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Final Project: Intro to Machine Learning

1. **Title:** Electricity demand and generation based on the weather forecast in North Carolina.
2. **Team Members**: Claude Shyaka
3. **Summary**: In modern economies, electricity is used in most aspects of everyday life. From lighting homes to making and driving Teslas. However, in some cases, unforeseen events such as extreme weather can significantly impact the supply of this vital product. Therefore, developing machine learning models that could help predict the impact of such events on the electrical grid could revolutionize the way we produce, store and distribute electricity. In this project, we will explore weather, electricity generation, and demand data from various sources, then build machine learning models to predict electricity demand and generation based on weather forecasts.
4. Details: Training will be done using the train/test split method and cross-validation. Tentative deliverables:
    a. Visualize consumption by zip code and compare it with weather data.
    b. Understand what weather measurement influence most electricity demand and generation.
    c. Use these weather measurements to develop a model for predicting electricity demand.
5. Currently, I am the only member of the team, therefore, I will be building the model from start to finish.

Sources:
https://www.kaggle.com/datasets/antgoldbloom/us-eia-hourly-electricity-consumption
https://www.kaggle.com/datasets/paolodelia/hourly-electricity-demand-and-production-us
https://www.eia.gov/state/seds/seds-data-complete.php?sid=NC