This Python notebook builds a simple model for energy disaggregation. Data.txt file contains time series energy consumption data for a single home over a one month duration sampled at 1 second granularity. Data format: each line contains a tuple <unix timestamp, energy consumed>. The time zone is PDT and the energy readings are in Watts.

The Data:

This is aggregate energy consumption data for one home that contains the following main appliances:

- Central AC1 – The most common repeating pulse with about 2.5kW amplitude and a width of about 10 minutes.
- Central AC2 – Another less frequently repeating pulse with about 4kW amplitude and >30 minute width.
- Pool Pump – Runs for about 3 hours at 1.5kW amplitude. Starts at the same time every day.
- Refrigerator – This is the smallest amplitude repeating pulse at <200W

The Task:

Process the above data to extract the energy consumption time series for individual appliances listed above.