Importing the Modules

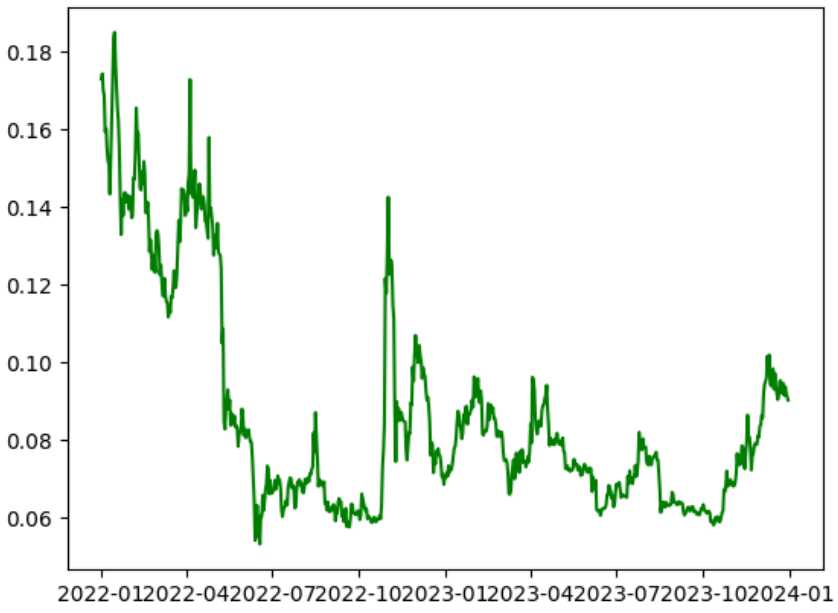
```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import yfinance as yf
from neuralprophet import NeuralProphet
```

Reading and processing the Data

```
crypto_symbol = input("Enter the CryptoCurrency symbol: ")# e.g 'TSLA',GOOG,APPL
start = input("Enter the start date (YYYY-MM-DD): ")#'2013-01-01'
end = input("Enter the end date (YYYY-MM-DD): ")#'2023-12-31'
data = yf.download(crypto_symbol, start, end)
data.reset_index(inplace=True)
print(data.head())
```

```
Enter the CryptoCurrency symbol: DOGE-USD
Enter the start date (YYYY-MM-DD): 2022-01-01
Enter the end date (YYYY-MM-DD): 2023-12-31
[*********************100%%**********************]  1 of 1 completed        Date      Open      High       Low      Clo
0 2022-01-01  0.170510  0.173423  0.170353  0.173035   0.173035  371336089
1 2022-01-02  0.173027  0.175989  0.171201  0.174403   0.174403  391041933
2 2022-01-03  0.174406  0.174406  0.168271  0.170088   0.170088  505900382
3 2022-01-04  0.170151  0.172339  0.168128  0.168803   0.168803  541922892
4 2022-01-05  0.168835  0.170747  0.151898  0.159420   0.159420  994086848
```

```
crypto = data[['Date', 'Close']].copy()
crypto.columns = ['ds', 'y']
plt.plot(crypto['ds'], crypto['y'], label='actual', c='g')
plt.show()
```




```
**Training the Model**
```

Training the Model

```
model=NeuralProphet()
model.fit(crypto,freq="D")
```

```
WARNING - (NP.forecaster.fit) - When Global modeling with local normalization, metrics are displayed in normalized sca
WARNING:NP.forecaster:When Global modeling with local normalization, metrics are displayed in normalized scale.
INFO - (NP.df_utils._infer_frequency) - Major frequency D corresponds to 99.863% of the data.
INFO:NP.df_utils:Major frequency D corresponds to 99.863% of the data.
INFO - (NP.df_utils._infer_frequency) - Defined frequency is equal to major frequency - D
INFO:NP.df_utils:Defined frequency is equal to major frequency - D
INFO - (NP.config.init_data_params) - Setting normalization to global as only one dataframe provided for training.
INFO:NP.config:Setting normalization to global as only one dataframe provided for training.
INFO - (NP.utils.set_auto_seasonalities) - Disabling yearly seasonality. Run NeuralProphet with yearly_seasonality=Tru
INFO:NP.utils:Disabling yearly seasonality. Run NeuralProphet with yearly_seasonality=True to override this.
INFO - (NP.utils.set_auto_seasonalities) - Disabling daily seasonality. Run NeuralProphet with daily_seasonality=True
INFO:NP.utils:Disabling daily seasonality. Run NeuralProphet with daily_seasonality=True to override this.
INFO - (NP.config.set_auto_batch_epoch) - Auto-set batch_size to 32
INFO:NP.config:Auto-set batch_size to 32
INFO - (NP.config.set_auto_batch_epoch) - Auto-set epochs to 130
INFO:NP.config:Auto-set epochs to 130
WARNING - (NP.config.set_lr_finder_args) - Learning rate finder: The number of batches (23) is too small than the requ
WARNING:NP.config:Learning rate finder: The number of batches (23) is too small than the required number
Finding best initial lr: 100%                                                    222/222 [00:22<00:00, 171.14it/s]

Epoch 130: 100%          130/130 [00:00<00:00, 928.66it/s, loss=0.0148, v_num=2, MAE=0.00793, RMSE=0.0103, Loss=0.0146, RegLoss=0.000]
---------------------------------------------------------------------------
AttributeError                            Traceback (most recent call last)
/usr/local/lib/python3.10/dist-packages/IPython/core/formatters.py in __call__(self, obj)
    339                 pass
    340             else:
--> 341                 return printer(obj)
    342             # Finally look for special method names
    343             method = get_real_method(obj, self.print_method)

                                    11 frames
/usr/local/lib/python3.10/dist-packages/pandas/io/formats/html.py in _get_columns_formatted_values(self)
    609     def _get_columns_formatted_values(self) -> list[str]:
    610         # only reached with non-Multi Index
--> 611         return self.columns._format_flat(include_name=False)
    612
    613     def write_style(self) -> None:

AttributeError: 'Index' object has no attribute '_format_flat'
```

	MAE	RMSE	Loss	RegLoss	epoch
0	0.059787	0.087518	0.388765	0.0	0
1	0.043080	0.069566	0.256209	0.0	1
2	0.036101	0.055289	0.200164	0.0	2
3	0.028287	0.040603	0.139035	0.0	3
4	0.020849	0.027382	0.079951	0.0	4
..	...	...	...	...	...
125	0.007945	0.010404	0.014555	0.0	125
126	0.007928	0.010387	0.014531	0.0	126
127	0.007941	0.010331	0.014539	0.0	127
128	0.007919	0.010325	0.014427	0.0	128
129	0.007935	0.010339	0.014572	0.0	129

[130 rows x 5 columns]

Next steps: Explain error

Model Making the Prediction

```
prediction = model.make_future_dataframe(crypto,periods = 100)

forecast = model.predict(prediction)
real_prediction = model.predict(crypto)

plt.plot(real_prediction['ds'],real_prediction['yhat1'],label = "Prediction" , c = 'r')
plt.plot(forecast['ds'],forecast['yhat1'],label = 'Future_prediction',c='b')
plt.plot(crypto['ds'],crypto['y'],label ='actual' ,c='g')
plt.legend()
plt.show()
```

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INFO - (NP.df_utils.return_df_in_original_format) - Returning df with no ID column
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INFO - (NP.df_utils._infer_frequency) - Major frequency D corresponds to 99.0% of the data.
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```

```
Predicting DataLoader 0: 100%  1/1 [00:00<00:00, 118.08it/s]
```

```
INFO - (NP.df_utils.return_df_in_original_format) - Returning df with no ID column
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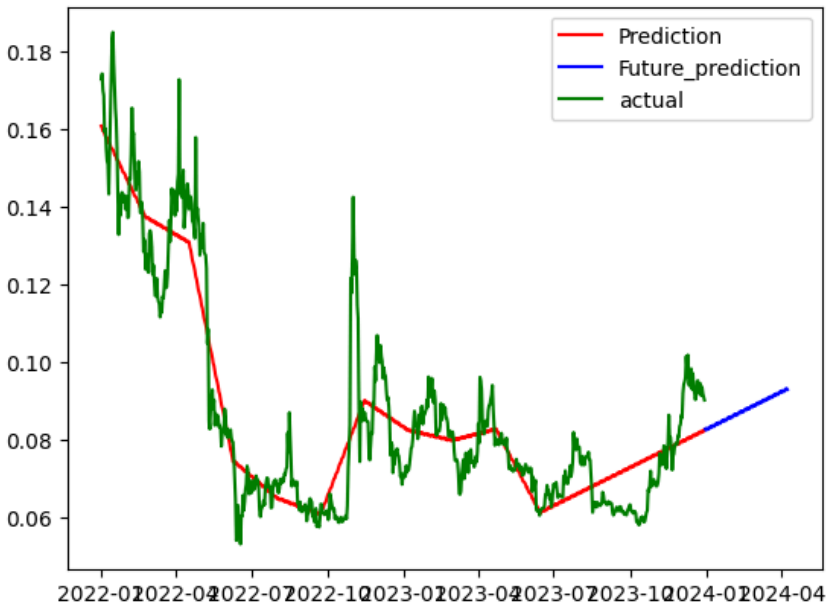
```

```
Predicting DataLoader 0: 100%  1/1 [00:00<00:00, 100.93it/s]
```

```
INFO - (NP.df_utils.return_df_in_original_format) - Returning df with no ID column
INFO:NP.df_utils:Returning df with no ID column
```



TRENDS

```
model.plot_components(forecast)
```

```
WARNING - (NP.plotting.log_warning_resampler_switch_to_valid_env) - Warning: plotly-resampler not supported for the en
WARNING:NP.plotting:Warning: plotly-resampler not supported for the environment you are using. Plotting backend automa
```