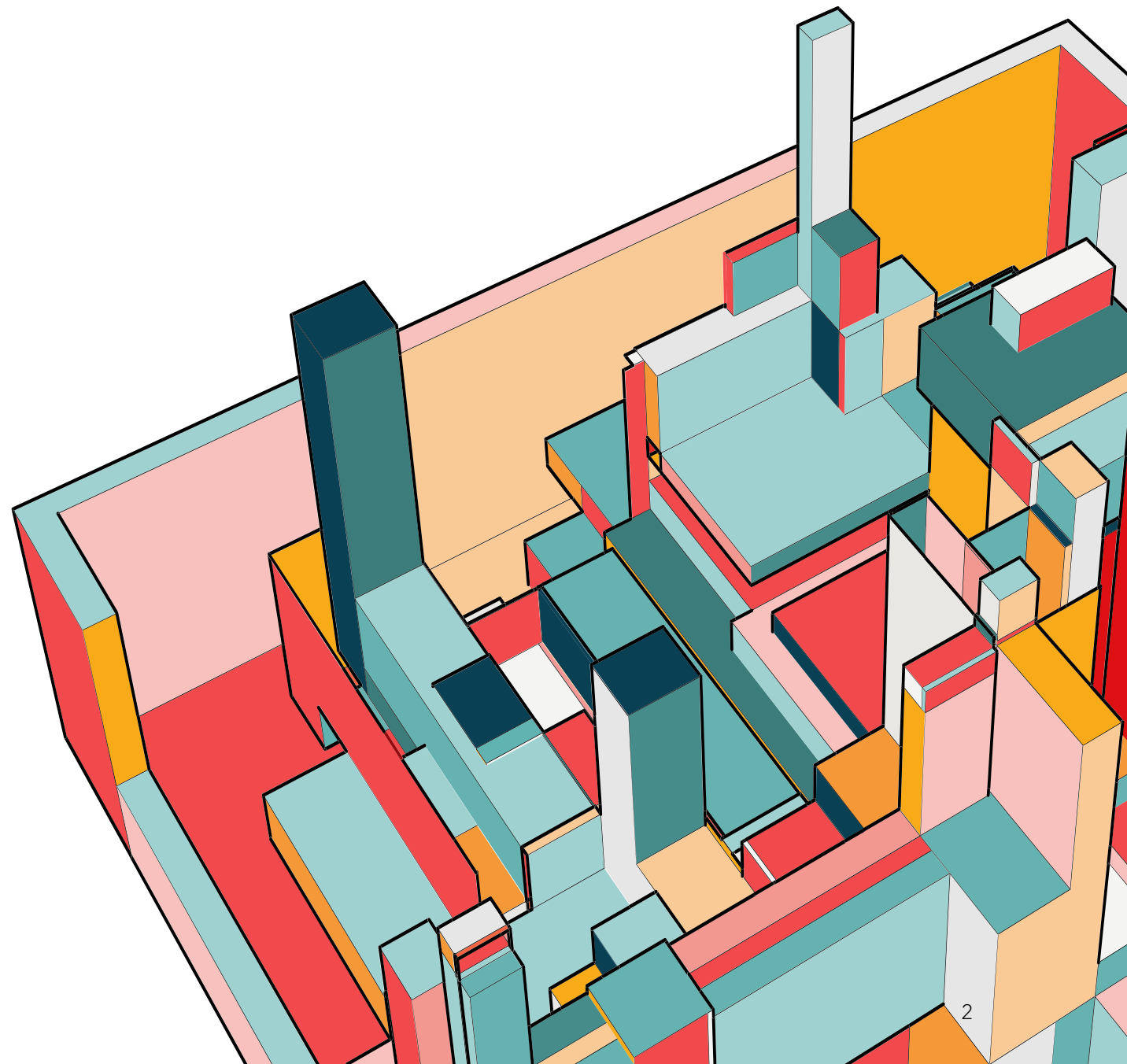# BUILDING ENERGY CONSUMPTION PREDICTOR (BECP)

SPRINT 2

Jose Correa

OBJECTIVE

Present more advanced preprocessing, EDA and baseline model creation for BECP.

AGENDA

Project overview

Dataset description

Preprocessing summary

Findings from EDA

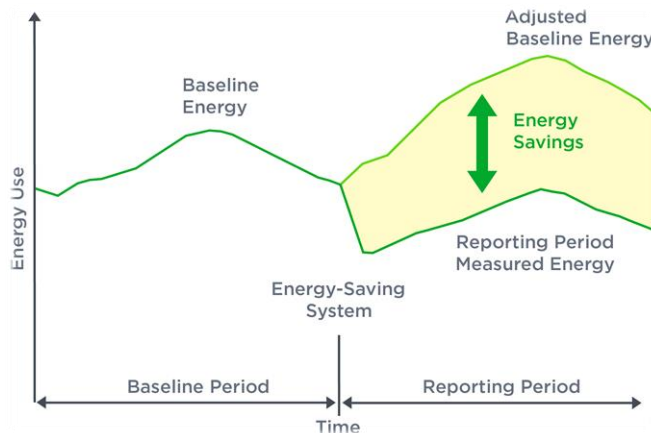Baseline models and evaluation metrics

Next steps

OVERVIEW

PROBLEM STATEMENT

Inaccuracy when assessing how effectively building renovations impact energy consumption.

PROPOSED SOLUTION

Promote efficient building renovations through the implementing of the BECP ML model. This model predicts energy consumption by considering building features and weather conditions.

POTENTIAL IMPACT

MARKETABILITY
9 out of 10 buyers prefer energy-efficient homes

ENERGY EFFICIENCY
Higher-efficiency equipment can reduce energy use by 50%
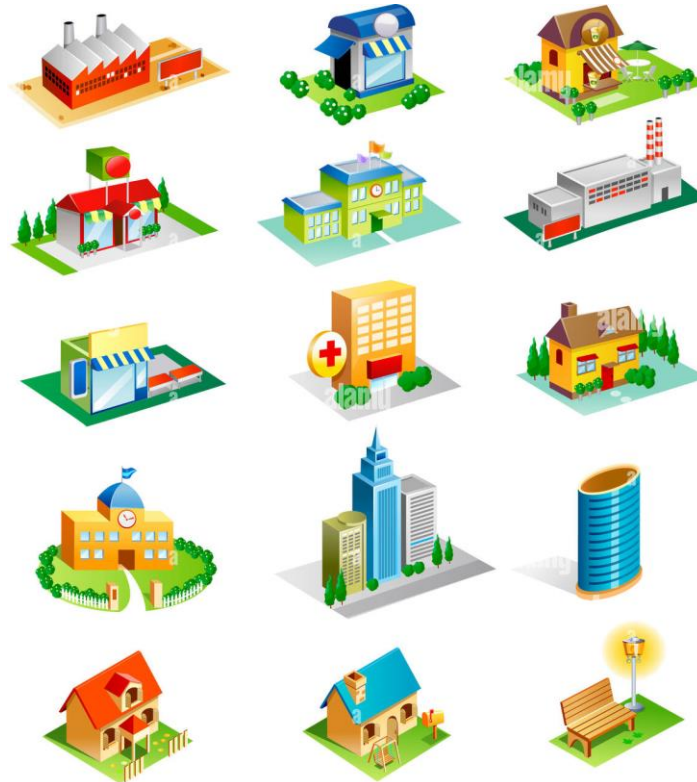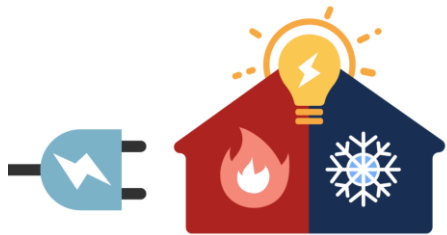
CLIMATE CHANGE
Buildings account for 30% of global energy consumption and 26% of global energy-related emissions

BECP DATASET

3 x
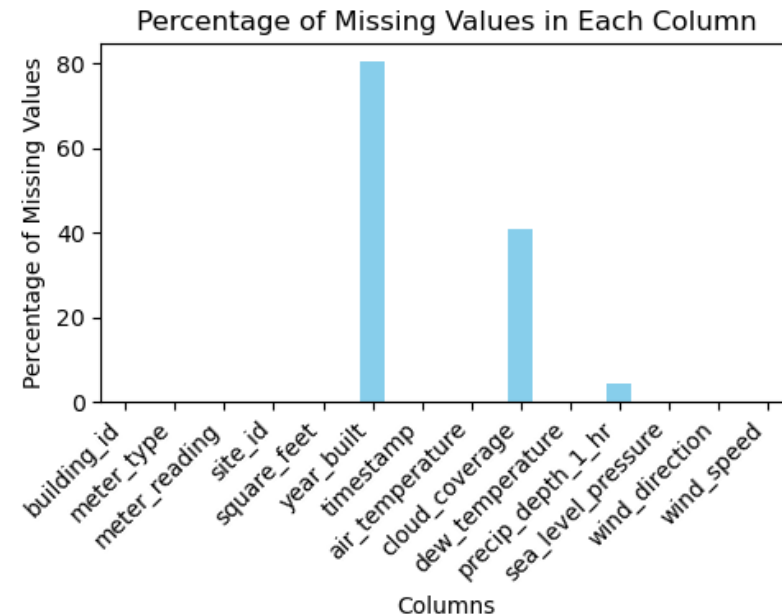
20M rows

400k rows

PREPROCESSING

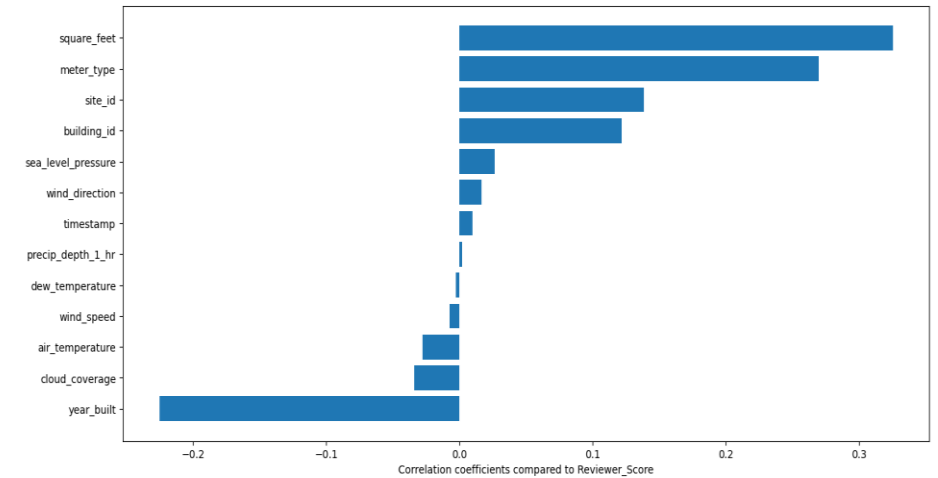## COLUMN CLEANING

primary_use
floor_count
meter_timestamp

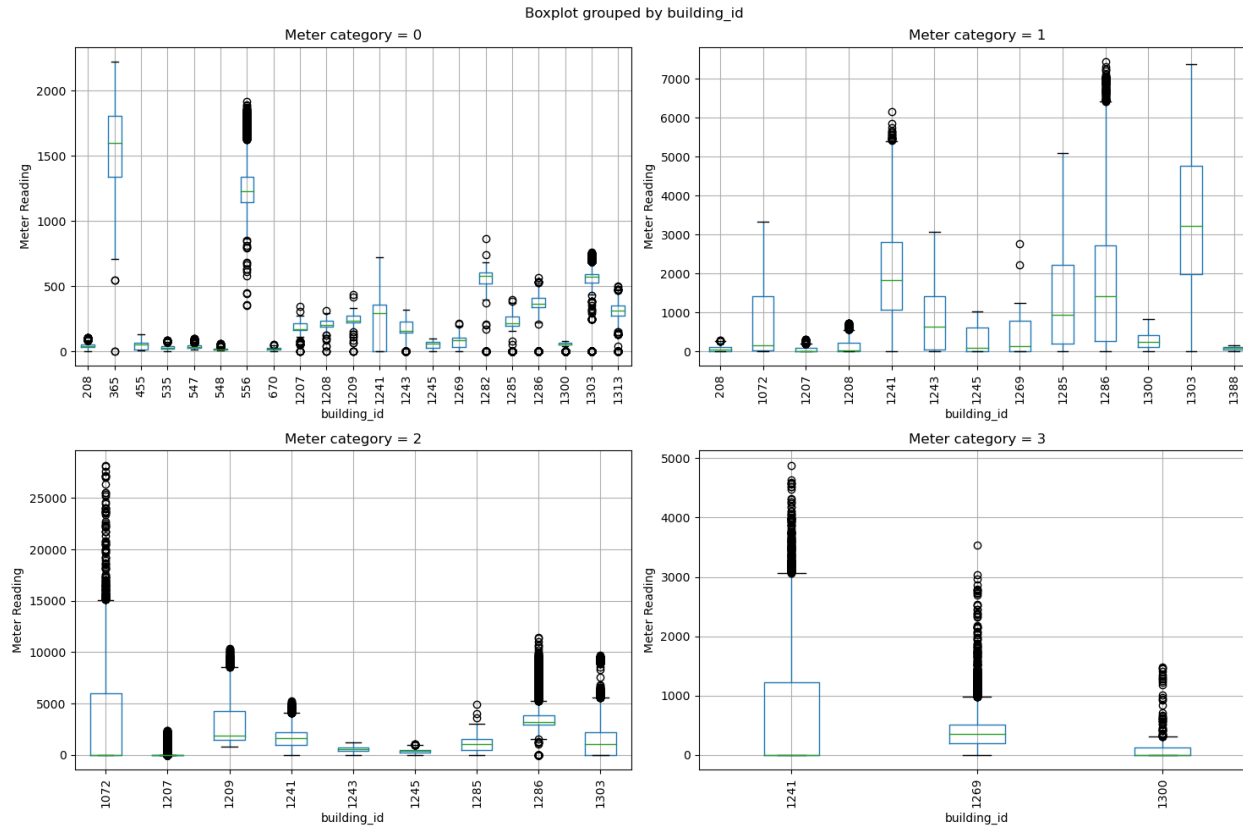## DUPLICATE VALUES

0.002% duplicate
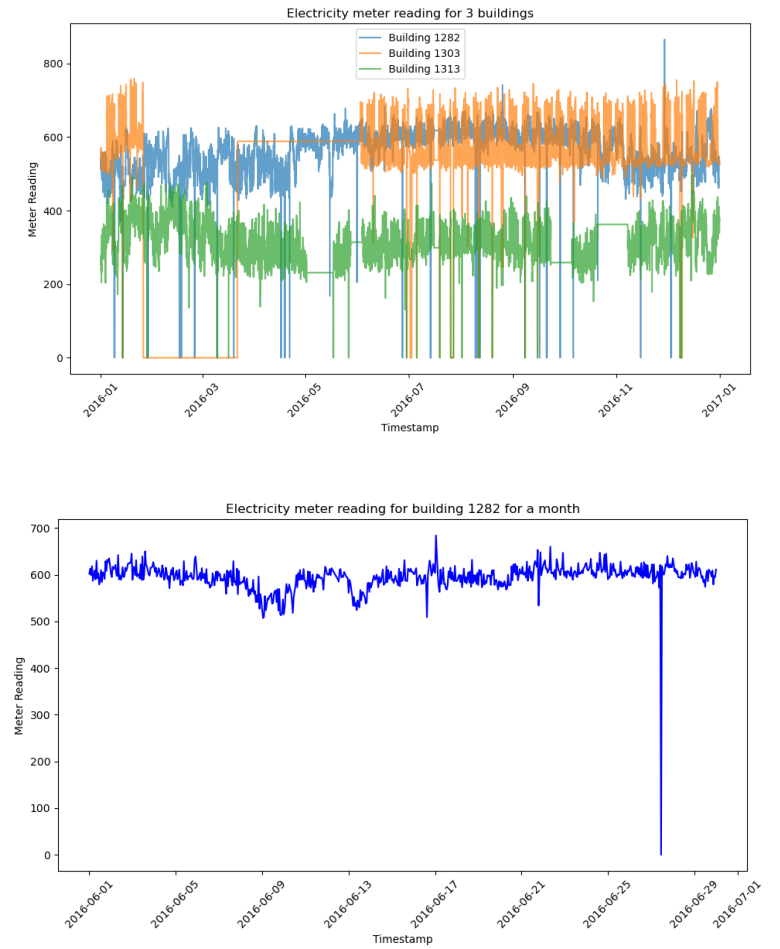rows dropped

NULL VALUES

CORRELATION COEFFICIENTS

FINDINGS FROM EDA

BUILDING AND METER TYPES

BUILDING ELECTRICITY

BASELINE MODELS AND EVALUATION METRICS

COLUMN CLEANING

primary_use
floor_count
meter_timestamp

NEXT STEPS COPY TO NEXT

TIME SERIES ANALYSIS
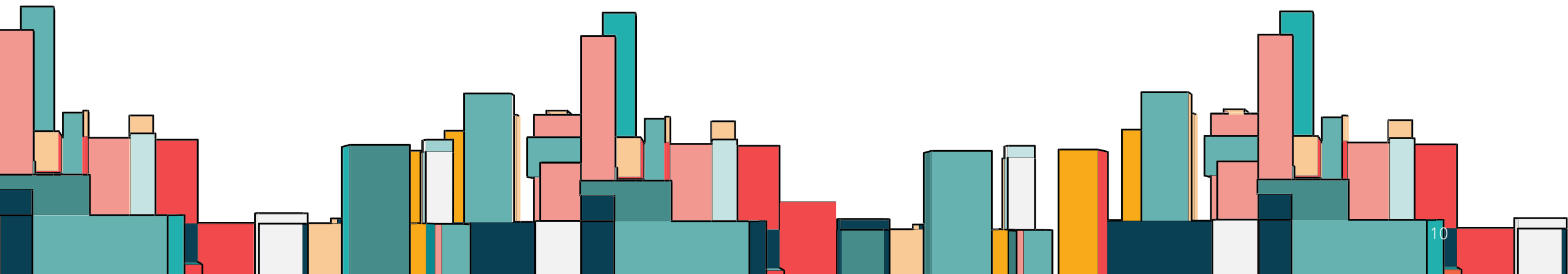
- Compare different buildings

DECISION TREE

- Use energy consumption of hour 1, 2, 3, 4 to predict energy consumption hour 5.

RANDOM FOREST

- Profit approach, module to use the weather data
- Include building characteristics to improve energy prediction

NEXT STEPS

THANK YOU

Jose Correa