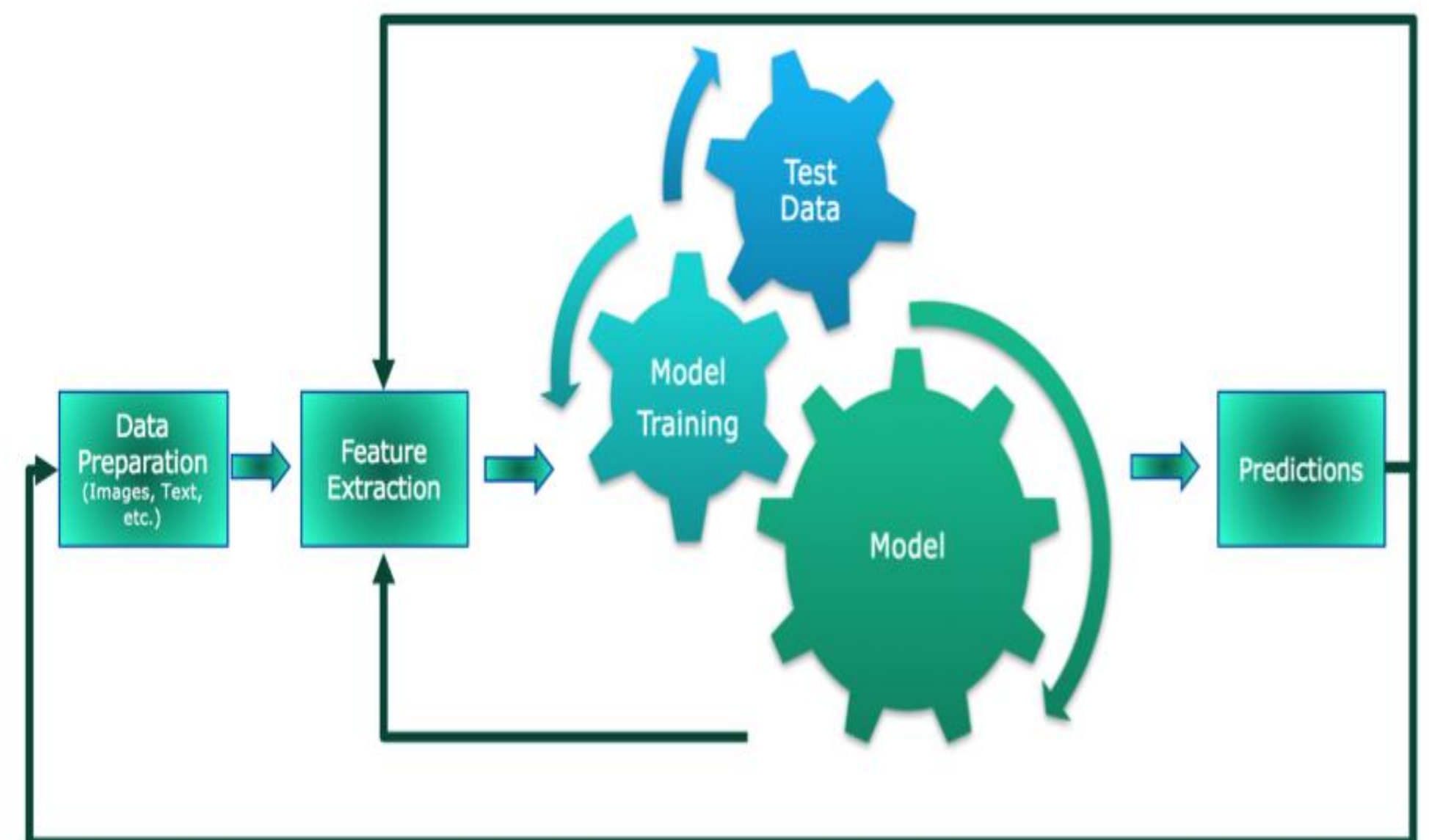


Abstract

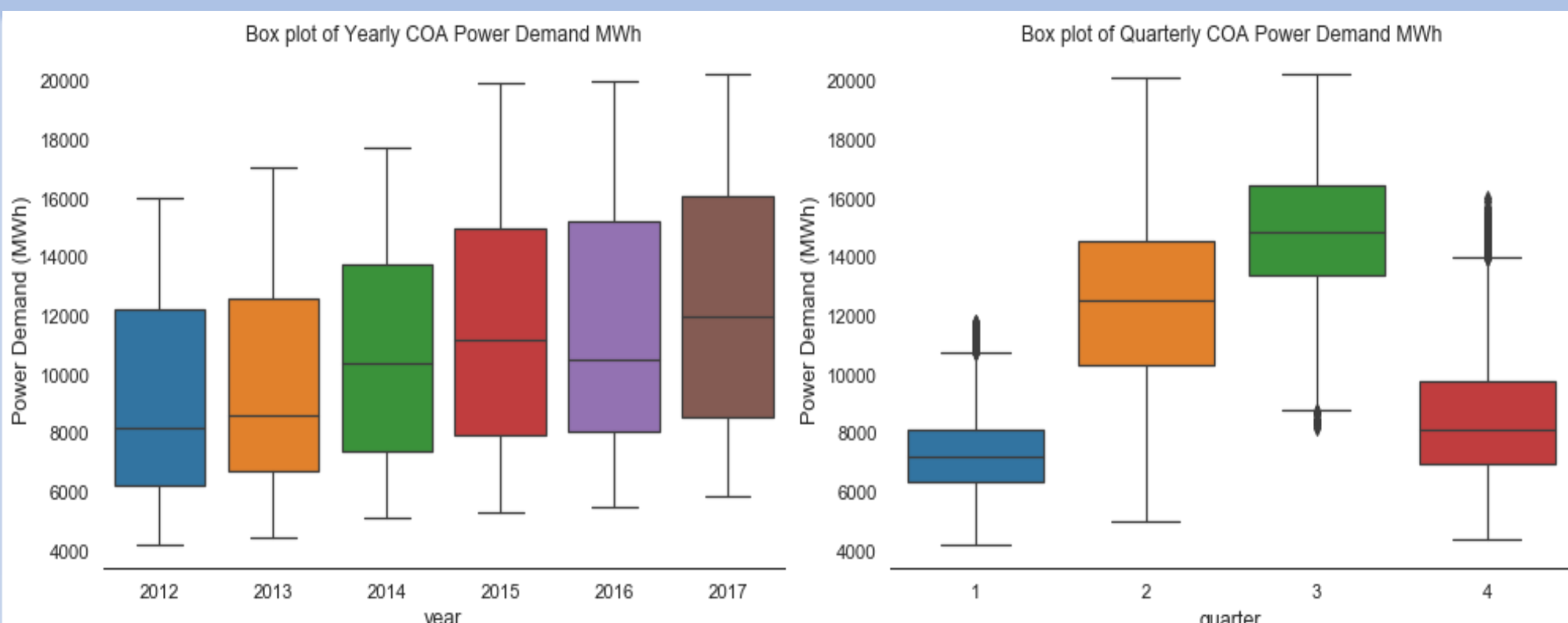
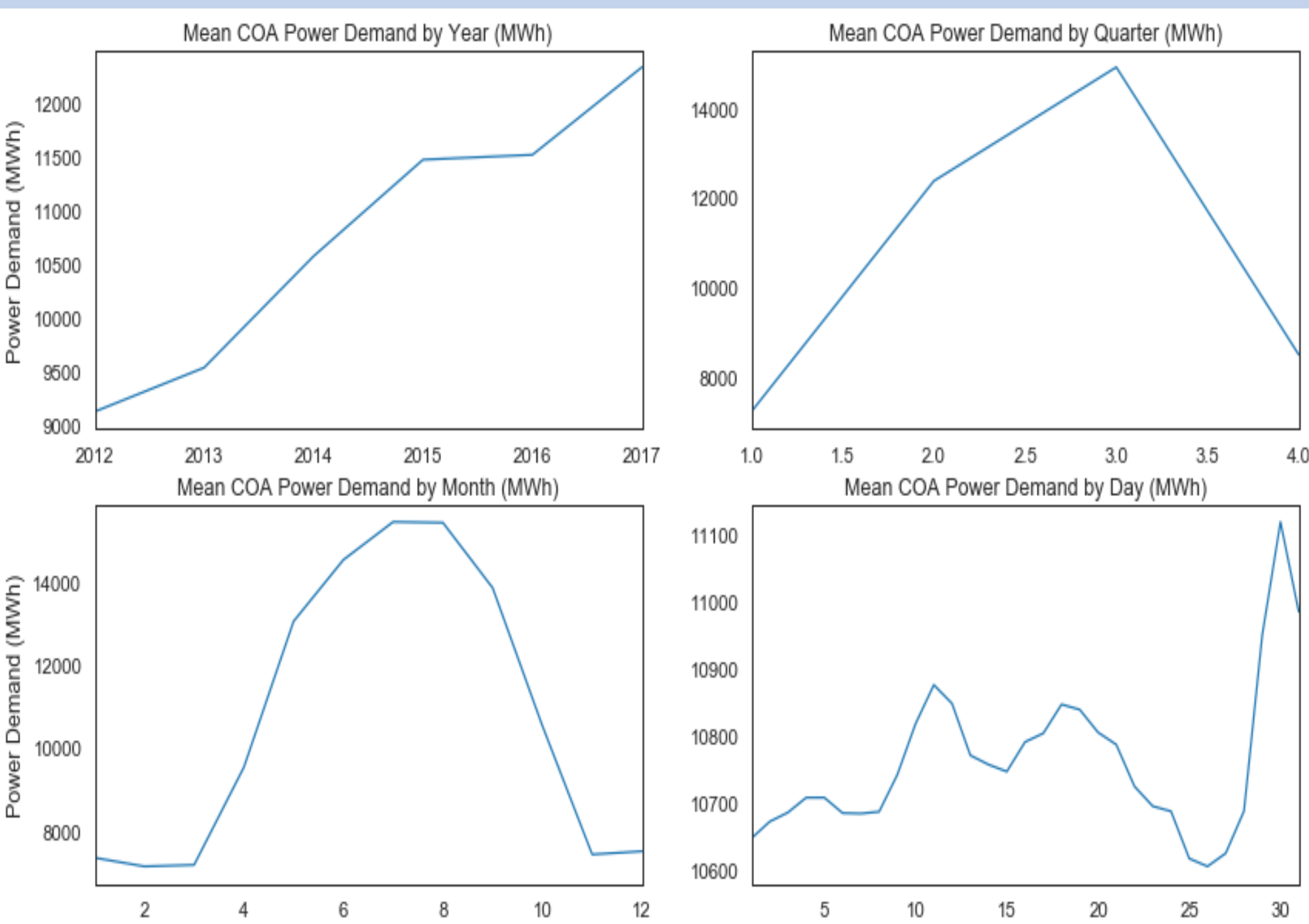
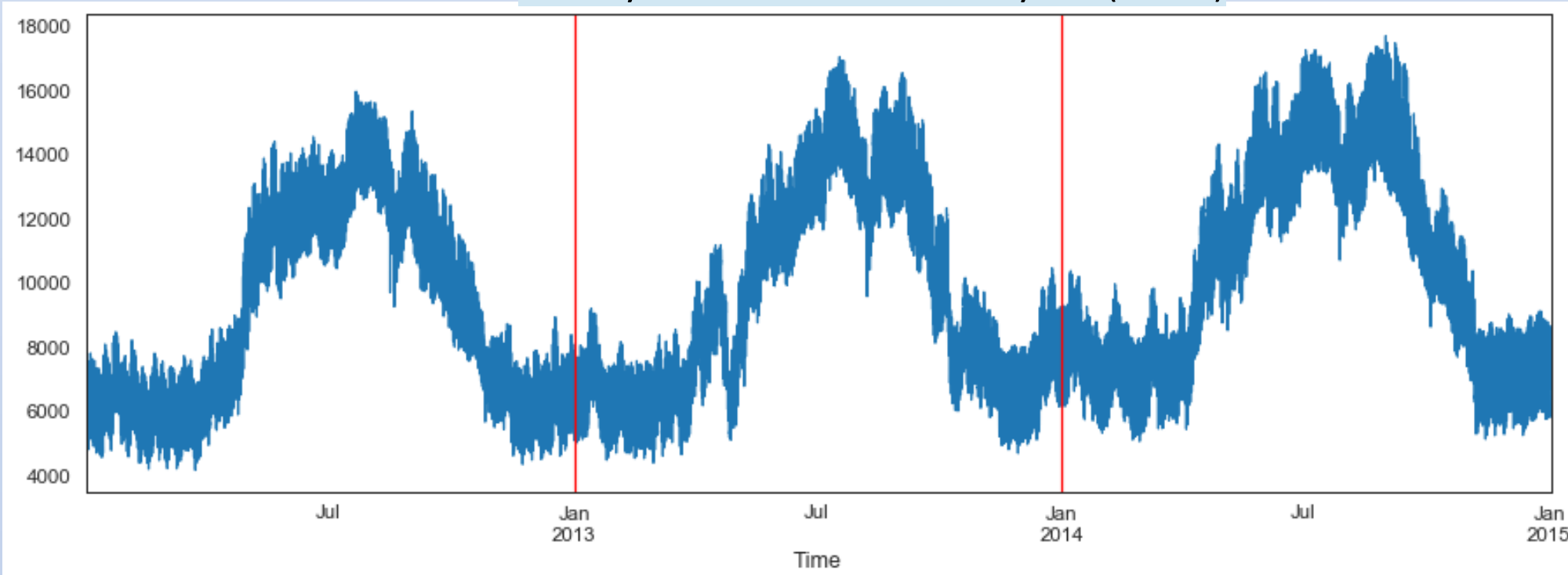
- Usage of electricity drains from a country's resources, specifically Saudi Arabia.
- As such, **forecasting it in the long, medium, and short terms** is essential to better estimate how much resources will be used and to drive policy in expansion of the grid.
- In the this project, we aim to **forecast the usage of electricity** for Saudi Arabia's Central Operating Area (COA).
- We aim from this project to predict electricity demand with a good accuracy and hopefully present our findings to interested stakeholders that either drive policy or are relevant to the electricity sector.

Machine Learning Pipeline



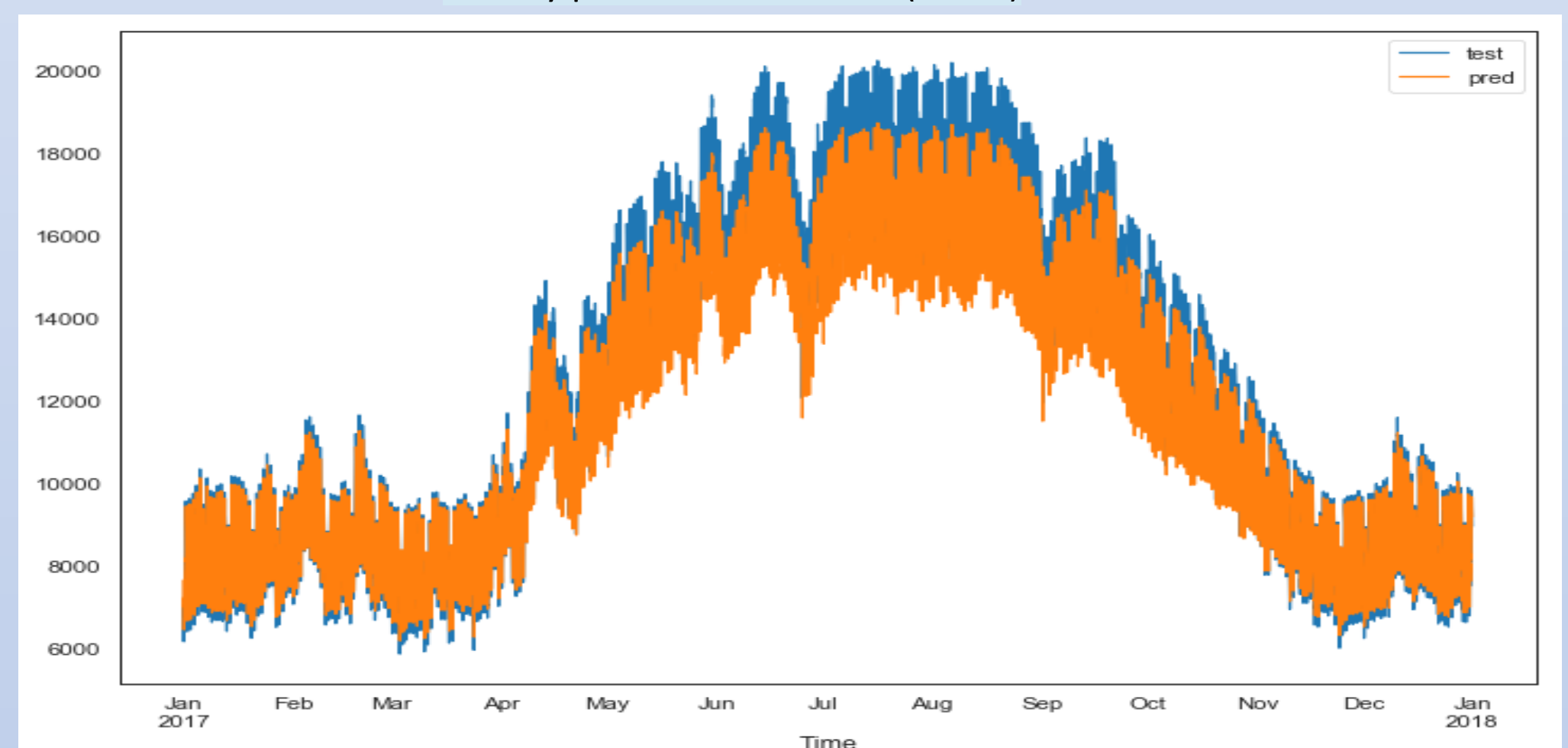
Exploratory Data Analysis

Hourly Power demand for 3 years(MWh)

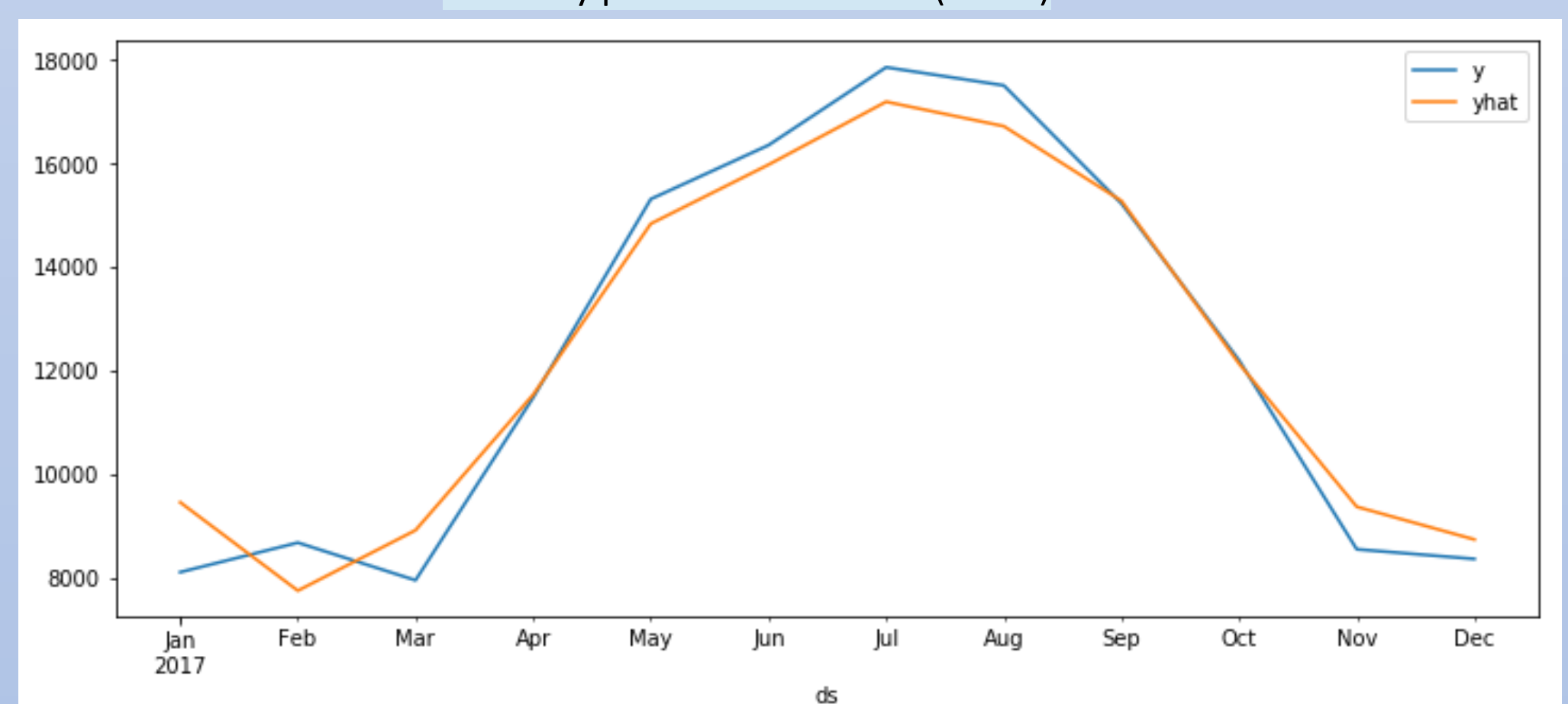


Machine Learning Results

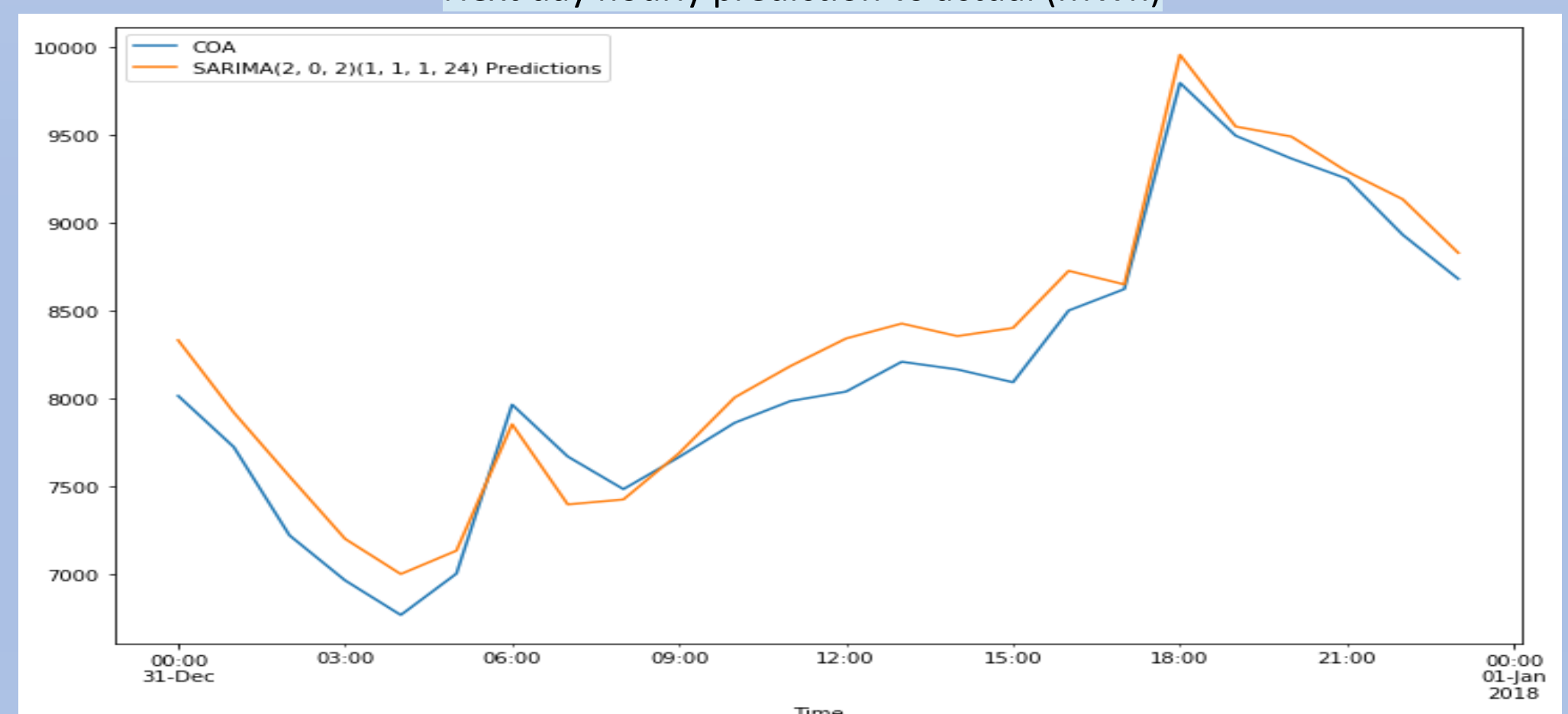
Hourly prediction vs actual (MWh)



Monthly prediction vs actual (MWh)



Next day hourly prediction vs actual (MWh)



Conclusion

- Machine learning can be used to predict power load with high accuracy rate.
- Electricity companies can use such a model to predict short/mid/long term power load and plan their power generation accordingly.
- This can save resources, money, and gives better services to there customers.

What's Next

- Getting the power load for individual cities can lead to an increase in the predicting result as each city has different temperature which affect the prediction.
- Predicting the daily power load peak.
- Implement a web interface that take an input and get the prediction from the model and present it.

Acknowledgments

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