Overview

- This is an opportunity for you to showcase your data analysis skills

This project is intended to understand you approach to data analysis.

The assignment includes the following tasks:

1. Establish a data analytics environment including software and dependencies
2. Acquire data required to perform the desired analysis
3. Process data for analysis
4. Analyze data to achieve a desired outcome
5. Present results to the intended audience

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Instructions

- Follow these basic instructions as a guideline for completing your project

1. Implement a development environment that provides you a toolset to efficiently complete your analysis
   - JupyterLab, or Jupyter Notebook preferred
   - Python is the preferred language; however, you may use other languages
   - You are encouraged to leverage a variety of libraries to support your analysis and output
2. Visit the following data source for solar PV analysis data
   - https://www.nrel.gov/grid/solar-power-data.html
   - Please read the details on this page as they provide valuable information about the source and organization of the data.
3. Use this PV data to answer the questions in Objectives slide
   - The data is from a solar integration study that recorded actual output from solar installations of different sizes that were deployed in various locations
   - The data is organized by state in zip files
   - The study type, geo coordinates, system size and duration details are encoded in each file name
4. Prepare a short slide presentation to report your results
   - You may use this slide deck as a template for your presentation

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Objectives

1. Identify the best location to install a solar array considering the following states:
   - California
   - Texas
   - Alabama
   - Florida
   - Main
   - Colorado
2. Present your selected location using graphics that best convey your results for senior leadership
3. For the location you have identified, calculate the forecasted power that a solar array would produce in megawatts
   - Present your calculations in a graph that shows production monthly for a year
   - What other graphics can provide insight into the forecasted power production?
4. Extra credit ideas (you can be creative and find other ways to analyze this data):
   - Plot the candidate sites on a map with an overlay of their forecasted production
   - Automate the download, unziping and ingest of study data to increase the number of states you analyze
   - What impact did weather have on power production rates?

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