

Project Proposal: Time Series Forecasting for Energy Consumption

Group Name: Dream Team

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Introduction:

As energy consumption continues to rise globally, accurately predicting future energy usage is crucial not only for efficient resource management but also for driving businesses. Utilities and energy providers face increasing pressure to optimize their operations, reduce costs, and enhance service reliability in a competitive market. We want to leverage machine learning techniques to forecast future energy consumption based on historical usage data to create data-driven decisions that improve operational efficiency, reduce waste, and meet customer demand more effectively.

Objective:

The primary goal of this project is to predict future energy consumption using historical energy usage data. By analyzing past consumption patterns, we aim to provide actionable insights that will help energy providers and consumers make informed decisions regarding energy management. To achieve this objective, we will utilize two comprehensive datasets available on Kaggle:

1. [Hourly Energy Consumption Dataset](#) - This dataset contains hourly energy consumption records, providing a detailed view of energy usage over time
2. [Household Power Consumption Dataset](#) - This dataset offers a broader perspective on household energy consumption, with detailed records of power usage over specified intervals.
3. [Worldwide Energy Consumption](#) - This dataset contains global yearly energy consumption from 1800 to 2023 broken down by energy source.