Minutes 28/05 - Oliver Nunn (Sponsor)

Date: Friday 28/05/21, 5-6pm
Minutes

- 3 hr vs daily forecast
    - Daily forecast is actually a good start but fall down a bit for a hot day
        - Work quite well on non-interested day
    - Hourly data is much more useful for the day demand is significant.
- Low demand day, maybe can come up with good forecast from the bom website
- Optimisation metrics
    - RMSE vs RMA
    - Less interested with great prediction for normal day
    - More interested in outliers
    - How useful demand forecast for a day vs half an hour period
    - Each year weather affect on daily demand based on daily forecast
    - Cooling affect vs heating effect on demands e.g. 2011 heating cooling affect
- How important is the forecast demand? Would scrap it, not determine by the same variable
    - If use Daily concept - heating and cooling demand day
        - Broken stick regression, middle of the stick 10, 11, 18, 21, then > 21 degree got cooling low, < 18 got heating low
- Temperature
    - min/max from today, for today's model, over-under prediction?
        - Run model twice
    - Using current data would be better because of the forecast available, how effective that assumption is.
    - Must have research? Document how people do forecast load, gives benchmark. First, review about how it is done currently, before doing stuff about it. Do a couple of slides of how it is done currently.

- Split train test data
    - Take the most recent year of data, select number of days e.g. 50 days for test set and pick another 50 days for validation set, the remainder can be training set
    - Number of days better than
    - Training model, old data might not be helpful

- Any comment between using a machine learning model as a black box with a high level of accuracy in terms of prediction, and using a more interpretable model but with a lower accuracy
    - Start with lower accuracy
    - Start dropping machine learning model,
    - multiple forecast at the same day: lower, higher
    - Provide multiple methods and give people comfortable

- **Recommended to use PV solar data**
    - ***** System advisor model *****
    - **Useful for solar PV output**
    - **NREL**
    - **PV WATTS - simple of how PV system average**
- Categorise temperature data
    - Broken stick