

Capstone Project Proposal

1. What is the problem you want to solve?

Prediction of the energy used by appliances in a normal house.

2. Who is your client and why do they care about this problem? In other words, what will your client DO or DECIDE based on your analysis that they wouldn't have otherwise?

Peter is a normal guy; he lives and works in a normal city. Usually he gets up at 7:00 in the morning and prepares himself for work and then he returns at 18:00. One of his main goals in life is to travel and meet as many countries as he can. For this, every month he saves some money from his salary, but recently he realized that he would need more money if he wants to visit some places. He was wondering if it would be possible to reduce the amount of energy that he spends at home and then reduce his expenses.

If you are like Peter and you do not want to pay more for energy that you do not use, then you should know that a small analysis can help you to predict the energy consumed by appliances and lights in your home, and check when and where you are wasting energy.

3. What data are you going to use for this? How will you acquire this data?

Data used include measurements of temperature and humidity sensors from a wireless network, weather from a nearby airport station and recorded energy use of appliances and lighting fixtures in a normal house.

This data is available at this link <http://archive.ics.uci.edu/ml/machine-learning-databases/00374/>

4. In brief, outline your approach to solving this problem (knowing that this might change later).

Using statistical models applied to time series as linear regression methods, the energy consumption of the house is predicted for some weeks before and after the time domain of the data set.

5. What are your deliverables? Typically, this would include code, along with a paper and/or a slide deck.

- Python scripts with the calculations.
- A slide deck showing in detail the energy consumption prediction for the house studied.
- A manual describing how to use the scripts.