# Electricity Price Prediction README

This README provides instructions on how to run the code for electricity price prediction and lists the dependencies required for this project.

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## Introduction

This project focuses on electricity price prediction using time series forecasting techniques. The code and instructions provided here allow you to train and evaluate models for electricity price prediction.

## Project Description

The project consists of the following components:

- Data preprocessing and feature engineering

- Model selection and training

- Evaluation of forecasting performance

- Visualization of results

## Getting Started

### Prerequisites

Before running the code, ensure you have the following dependencies installed:

- Python 3.x

- Pandas

- NumPy

- Matplotlib

- Statsmodels (for ARIMA)

- Scikit-Learn (for machine learning models)

- Jupyter Notebook (optional, for running notebooks)

You can install Python packages using pip:

```

Pip install pandas numpy matplotlib statsmodels scikit-learn jupyter

```

### Installation

1. Clone this repository to your local machine:

```

Git clone <https://github.com/Manikandan384/Electricity-Price-Predection>

1. Change to the project directory:

```

Cd electricity-price-prediction

```

1. electricity price dataset in the project folder (e.g., `electricity\_prices.csv`).

## Usage

To run the code for electricity price prediction:

1. Open a terminal and navigate to the project directory.

2. Execute the code using the Python interpreter:

For ARIMA model:

```

Python arima\_electricity\_price\_prediction.py

```

For machine learning models (e.g., LSTM):

```

Python machine\_learning\_electricity\_price\_prediction.py

```

## Code Structure

- `arima\_electricity\_price\_prediction.py`: Contains the code for ARIMA modeling.

- `machine\_learning\_electricity\_price\_prediction.py`: Contains the code for machine learning modeling.

- `electricity\_prices.csv`: Sample dataset (replace with your own data).

- `results/`: Directory to store model results and plots.

## Dataset

Replace the `electricity\_prices.csv` file with your own dataset. Ensure that the dataset has a ‘Date’ column and an ‘Electricity\_Price’ column.

## Model Selection

You can choose between ARIMA or machine learning models for forecasting. Adjust the code to meet your specific modeling requirements.

## Evaluation Metrics

The code calculates Mean Squared Error (MSE) and Mean Absolute Error (MAE) as evaluation metrics. You can modify the code to include additional metrics if needed.

## Results

The code generates plots and evaluation metrics in the `results/` directory