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Striking Backtesting Performance of the PLTR Elliott Wave Algo-Trading Strategy vs Buy&Hold

Discover the dynamic fractal pattern of market action to identify the top profitable PLTR trading strategy that significantly outperforms the passive benchmark

Alexzap Follow 6 min read · 2 days ago

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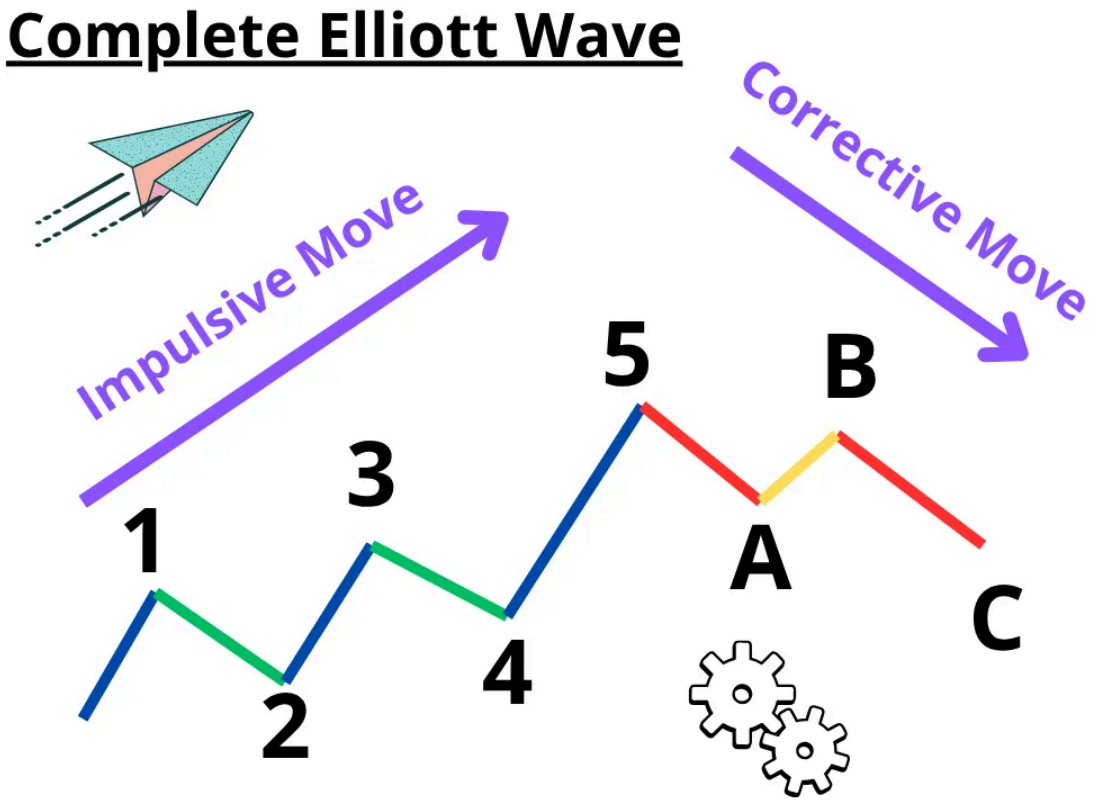
"The stock market is not a gamble; it is a business. And it should be conducted as such, and it must be, to be successful." — Ralph Nelson Elliott



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- In this post, we'll take a look at the high-frequency trading strategy based on the Elliot Wave Oscillator (EWO) [1].
- EWO is fundamentally a trend-following, momentum indicator.
- The theory assumes that stock price movements can be predicted because they move in repeating up-and-down patterns (aka waves) created by investor sentiment.
- In the sequel, we'll use the wave patterns to identify potential trade opportunities, such as buying at the end of a corrective

wave and selling at the end of an impulse wave.

- For the present use-case example, we'll focus on Palantir Technologies Inc. (PLTR) as the time series. Here's why:

1. The stock has gained 81% in 2025
2. It has a 21-day ATR of 4.67%
3. It holds an Accumulation/Distribution Rating of B-plus
4. It is among **AI stocks** to watch.

- Let's delve into the specifics of the ultimate 4 step Elliott Wave trading strategy for maximizing PLTR stock returns in 2025.
- Step 1: Importing the necessary Python libraries and using the TwelveData API reading the PLTR stock data from 2025–01–01 to 2025–06–26 [2]

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import requests
from math import floor
from termcolor import colored as cl

plt.style.use('fivethirtyeight')
plt.rcParams['figure.figsize'] = (20,10)

# EXTRACTING STOCK DATA
```

```
import pandas as pd
import numpy as np
import requests
import matplotlib.pyplot as plt
from math import floor
from termcolor import colored as cl

plt.style.use('fivethirtyeight')
plt.rcParams['figure.figsize'] = (20,10)

def get_historical_data(symbol, start_date):
    api_key = 'YOUR API KEY'
    api_url = f'https://api.twelvedata.com/time_series?symbol={symb
    raw_df = requests.get(api_url).json()
    df = pd.DataFrame(raw_df['values']).iloc[::-1].set_index('datet
    df = df[df.index >= start_date]
    df.index = pd.to_datetime(df.index)
    return df

df = get_historical_data('PLTR', '2025-01-01')
df.tail()
```

datetime	open	high	low	close	volume
2025-06-20	140.69000	142.24001	136.74200	137.30000	87067000.0
2025-06-23	138.89999	142.14999	135.96001	139.92000	70501100.0
2025-06-24	140.98000	143.66000	137.80000	143.23000	58574200.0
2025-06-25	144.49001	147.67000	141.53000	142.89999	61244300.0
2025-06-26	144.93000	148.20000	142.93000	144.42000	3010721.0

- Using Plotly to visualize the PLTR candlestick chart with volume [4]

```
from plotly.subplots import make_subplots
import plotly.graph_objects as go
```

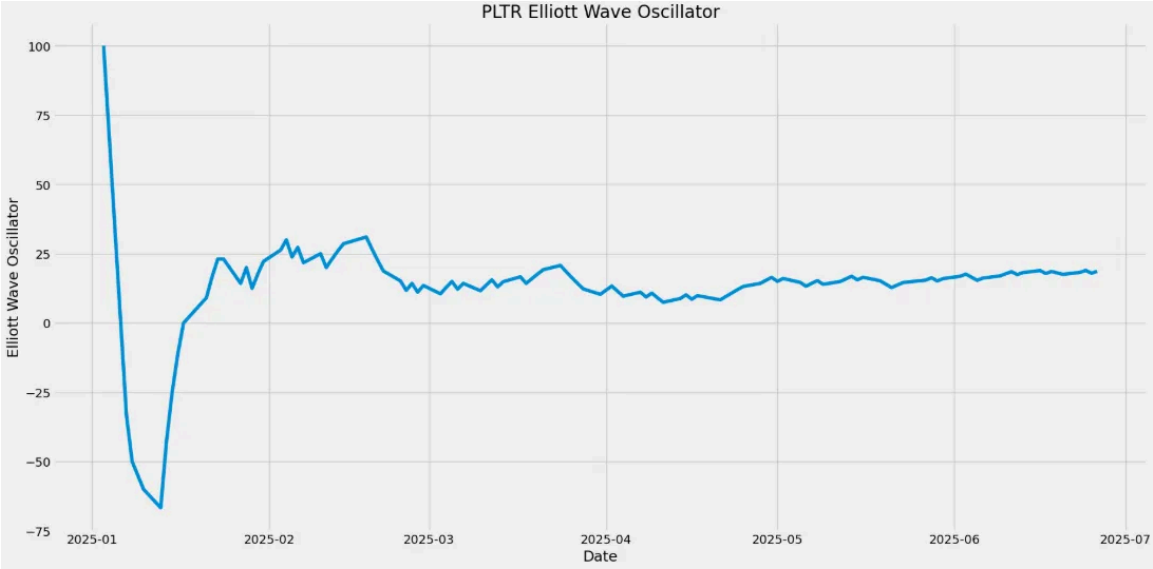
```
fig = make_subplots(rows=2, cols=1, shared_xaxes=True, vertical_spa
fig.add_trace(go.Candlestick(x=df.index,
                             open=df['open'],
                             high=df['high'],
                             low=df['low'],
                             close=df['close'],
                             name='PLTR'),
              row=1, col=1)


# Plotting volume chart on the second row
fig.add_trace(go.Bar(x=df.index,
                     y=df['volume'],
                     name='Volume',
                     marker=dict(color='black', opacity=1.0)),
              row=2, col=1)



# Configuring layout
fig.update_layout(title='PLTR Candlestick Chart',
                  yaxis=dict(title='Price (USD)'),
                  height=1000,
                 template = 'plotly_white')

# Configuring axes and subplots
fig.update_xaxes(rangeslider_visible=False, row=1, col=1)
fig.update_xaxes(rangeslider_visible=False, row=2, col=1)
fig.update_yaxes(title_text='Price (USD)', row=1, col=1)
fig.update_yaxes(title_text='Volume', row=2, col=1)

fig.show()
```

PLTR candlestick chart with volume

- Step 2: Calculating and plotting the Elliott Wave Oscillator [1]

```
# Calculate the difference between the current and previous day's c
df['diff'] = df['close'].diff()

# Identify upward and downward trends
df['up'] = np.where(df['diff'] > 0, 1, 0)
df['down'] = np.where(df['diff'] < 0, 1, 0)

# Calculate the running total of up and down days
df['up_days'] = df['up'].cumsum()
```

```
df['down_days'] = df['down'].cumsum()

# Calculate the Elliott Wave Oscillator
df['ewo'] = 100 * (df['up_days'] - df['down_days']) / (df['up_days'

# Plot the Elliott Wave Oscillator
import matplotlib.pyplot as plt

plt.plot(df['ewo'])
plt.xlabel('Date')
plt.ylabel('Elliott Wave Oscillator')
plt.title('PLTR Elliott Wave Oscillator')
plt.show()
```

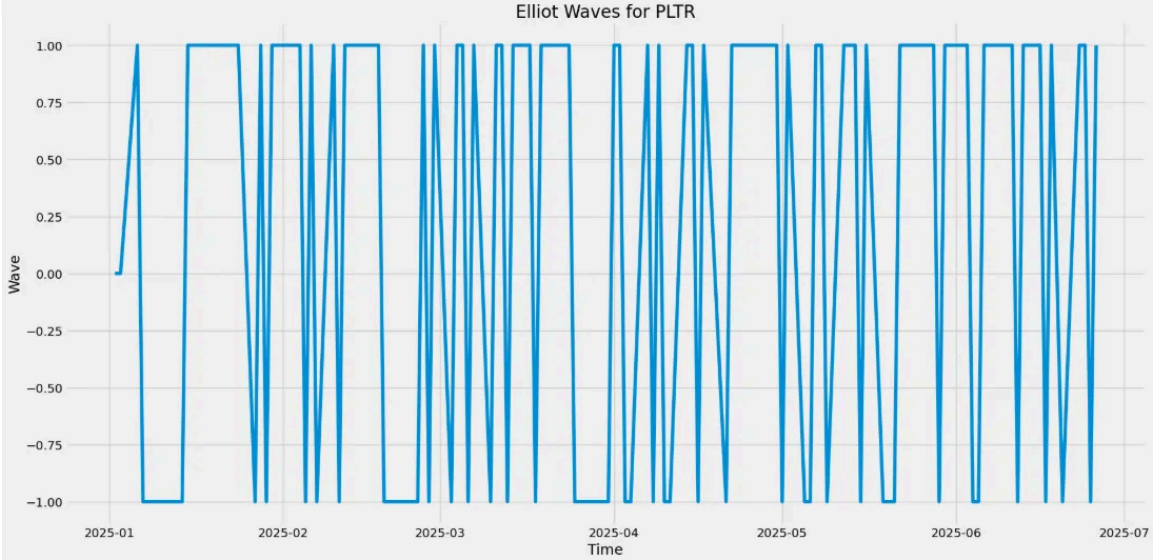


PLTR Elliott Wave Oscillator

- Step 3: Identifying the Elliot Waves for PLTR [1]

```
waves = []
for i in range(0, len(df)):
```

```
    if i==0:
        waves.append(0)
    if df["close"][i] > df["close"][i-1] and i>0:
        waves.append(1)
    elif df["close"][i] < df["close"][i-1] and i>0:
        waves.append(-1)

#Add waves to the SP500 dataframe

x=0
waves.insert(0, x)

df["Waves"] = waves

#Plot the waves

plt.plot(df["Waves"])
plt.title("Elliot Waves for PLTR")
plt.xlabel("Time")
plt.ylabel("Wave")
plt.show()

#Identify the waves

wave_count = 0
for i in range(1, len(df)):
    if df["Waves"][i] == 1:
        wave_count += 1
    elif df["Waves"][i] == -1:
        wave_count -= 1

#identify future evolution of spot based on wave count

if wave_count > 0:
    print("PLTR is likely to increase in the future.")
elif wave_count < 0:
    print("PLTR is likely to decrease in the future.")
else:
    print("PLTR is likely to remain stable in the future.")


PLTR is likely to increase in the future.
```

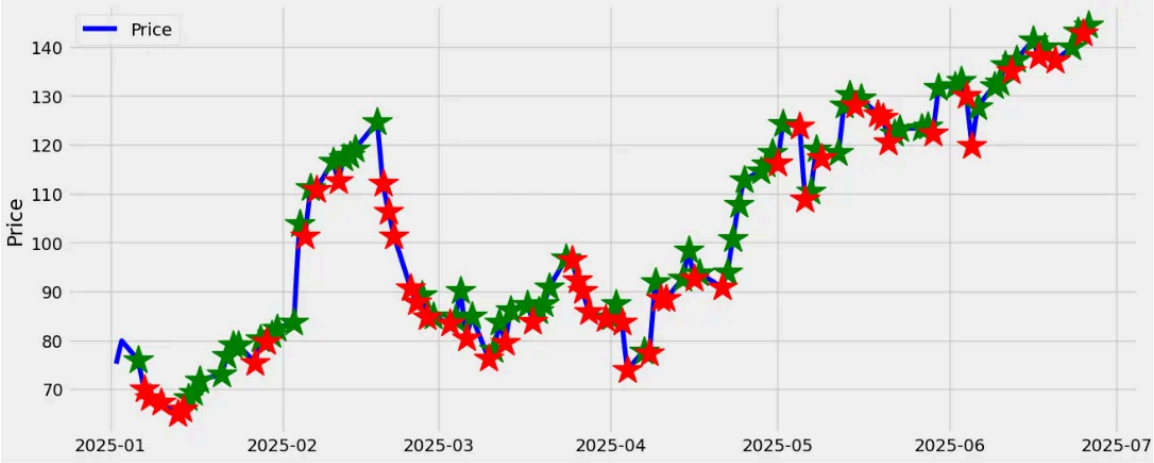


Elliot Waves for PLTR

- Visualizing the Elliot Wave buy and sell signals for PLTR [3]

```
buysignals = df[df["Waves"] == 1]
sellsignals = df[df["Waves"] == -1]

plt.figure(figsize=(14,6))
plt.plot(df["close"], color="b", label="Price")

plt.ylabel("Price")

for idx in buysignals.index.tolist():
  plt.plot(
      idx,
      df.loc[idx]["close"],
      "g*",
      markersize=25
  )

for idx in sellsignals.index.tolist():
  plt.plot(
      idx,
      df.loc[idx]["close"],
```

```
        "r*",
        markersize=25
    )

ax = plt.gca()
for index, label in enumerate(ax.xaxis.get_ticklabels()):
    if index % 1 != 0:
        label.set_visible(False)
plt.legend()
plt.show()
```

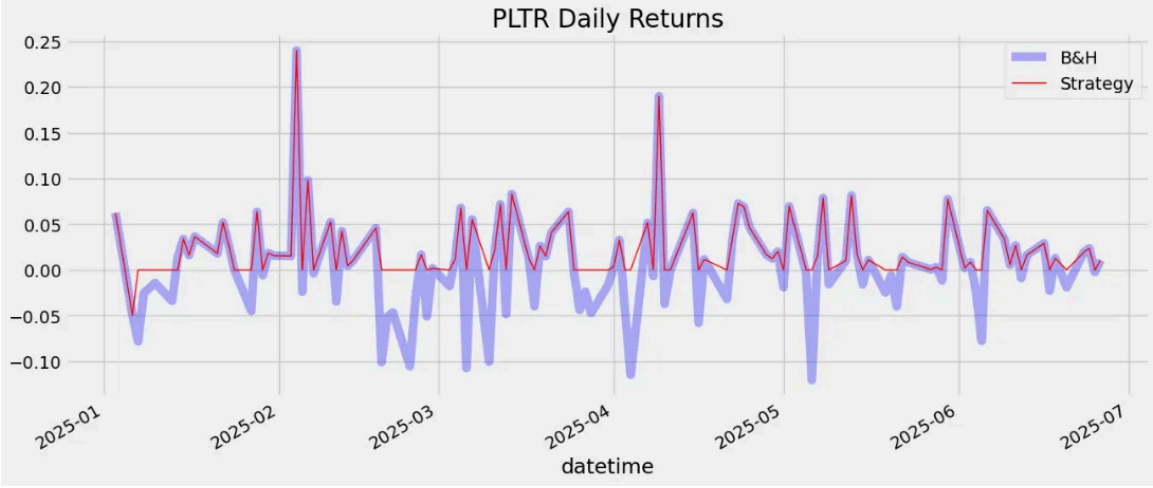


Elliot Wave buy and sell signals vs close price for PLTR

- Step 4: Comparing PLTR daily and cumulative returns (backtesting [2]): Elliot Wave strategy vs B&H benchmark

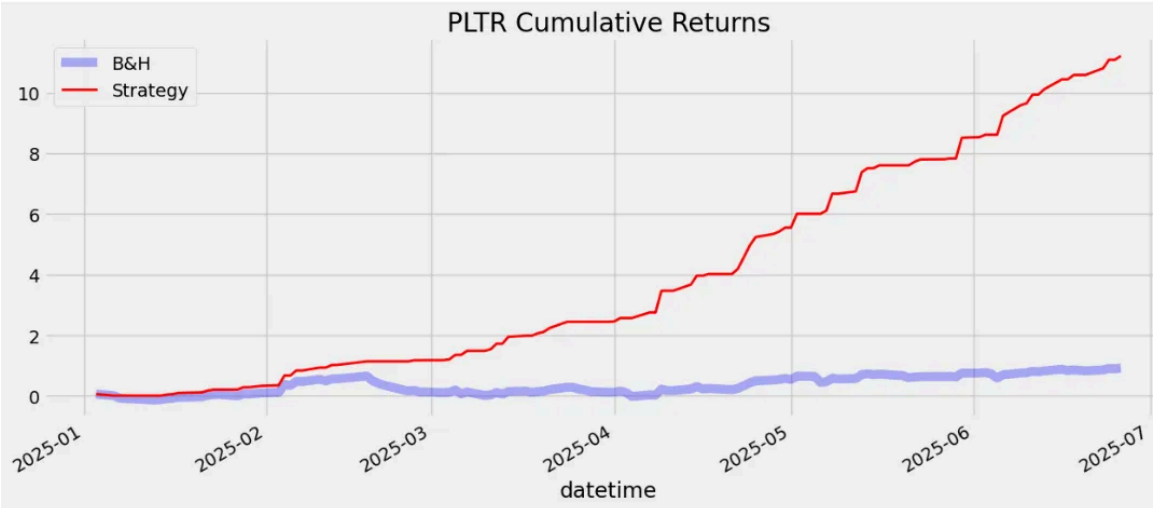
```
mysignal=df["Waves"]
position = []
for i in range(len(mysignal)):
    if mysignal[i] == 1:
        position.append(1)
    else:
```

```
            position.append(0)

    for i in range(len(df['close'])):
        if mysignal[i] == 1:
            position[i] = 1
        elif mysignal[i] == -1:
            position[i] = 0
        else:
            position[i] = position[i-1]

    rets = df.close.pct_change().dropna()
    strat_rets = position[1:]*rets
    plt.figure(figsize=(14,6))

    #plt.title('Daily Returns')
    rets.plot(color = 'blue', alpha = 0.3, linewidth = 7,label='B&H')
    strat_rets.plot(color = 'r', linewidth = 1,label='Strategy')
    plt.legend()
    plt.title("PLTR Daily Returns")
    plt.show()
```



PLTR Daily Returns

```
rets_cum = (1 + rets).cumprod() - 1
strat_cum = (1 + strat_rets).cumprod() - 1

plt.figure(figsize=(14,6))

plt.title('Cumulative Returns')
rets_cum.plot(color = 'blue', alpha = 0.3, linewidth = 7,label='B&H
strat_cum.plot(color = 'r', linewidth = 2,label='Strategy')
plt.legend()
plt.title("PLTR Cumulative Returns")
plt.show()
```



PLTR Cumulative Returns

- Comparing cumulative returns from the last available 5 days

```
#Strategy

strat_cum.tail()
```

```
datetime
2025-06-20    10.586790
2025-06-23    10.807892
2025-06-24    11.087224
2025-06-25    11.087224
2025-06-26    11.215795

#B&H

rets_cum.tail()

datetime
2025-06-20    0.826041
2025-06-23    0.860886
2025-06-24    0.904908
2025-06-25    0.900519
2025-06-26    0.920734
```

- It is clear that the PLTR profitability ratio Strategy/B&H is 12.17 on 2025–06–26.

Conclusions

- In this post, we have shown how to backtest the EWO trading strategy while avoiding subjective interpretation of repeated patterns found in larger/smaller time frames.
- This is where Elliott Wave meets quant trading.
- In practice, multiple factors should line up to help confirm trade signals with confidence: support and resistance levels, different technical indicators, fundamental analysis, etc.

References

1. How to build and use the Elliot Wave oscillator and waves in python ?
2. Algorithmic Trading with Python
3. Visualizing Trading Signals in Python
4. Data Science for Financial Markets

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- Unlocking Palantir Technologies' Potential with Profitable Algo Trading Strategies in Python — 1. ADX RSI
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What are your thoughts?

Altan Alpay
5 hours ago

as of june 30, this is a great lesson in how not to do a strat. it is multiplying past returns after labeling if it was up or down... and it gets great returns :D.

It is also calculating 'ewo' and not using it later.

Intuitively whenever you see a strat that is 10x+ of buynhod you should look for bias.

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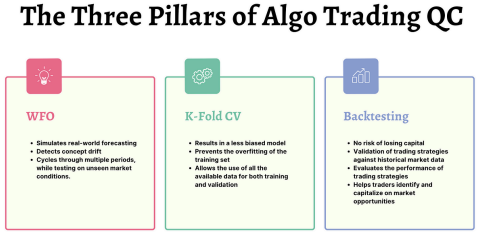

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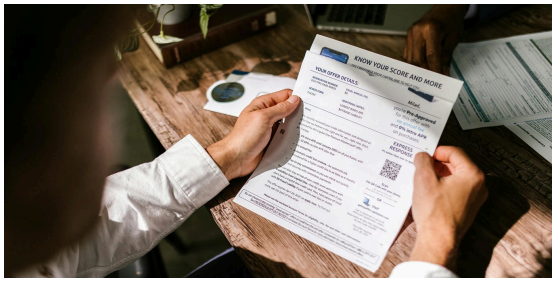

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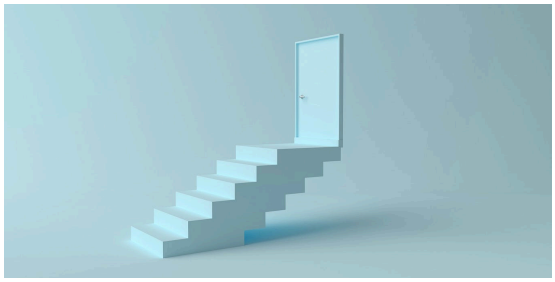

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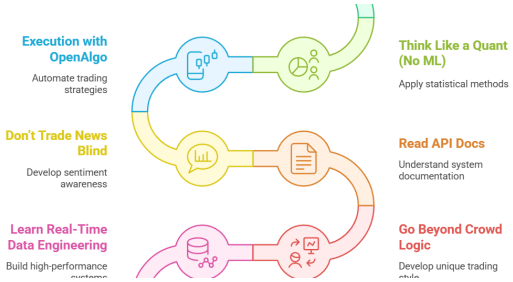

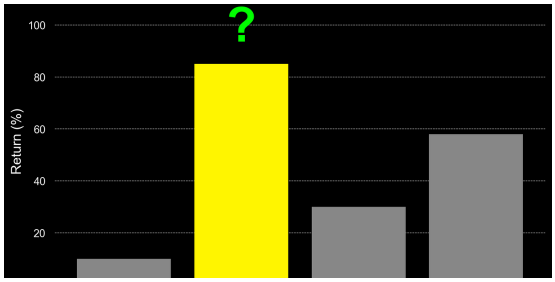

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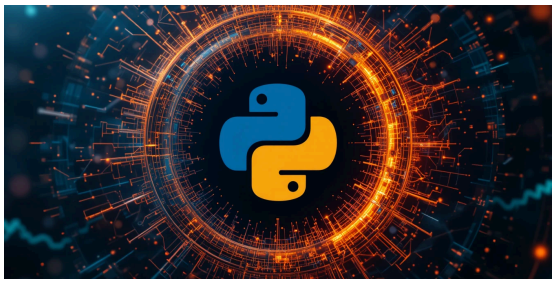

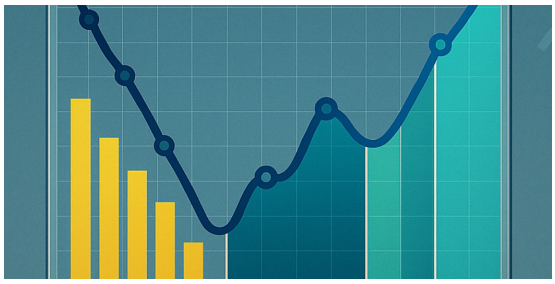

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