feature_visualisations

May 10, 2024

1 Feature Visualisations

[ ]:
```
import sys

sys.path.insert(1, "/Users/simon/Documents/II/Dissertation/")
%load_ext autoreload
%autoreload 2
import seaborn as sns
import matplotlib.pyplot as plt
import pandas as pd
from src.misc import load_processed_dataset

pd.set_option("display.max_columns", None)
import warnings
```

```
The autoreload extension is already loaded. To reload it, use:
  %reload_ext autoreload
```

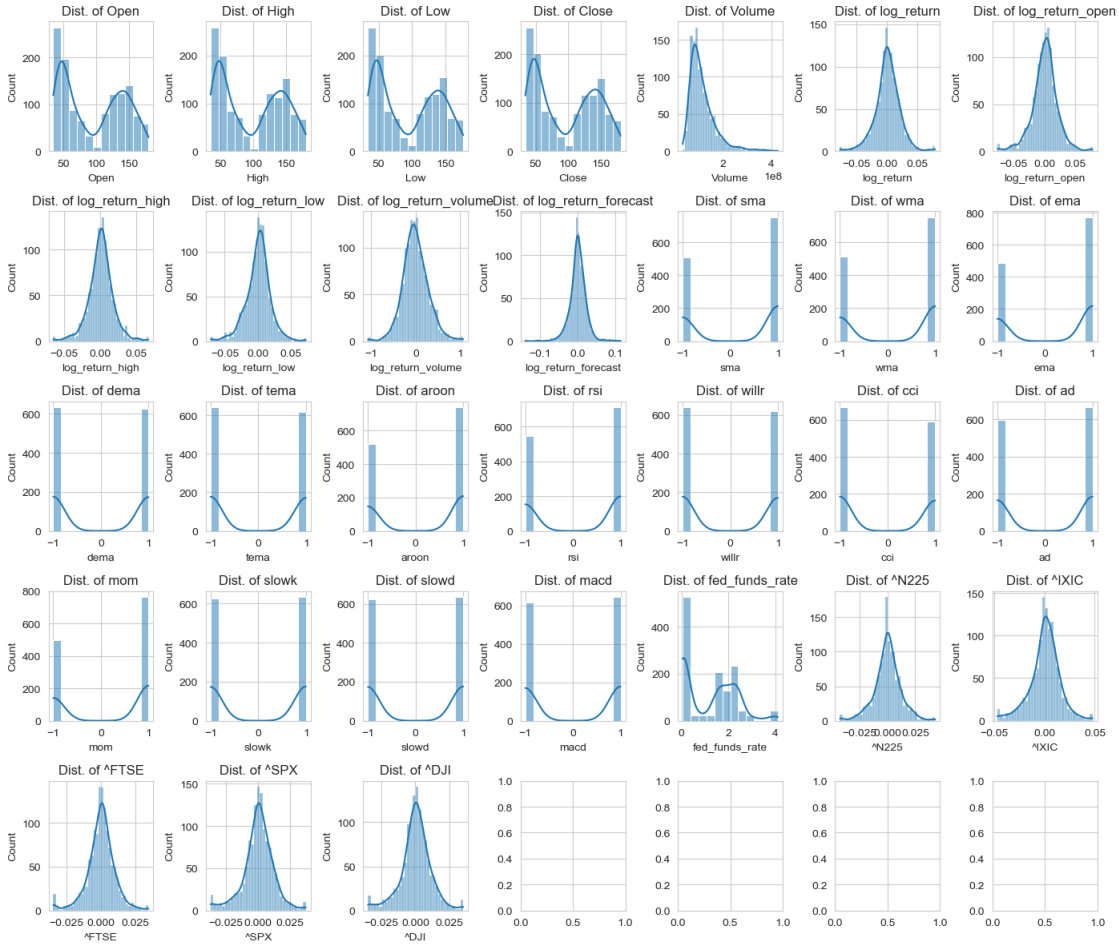
[ ]:
```
df = load_processed_dataset("aapl")
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
DatetimeIndex: 1259 entries, 2018-01-02 05:00:00 to 2022-12-30 05:00:00
Data columns (total 31 columns):
 #   Column               Non-Null Count  Dtype
---  ------               --------------  -----
 0   Open                 1259 non-null   float64
 1   High                 1259 non-null   float64
 2   Low                  1259 non-null   float64
 3   Close                1259 non-null   float64
 4   Volume               1259 non-null   int64
 5   log_return           1259 non-null   float64
 6   log_return_open      1259 non-null   float64
 7   log_return_high      1259 non-null   float64
 8   log_return_low       1259 non-null   float64
 9   log_return_volume    1259 non-null   float64
 10  log_return_forecast  1259 non-null   float64
 11  sma                  1259 non-null   int64
```

```
 12  wma                 1259 non-null   int64
 13  ema                 1259 non-null   int64
 14  dema                1259 non-null   int64
 15  tema                1259 non-null   int64
 16  aroon               1259 non-null   int64
 17  rsi                 1259 non-null   int64
 18  willr               1259 non-null   int64
 19  cci                 1259 non-null   int64
 20  ad                  1259 non-null   int64
 21  mom                 1259 non-null   int64
 22  slowk               1259 non-null   int64
 23  slowd               1259 non-null   int64
 24  macd                1259 non-null   int64
 25  fed_funds_rate      1259 non-null   float64
 26  ^N225               1259 non-null   float64
 27  ^IXIC               1259 non-null   float64
 28  ^FTSE               1259 non-null   float64
 29  ^SPX                1259 non-null   float64
 30  ^DJI                1259 non-null   float64
dtypes: float64(16), int64(15)
memory usage: 314.8 KB
```

[ ]:
```
warnings.filterwarnings("ignore", "is_categorical_dtype")
warnings.filterwarnings("ignore", "use_inf_as_na")

rows = 5
cols = 7
fig, axs = plt.subplots(nrows=rows, ncols=cols, figsize=(14, 12))
for i, col in enumerate(df.columns):
    sns.histplot(df[col], kde=True, ax=axs[i // cols][i % cols])
    axs[i // cols][i % cols].set_title(f"Dist. of {col}")
fig.tight_layout()
plt.show()
```



[ ]:
```
fig, axs = plt.subplots(nrows=rows, ncols=cols, figsize=(14, 12))
for i, col in enumerate(df.columns):
    sns.boxenplot(df[col], ax=axs[i // cols][i % cols])
    axs[i // cols][i % cols].set_title(f"Box Plot of {col}")
fig.tight_layout()
plt.show()
```

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packages/seaborn/categorical.py:486: FutureWarning: Series.__getitem__ treating
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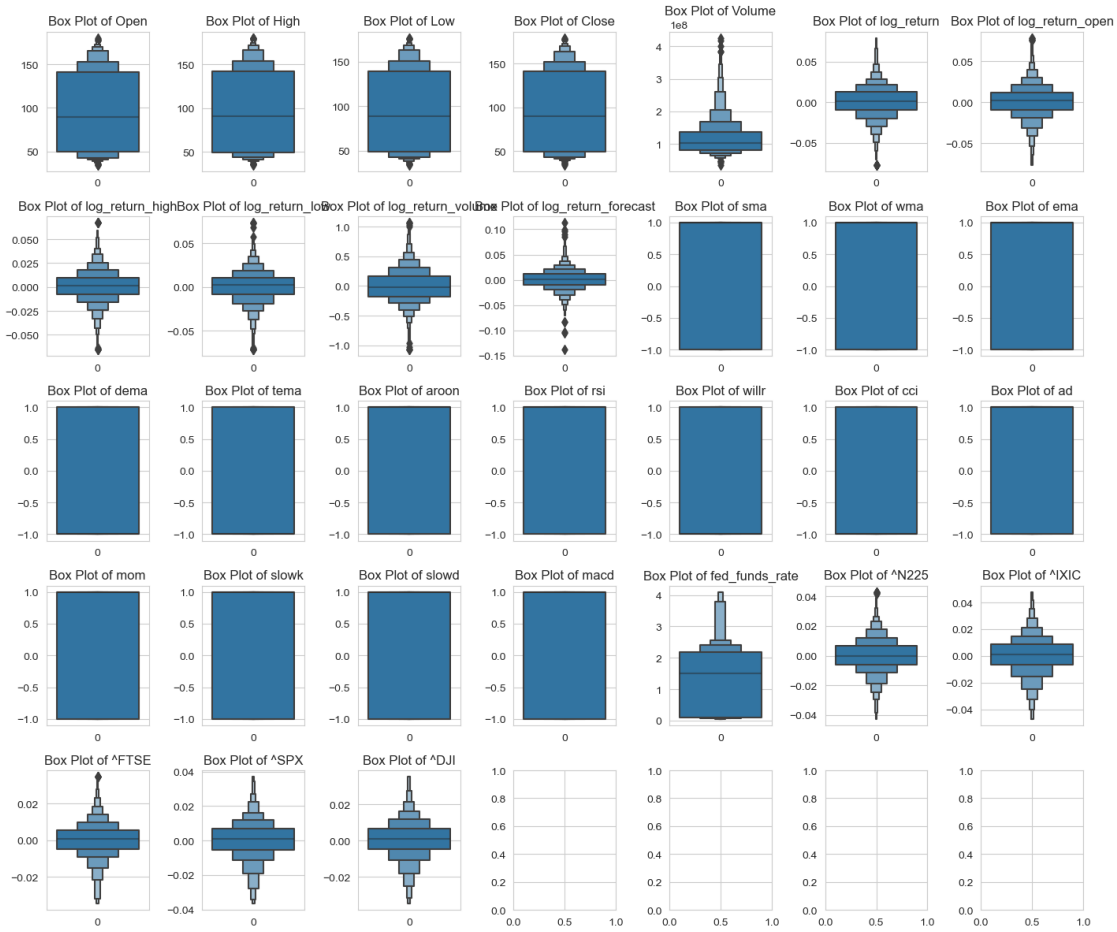
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1e8
Box Plot of log_return
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Box Plot of ema
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