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HW 4

Project Introduction

What data have you gathered?

* 3 years of power data in 1 hour intervals for my building HVAC.

How did you gather it?

* Data acquisition server installed at my campus.

How have you explored it?

* Thorough analysis and cleansing in excel (linear regression).

What have you cleaned?

* Bad data (erroneous)
* data drop outs
* missing values.

What still needs cleaning

* More of the same

What insights have you found.

* HVAC is directly correlated to the season and the weather, specifically the current temperature.
* Furthermore, there is an average daily profile.

What is your question and how does the data answer it?

Using historical power data, weather into, and thermostat set points I can predict what the optimal power usage should be and avoid peak demand charges by automating the HVAC start – stop signals generated from this dataset.

Do you need to gather more data or adjust your question?

* Yes, I need to interface with the building thermostats via the company API.
* I also need to find a relationship between the thermostat.

How might you use modeling to answer your question?

Modeling would allow me to define several scenarios which would allow me to tune the model best to fit my customer needs across environments and expand to different buildings, clients etc.