Practicum 1 (22M8W1) Progress Report

WEEK: 3

NAME: Olumide Aluko

GITHUB REPOSITORY LINK/EDA: https://github.com/olumidelk/Aluko_MSDS692-Data-Science-Practicum-Project-.git

PROJECT TITLE: Forecasting Electricity Demand with Time Series

PROJECT SUMMARY (Brief description of the goal, critical analysis plan, key data feature- especially if the data is complex): A time series with electricity demand (Mega Watts) for the state of Victoria (Australia) from 2011-12-31 to 2014-12-31 is available for this project. Demand for electricity in Australia has been in the spotlight for the general population due to the recently increasing price. Still, electricity demand forecasts remain expected to decrease due to various factors. The project aims to generate a forecasting model capable of predicting the next day's energy demand at the hourly level by accurately predicting monthly electricity demand. The proposed project design will be achieved using a time series forecasting with scikit-learn regressors

MILESTONES (Bullet point STEPs in your project. You can tag "DONE" for things are done)

(Example: You can edit for yours. You can also make it more detailed if you want.)

- Week 2 – Data collection/ data cleaning (DONE)

- Week 3 – Data Exploration/EDA (DONE)

- Week 4 - Build models (In-Progress)

- Week 5 - Hyperparameter optimization

- Week 6 – Upload project to GitHub Repository page

- Week 7 - Result visualization & conclusion

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- Week 8 – Project presentation

PROPOSED 'TO DO' FROM THE LAST WEEK (Copy & Paste from your previous weeks TO DO):

- Week 2 - Data cleaning (In-Progress)

- Week 3 – Data exploration/EDA (In-Progress)

THIS WEEK'S PROGRESS (Give bullet points and briefly explain what you accomplished or dealt with some of the milestones during the week): I downloaded the data successfully, and I'm currently working on cleaning the data.

- Data cleaning (DONE)
- Data Exploration/EDA (DONE)
- Build models (In-Progress)

ISSUES AND DISCUSSION (Bring up any difficulties and things to discuss. Also, send me a reminder if you want to discuss sooner):

I had difficulty pushing my Jupiter notebook code into GitHub, but I was able to upload the Python code and other files.

TO-DO (Give bullet points and briefly explain your plans for the next week): I plan to work on building models by using recursive autoregressive forecasting, which includes forecaster training, backtest, and Hyperparameter turning, etc.

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RESOURCE (Optional: list resources or links you want to share with me):

https://www.kdnuggets.com/2020/01/predict-electricity-consumption-time-series-analysis.html

https://machinelearningmastery.com/multi-step-time-series-forecasting-with-machine-learning-models-for-household-electricity-consumption/

https://rstudio-pubs-static.s3.amazonaws.com/430567_e3e7a704a4dd45bbbb01abd7f03c7383.html

https://jasondeegan.com/forecasting-norwegian-energy-demand-with-python/