Plot Gamestop Stock Graph

Version author
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Language
Python 3.10

Last updated
Mar 3, 2023, 6:00 AM

In [1]:
```
!pip install yfinance
#!pip install pandas
#!pip install requests
!pip install bs4
#!pip install plotly
```

```
Requirement already satisfied: yfinance in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (0.2.4)
Requirement already satisfied: cryptography>=3.3.2 in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from yfinance) (38.0.2)
Requirement already satisfied: pytz>=2022.5 in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from yfinance) (2022.6)
Requirement already satisfied: appdirs>=1.4.4 in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from yfinance) (1.4.4)
Requirement already satisfied: html5lib>=1.1 in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from yfinance) (1.1)
Collecting beautifulsoup4>=4.11.1
  Downloading beautifulsoup4-4.11.2-py3-none-any.whl (129 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 129.4/129.4 kB 18.2 MB/s eta 0:00:00
Requirement already satisfied: frozendict>=2.3.4 in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from yfinance) (2.3.5)
Requirement already satisfied: multitasking>=0.0.7 in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from yfinance) (0.0.11)
Collecting lxml>=4.9.1
  Downloading lxml-4.9.2-cp37-cp37m-manylinux_2_17_x86_64.manylinux2014_x86_64.manylinux_2_24_x86_64.whl (6.6 MB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 6.6/6.6 MB 84.3 MB/s eta 0:00:00:00:0100:01
Requirement already satisfied: numpy>=1.16.5 in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from yfinance) (1.21.6)
Requirement already satisfied: pandas>=1.3.0 in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from yfinance) (1.3.5)
Requirement already satisfied: requests>=2.26 in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from yfinance) (2.28.1)
Requirement already satisfied: soupsieve>1.2 in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from beautifulsoup4>=4.11.1->yfinance) (2.3.2.post1)
Requirement already satisfied: cffi>=1.12 in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from cryptography>=3.3.2->yfinance) (1.15.1)
Requirement already satisfied: webencodings in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from html5lib>=1.1->yfinance) (0.5.1)
Requirement already satisfied: six>=1.9 in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from html5lib>=1.1->yfinance) (1.16.0)
Requirement already satisfied: python-dateutil>=2.7.3 in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from pandas>=1.3.0->yfinance) (2.8.2)
Requirement already satisfied: charset-normalizer<3,>=2 in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from requests>=2.26->yfinance) (2.1.1)
Requirement already satisfied: certifi>=2017.4.17 in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from requests>=2.26->yfinance) (2022.12.7)
Requirement already satisfied: urllib3<1.27,>=1.21.1 in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from requests>=2.26->yfinance) (1.26.13)
Requirement already satisfied: idna<4,>=2.5 in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from requests>=2.26->yfinance) (3.4)
Requirement already satisfied: pycparser in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from cffi>=1.12->cryptography>=3.3.2->yfinance) (2.21)
Installing collected packages: lxml, beautifulsoup4
  Attempting uninstall: lxml
    Found existing installation: lxml 4.6.4
    Uninstalling lxml-4.6.4:
      Successfully uninstalled lxml-4.6.4
  Attempting uninstall: beautifulsoup4
    Found existing installation: beautifulsoup4 4.10.0
    Uninstalling beautifulsoup4-4.10.0:
      Successfully uninstalled beautifulsoup4-4.10.0
Successfully installed beautifulsoup4-4.11.2 lxml-4.9.2
Collecting bs4
  Downloading bs4-0.0.1.tar.gz (1.1 kB)
  Preparing metadata (setup.py) ... done
Requirement already satisfied: beautifulsoup4 in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from bs4) (4.11.2)
Requirement already satisfied: soupsieve>1.2 in /home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from beautifulsoup4->bs4) (2.3.2.post1)
Building wheels for collected packages: bs4
  Building wheel for bs4 (setup.py) ... done
  Created wheel for bs4: filename=bs4-0.0.1-py3-none-any.whl size=1256 sha256=6943f49ba9d95e2f7021ffbd811c382efb7f88d626bbd6cac83376d586e751fd
  Stored in directory: /home/jupyterlab/.cache/pip/wheels/77/8a/04/7b1a8ce5de6555a18e09370d3d4fde48be9571ac07a623071e
Successfully built bs4
Installing collected packages: bs4
Successfully installed bs4-0.0.1
```

In [2]:
```
import yfinance as yf
import pandas as pd
import requests
from bs4 import BeautifulSoup
import plotly.graph_objects as go
from plotly.subplots import make_subplots
```

In [3]:
```
def make_graph(stock_data, revenue_data, stock):
    fig = make_subplots(rows=2, cols=1, shared_xaxes=True, subplot_titles=("Historical Share Price", "Historical Revenue"), vertical_spacing = .3)
    fig.add_trace(go.Scatter(x=pd.to_datetime(stock_data.Date, infer_datetime_format=True), y=stock_data.Close.astype("float"), name="Share Price"), row=1, col=1)
    fig.add_trace(go.Scatter(x=pd.to_datetime(revenue_data.Date, infer_datetime_format=True), y=revenue_data.Revenue.astype("float"), name="Revenue"), row=2, col=1)
    fig.update_xaxes(title_text="Date", row=1, col=1)
    fig.update_xaxes(title_text="Date", row=2, col=1)
    fig.update_yaxes(title_text="Price ($US)", row=1, col=1)
    fig.update_yaxes(title_text="Revenue ($US Millions)", row=2, col=1)
    fig.update_layout(showlegend=False,
    height=900,
    title=stock,
    xaxis_rangeslider_visible=True)
    fig.show()
```

In [4]:
```
tesla = yf.Ticker("TSLA")
```

In [6]:
```
tesla_data = tesla.history(period="max")
```

In [7]:
```
tesla_data.reset_index(inplace=True)
tesla_data.head()
```

Out[7]:

	Date	Open	High	Low	Close	Volume	Dividends	Stock Splits
0	2010-06-29 00:00:00-04:00	1.266667	1.666667	1.169333	1.592667	281494500	0.0	0.0
1	2010-06-30 00:00:00-04:00	1.719333	2.028000	1.553333	1.588667	257806500	0.0	0.0
2	2010-07-01 00:00:00-04:00	1.666667	1.728000	1.351333	1.464000	123282000	0.0	0.0
3	2010-07-02 00:00:00-04:00	1.533333	1.540000	1.247333	1.280000	77097000	0.0	0.0

4	2010-07-06 00:00:00-04:00	1.333333	1.333333	1.055333	1.074000	103003500	0.0	0.0

In [8]:
```
url= "https://www.macrotrends.net/stocks/charts/TSLA/tesla/revenue"
html_data=requests.get(url).text
```

In [9]:
```
soup = BeautifulSoup(html_data,"html5lib")
```

In [10]:
```
tesla_revenue= pd.read_html(url, match="Tesla Quarterly Revenue", flavor='bs4')[0]
tesla_revenue=tesla_revenue.rename(columns = {'Tesla Quarterly Revenue(Millions of US $)': 'Date', 'Tesla Quarterly Revenue(Millions of US $).1': 'Revenue'}, inplace = False)
tesla_revenue["Revenue"] = tesla_revenue["Revenue"].str.replace(",","").str.replace("$","")
tesla_revenue.head()
```

```
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages/ipykernel_launcher.py:3: FutureWarning: The default value of regex will change from True to False in a future vers
ion. In addition, single character regular expressions will *not* be treated as literal strings when regex=True.
  This is separate from the ipykernel package so we can avoid doing imports until
```

Out[10]:

	Date	Revenue
0	2022-12-31	24318
1	2022-09-30	21454
2	2022-06-30	16934
3	2022-03-31	18756
4	2021-12-31	17719

In [11]:
```
tesla_revenue
```

Out[11]:

	Date	Revenue
0	2022-12-31	24318
1	2022-09-30	21454
2	2022-06-30	16934
3	2022-03-31	18756
4	2021-12-31	17719
5	2021-09-30	13757
6	2021-06-30	11958
7	2021-03-31	10389
8	2020-12-31	10744
9	2020-09-30	8771
10	2020-06-30	6036
11	2020-03-31	5985
12	2019-12-31	7384
13	2019-09-30	6303
14	2019-06-30	6350
15	2019-03-31	4541
16	2018-12-31	7226
17	2018-09-30	6824
18	2018-06-30	4002
19	2018-03-31	3409
20	2017-12-31	3288
21	2017-09-30	2985
22	2017-06-30	2790
23	2017-03-31	2696
24	2016-12-31	2285
25	2016-09-30	2298
26	2016-06-30	1270
27	2016-03-31	1147
28	2015-12-31	1214
29	2015-09-30	937
30	2015-06-30	955
31	2015-03-31	940
32	2014-12-31	957
33	2014-09-30	852
34	2014-06-30	769
35	2014-03-31	621
36	2013-12-31	615
37	2013-09-30	431
38	2013-06-30	405
39	2013-03-31	562
40	2012-12-31	306
41	2012-09-30	50
42	2012-06-30	27
43	2012-03-31	30
44	2011-12-31	39
45	2011-09-30	58

46	2011-06-30	58
47	2011-03-31	49
48	2010-12-31	36
49	2010-09-30	31
50	2010-06-30	28
51	2010-03-31	21
52	2009-12-31	NaN
53	2009-09-30	46
54	2009-06-30	27

In [12]:

```
tesla_revenue.dropna(inplace=True)
```

In [13]:

```
tesla_revenue = tesla_revenue[tesla_revenue['Revenue'] != ""]
```

In [14]:

```
tesla_revenue.dropna(inplace=True)
tesla_revenue.tail()
```

Out[14]:

	Date	Revenue
49	2010-09-30	31
50	2010-06-30	28
51	2010-03-31	21
53	2009-09-30	46
54	2009-06-30	27

In [15]:

```
gamestop = yf.Ticker("GME")
```

In [16]:

```
gme_data=gamestop.history(period="max")
```

In [17]:

```
gme_data.reset_index(inplace=True)
gme_data.head()
```

Out[17]:

	Date	Open	High	Low	Close	Volume	Dividends	Stock Splits
0	2002-02-13 00:00:00-05:00	1.620129	1.693350	1.603296	1.691667	76216000	0.0	0.0
1	2002-02-14 00:00:00-05:00	1.712707	1.716074	1.670626	1.683250	11021600	0.0	0.0
2	2002-02-15 00:00:00-05:00	1.683251	1.687459	1.658002	1.674834	8389600	0.0	0.0
3	2002-02-19 00:00:00-05:00	1.666418	1.666418	1.578047	1.607504	7410400	0.0	0.0
4	2002-02-20 00:00:00-05:00	1.615921	1.662210	1.603296	1.662210	6892800	0.0	0.0

In [18]:

```
url="https://www.macrotrends.net/stocks/charts/GME/gamestop/revenue"
html_data=requests.get(url).text
```

In [19]:

```
soup = BeautifulSoup(html_data,"html5lib")
```

In [20]:

```
gme_revenue= pd.read_html(url, match="GameStop Quarterly Revenue", flavor='bs4')[0]
gme_revenue=gme_revenue.rename(columns = {'GameStop Quarterly Revenue(Millions of US $)': 'Date', 'GameStop Quarterly Revenue(Millions of US $).1': 'Revenue'}, inplace = False)
gme_revenue["Revenue"] = gme_revenue["Revenue"].str.replace(",","").str.replace("$","")
```

```
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages/ipykernel_launcher.py:3: FutureWarning: The default value of regex will change from True to False in a future vers
ion. In addition, single character regular expressions will *not* be treated as literal strings when regex=True.
  This is separate from the ipykernel package so we can avoid doing imports until
```

In [21]:

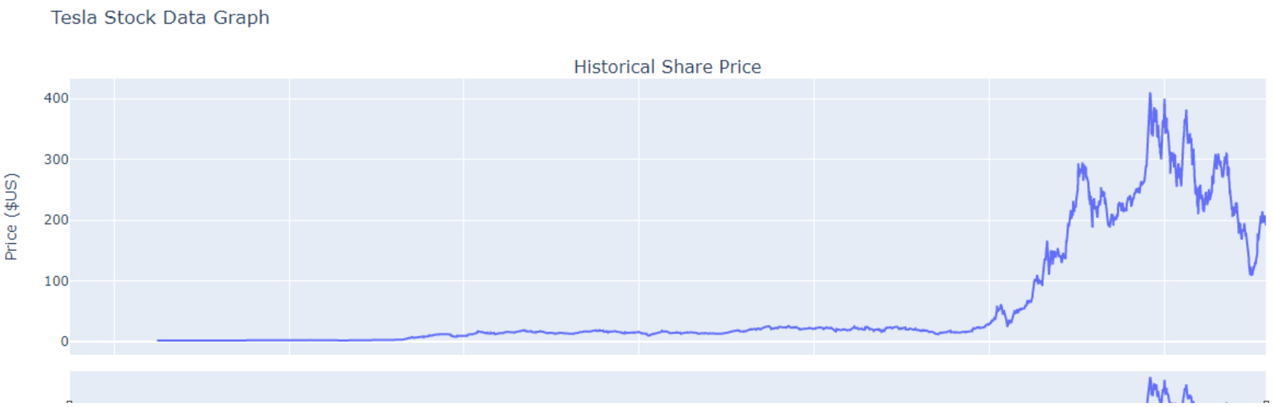
```
gme_revenue.dropna(inplace=True)
gme_revenue.tail()
```

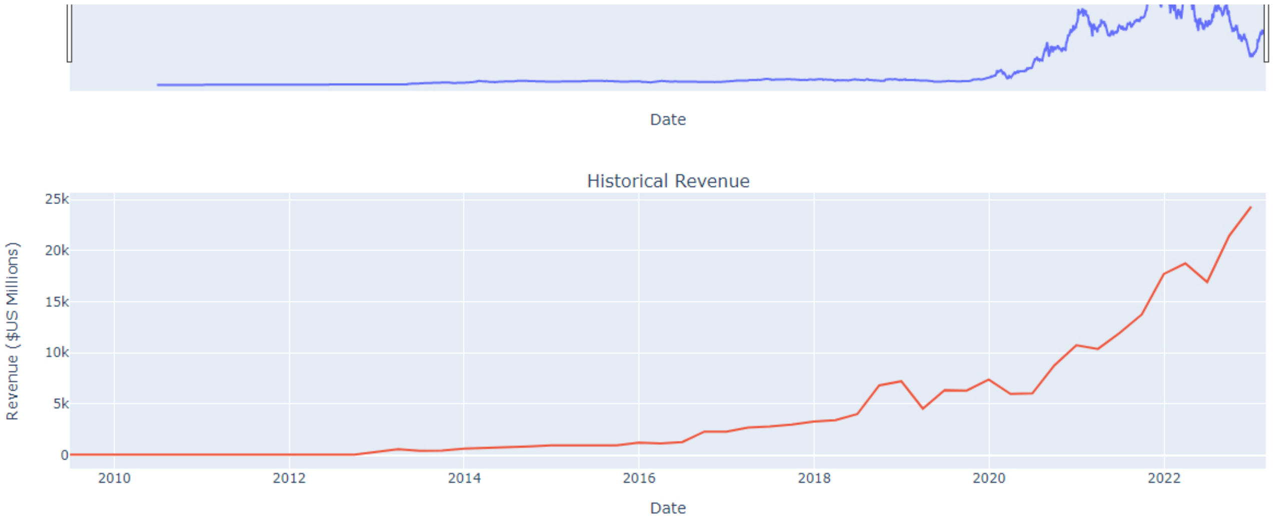
Out[21]:

	Date	Revenue
51	2010-01-31	3524
52	2009-10-31	1835
53	2009-07-31	1739
54	2009-04-30	1981
55	2009-01-31	3492

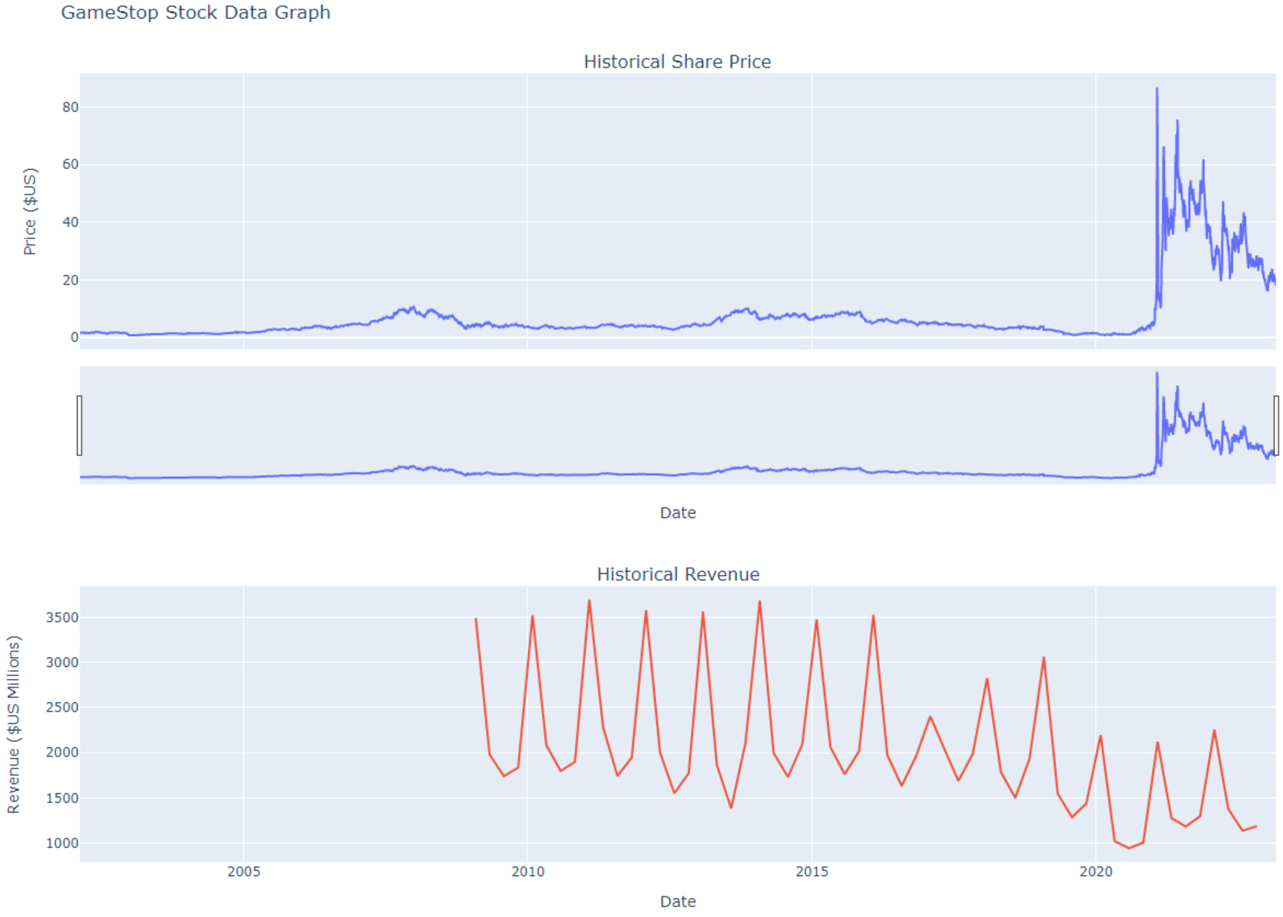
In [22]:

```
make_graph(tesla_data, tesla_revenue, 'Tesla Stock Data Graph')
```





```
In [23]: make_graph(gme_data, gme_revenue, 'GameStop Stock Data Graph')
```



```
In [ ]:
```