ITCS-6100 Big Data for Computational Advantage
Group 10 Project Deliverable 1

1. Team
A. Members
Sai Reddy Busi Reddy
Sanjana Naidu Gedela
Koushik Vijay Kulkarni
Chandra Manohar Reddy Kusam
Brijesh Patel

B. Communication Plan

The group meetings will be held virtually on zoom or google meet. The frequency of group meetings will be based on the project deliverables. Each group member agrees to attend group meetings on time. Members agree to treat one another with respect. Respect includes no name-calling. If you don't like an idea, address the idea, not the person.

Members shall share their insights and findings on the group chat or on the shared folder: (Link) URL of GitHub repository:(Link)

2) Business problem or opportunity, domain knowledge:
Every month, different types of producers in each state in the USA generate billions of megawatts of energy from various sources like coal, petroleum, natural gas, hydroelectric conventional, wind, nuclear, wood and wood-derived fuels, biomass, solar thermal and photovoltaic, pumped storage, and geothermal. The business opportunity or objective here is to identify the sources of renewable energy generation and predict it by analyzing the data.

3) Selection of domain and data from the Open Data Registry for Amazon Web Services: US Energy Generation 2001-2022: Monthly Generation by State, Type of Producer, and Type of Source (https://www.kaggle.com/datasets/kevinmorgado/us-energy-generation-2001-2022)

4) Research Objectives and Question(s) (what you are trying to describe or predict with the data):
1. Which states contribute to generating high levels of renewable energy?
2. What type of energy producers generate the most renewable energy?
3. What are the trends in each state's transition from non-renewable to renewable energy generation over the years?

4. What is the total energy generated from nuclear sources in comparison to non-renewables?
5. Which year has the highest total energy generated?
6. Can you predict what months will have a higher renewable energy source?
7. What are the top 10 states that generate more non-renewable energy than renewable energy?
8. How much energy is required for the next 10 years?

This screenshot shows the GitHub Repository.


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