Team Mates

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Project Ideas

1. **Climate Change and Crop Yield Prediction**
    - **Dataset**: FAO Statistical Databases or NASA Harvest provides agricultural data including crop yield, weather patterns, soil conditions, and land use.
    - **Analysis Type**: Prediction
    - **Proposed Analysis**: Develop machine learning models to forecast crop yields under different climate change scenarios. Analyze the impact of temperature changes, precipitation patterns, and extreme weather events on agricultural productivity.
    - **Performance Evaluation Metric**: Mean Absolute Percentage Error (MAPE) for assessing the accuracy of crop yield predictions.

2. **Forecasting Solar Energy Generation Using Machine Learning**
    - **Dataset:** NREL provides a Solar Power Data for Integration Studies
    - **Analysis Type :** Forecasting
    - **Proposed Analysis:** To create forecasting models that can precisely calculate solar farms' energy generation depending on a range of environmental conditions. The quantity of power generated by solar panels over various time intervals will be predicted using machine learning algorithms that can be trained using historical data on solar energy, weather.
    - **Performance Evaluation Metric:** Mean Absolute Percentage Error (MAPE) can help investors to evaluate the relative accuracy of forecasts generated by machine learning models for solar energy generation, which may be helpful to improve the effectiveness and reliability of solar energy systems and contribute to decision-making.