Data Challenge

Introduction

Here at ACME we have a commitment to reducing our footprint to the environment. Improving energy efficiency is a critical element in our quest for sustainability. ACME takes pride in being a leader in the use of new technologies to build and design ships & hotels that are more energy efficient. In one of our testing labs we have installed high-efficiency appliances as well as LED light bulbs.

Task

As part of our lab testing you have been tasked to analyze and create a prediction model for the amount of energy used by these rooms. You have been supplied with the data set and the description of the fields. This is an open challenge where we want to see your ability to formulate and solve a problem as well as your creativity. Below are some of the things we are looking for:

1. Exploratory data analysis (Set up a story behind the data set given).
    1. Identify the problem and how to address it using machine learning (ie. regression algorithm).
    2. Stats on energy consumption at different times (Monthly, Weekly, Day vs Night, Weekends vs Weekdays) (Idea example)
    3. Effect of temp in energy consumption. (Idea example)
2. Pre-Processing (Data Cleanup, Feature Extraction, Feature Engineering).
    1. Please be as descriptive as possible.
3. Modeling (Explain the reasoning behind the model).
    1. Explain your reasoning behind the Algorithm used.
4. Results (Look into how the results are presented).
    1. Please remember to remove a sample of your dataset for testing purposes
    2. Visualize the results in a meaningful and easy to understand way.

Please respond to us with a story of your predictions in a paragraph or two with supporting visualization(s). Also, please include your code w/ comments and any other results fields or material generated. Any questions please reach out.

* This is a public data set.