Electricity-Prices-Prediction

Problem Definition:

The problem is to develop a predictive model that uses historical electricity prices and relevant factors to forecast future electricity prices. The objective is to create a tool that assists both energy providers and consumers in making informed decisions regarding consumption and investment by predicting future electricity prices. This project involves data pre-processing, feature engineering, model selection, training, and evaluation.

Design Thinking:

Data Source: Utilize a dataset containing historical electricity prices and relevant factors like date, demand, supply, weather conditions, and economic indicators.

Data Pre-processing: Clean and preprocess the data, handle missing values, and convert categorical features into numerical representations.

Feature Engineering: Create additional features that could enhance the predictive power of the model, such as time-based features and lagged variables.

Model Selection: Choose suitable time series forecasting algorithms (e.g., ARIMA, LSTM) for predicting future electricity prices.

Model Training: Train the selected model using the preprocessed data.

Evaluation: Evaluate the model's performance using appropriate time series forecasting metrics (e.g., Mean Absolute Error, Root Mean Squared Error).