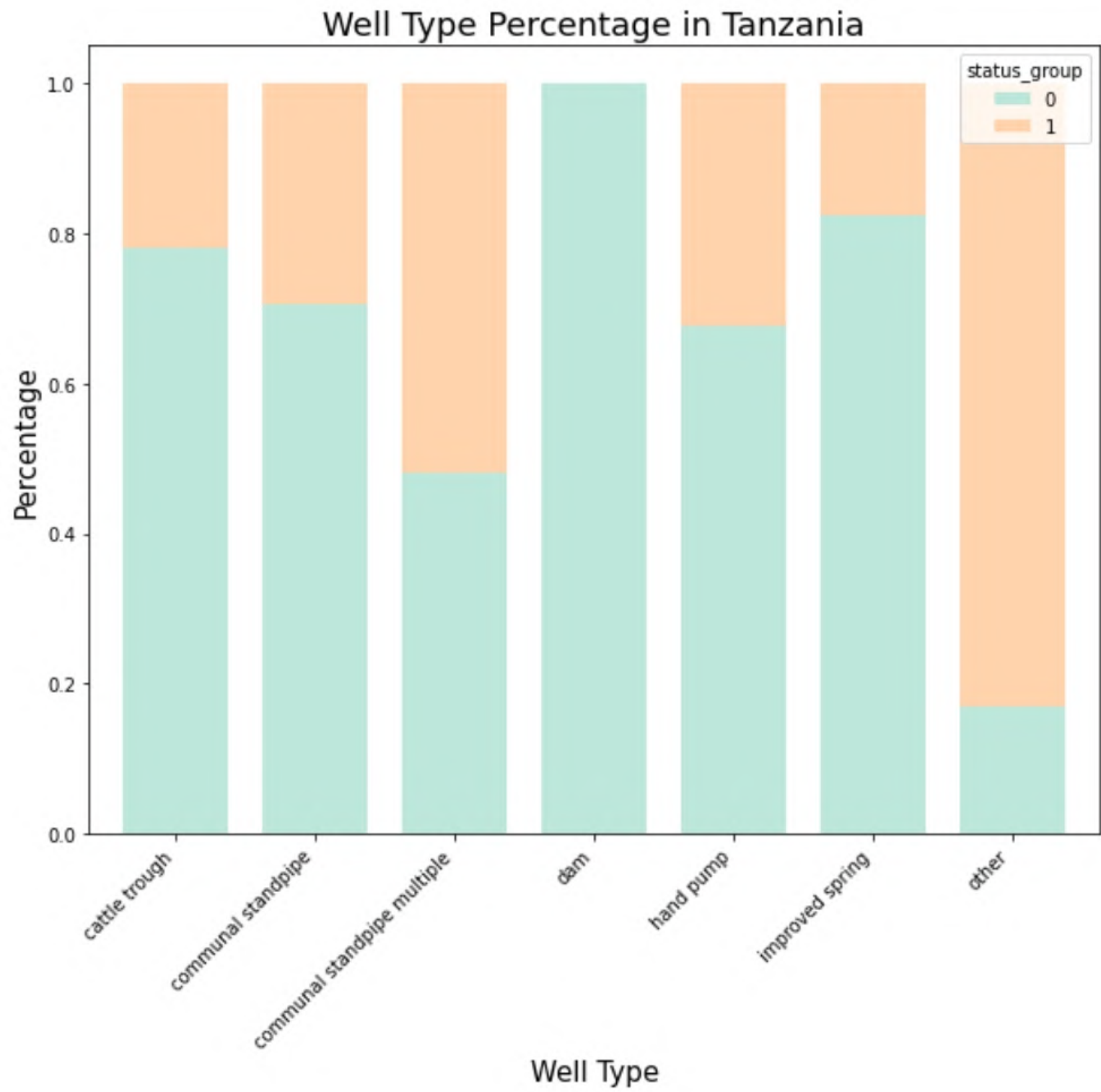
- installer
- basin
- region
- population,
- construction Year,
- extraction type
- water quality
- quantity
- waterpoint type
- **status group**

- Funder
- Scheme management
- installer



DATA PROCESSING





Best Model

Precision:

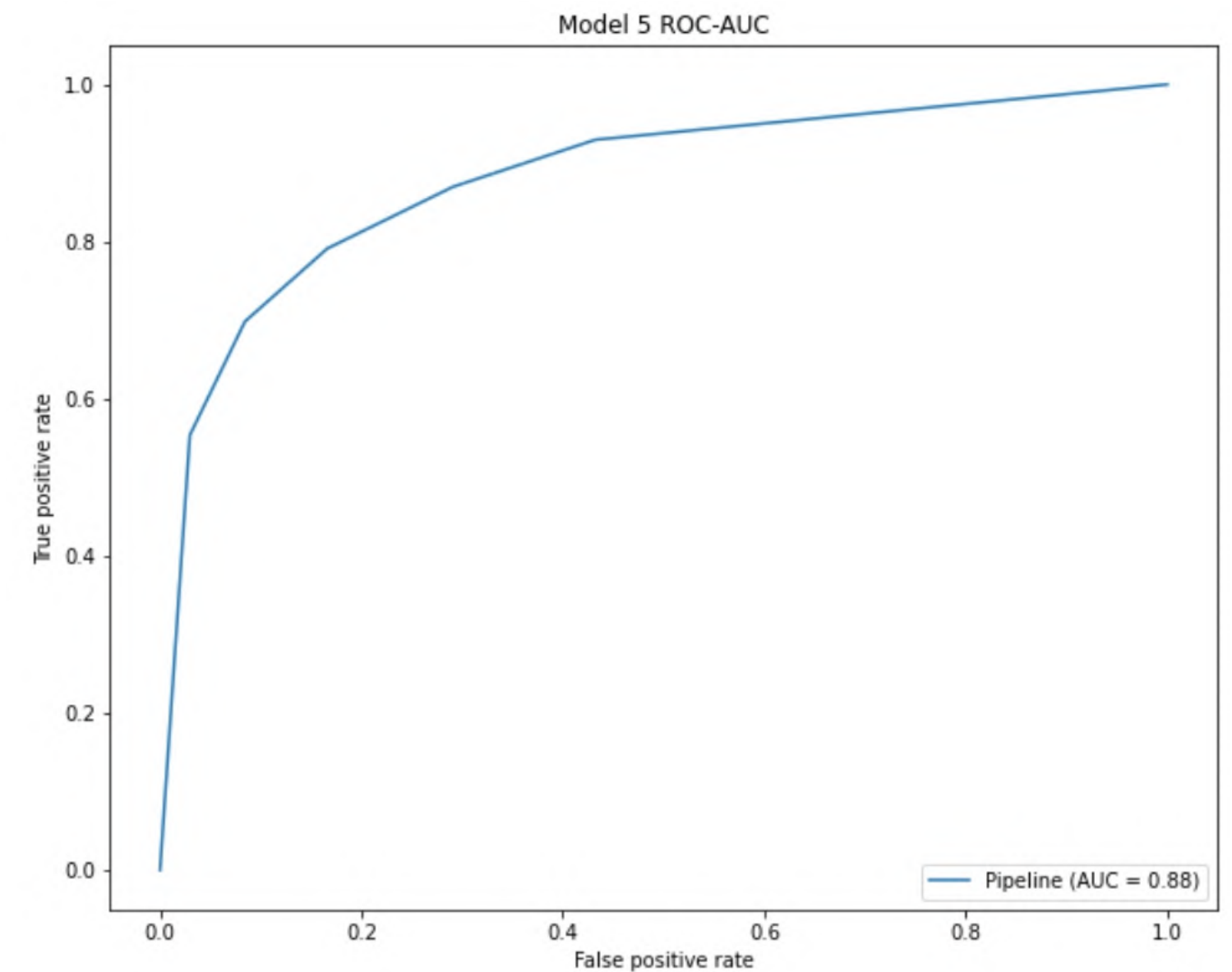
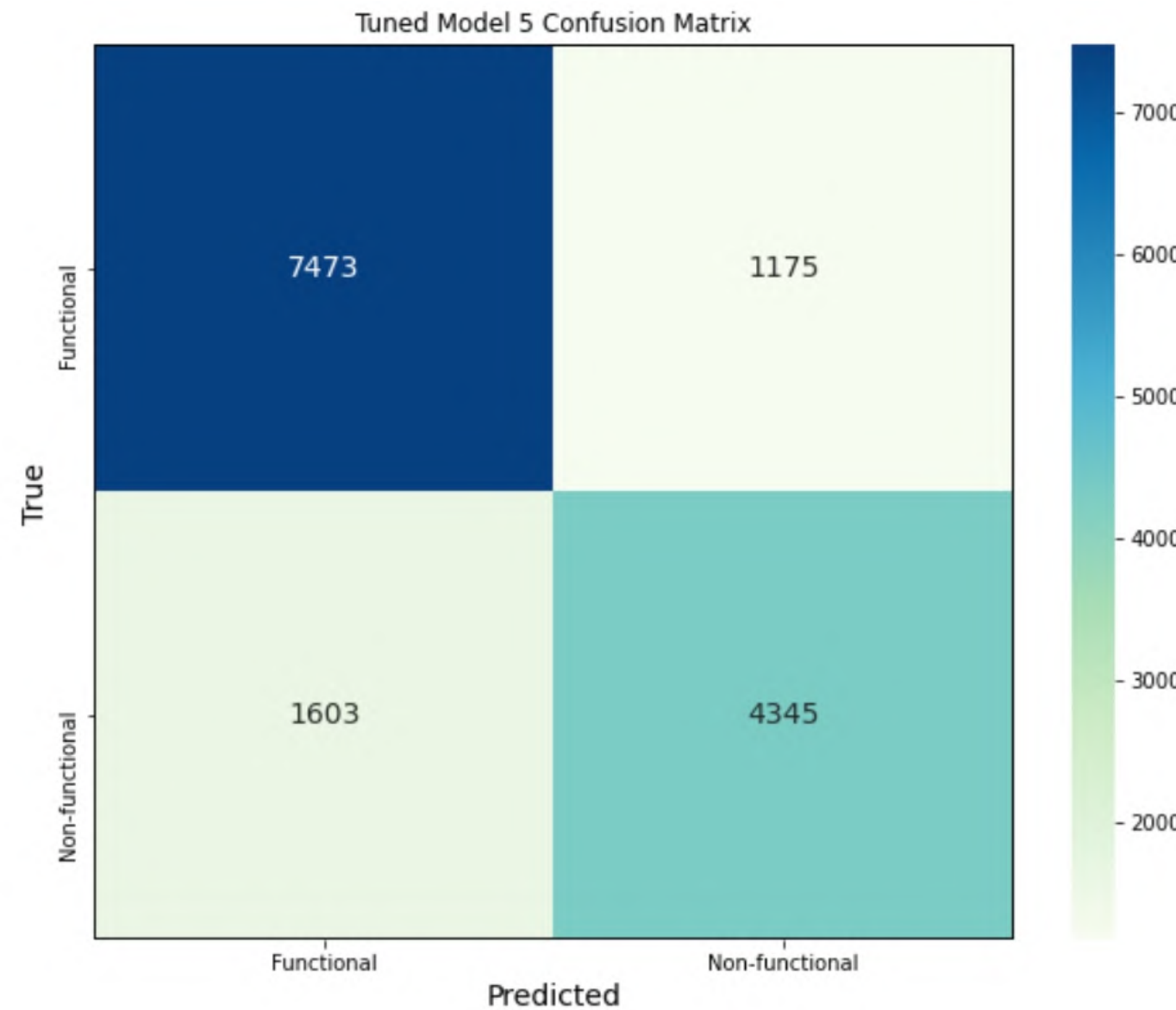
→ 0.72%

recall:

→ 0.77%

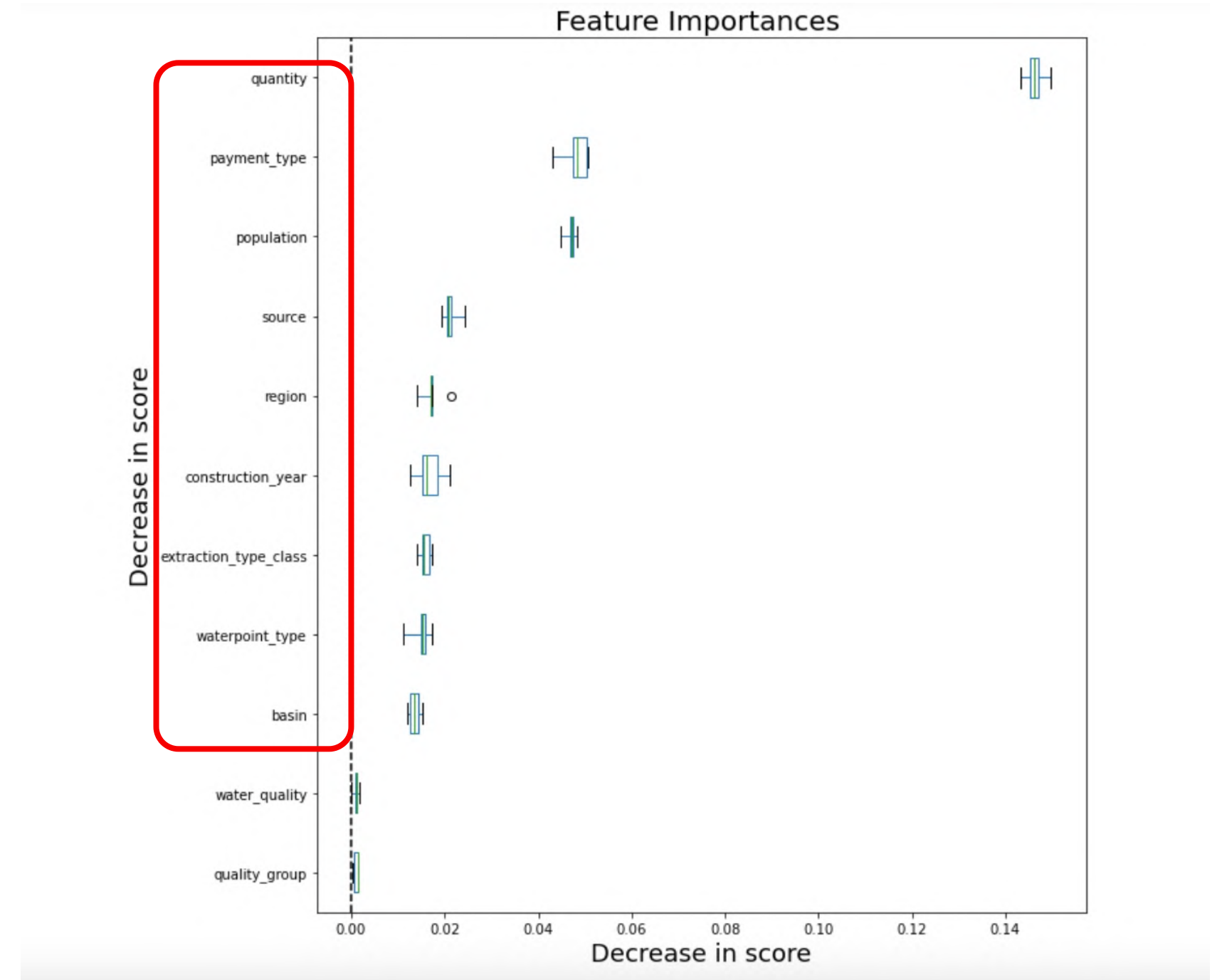
f1:

→ 0.74%



Best Features

- Quantity
- payment type
- population
- source
- region
- construction year
- extraction
- waterpoint type
- basin



Next Steps

Features to Focus on:

- Quality of water wells vs Functionality

Limitations:

- Building a model with smaller dimensionality = more accurate model

Applications:

- predicting well functionality in other countries
- include more quantitative data



Questions?

THANK
YOU