



# PYTHON PARA QUANTS

## COMO PYTHON PODE AJUDAR NA ANÁLISE DE INVESTIMENTOS

---

---

RAFAEL CALIXTO

# ABOUT ME



- MBA EM BIG DATA (CIÊNCIA DE DADOS) PELO IGTI
- MATEMÁTICA APLICADA NA UFSC
- DATA ENGINEER & DATA SCIENTIST NA  
WISE&TRUST

# ALSO



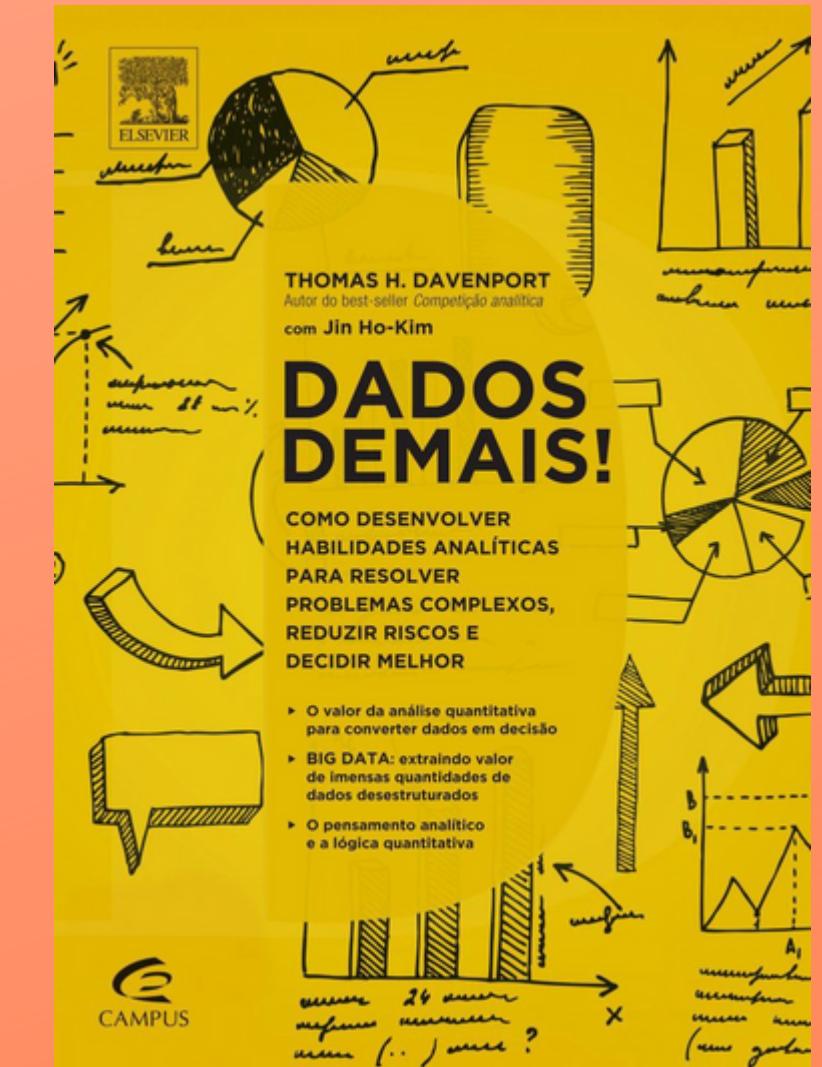
APAIXONADO POR:

- COMPUTAÇÃO
- ECONOMIA
- MATEMÁTICA



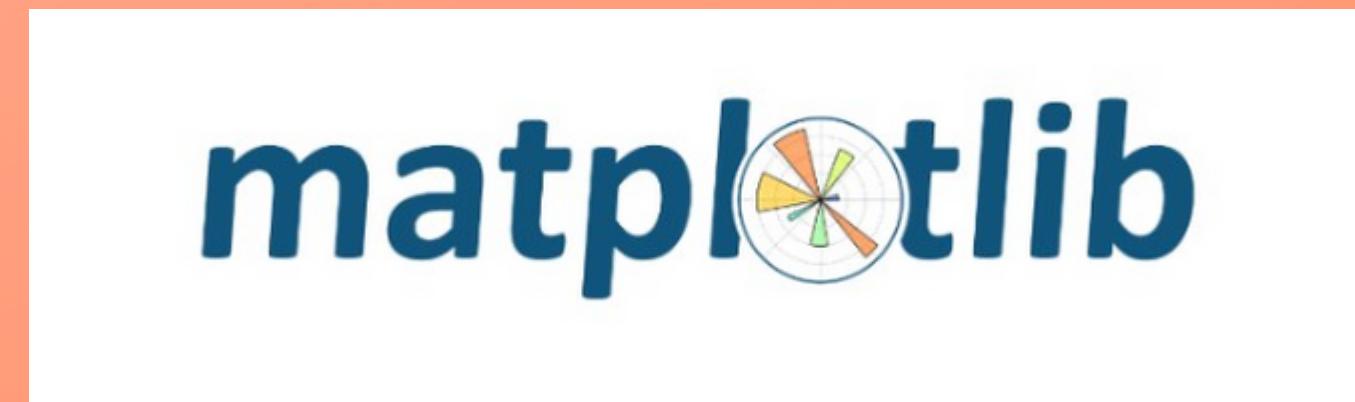
# QUANTS

"Os analistas quantitativos e os cientistas de dados geralmente têm PhD ou mestrado em disciplinas como Estatística, Matemática e mesmo Física"



QUANT >> CIENTISTA DE DADOS DO MUNDO FINANCEIRO

# Ferramentas Utilizadas



# Ferramentas para Quants



**CCXT - CryptoCurrency  
eXchange Trading  
Library**



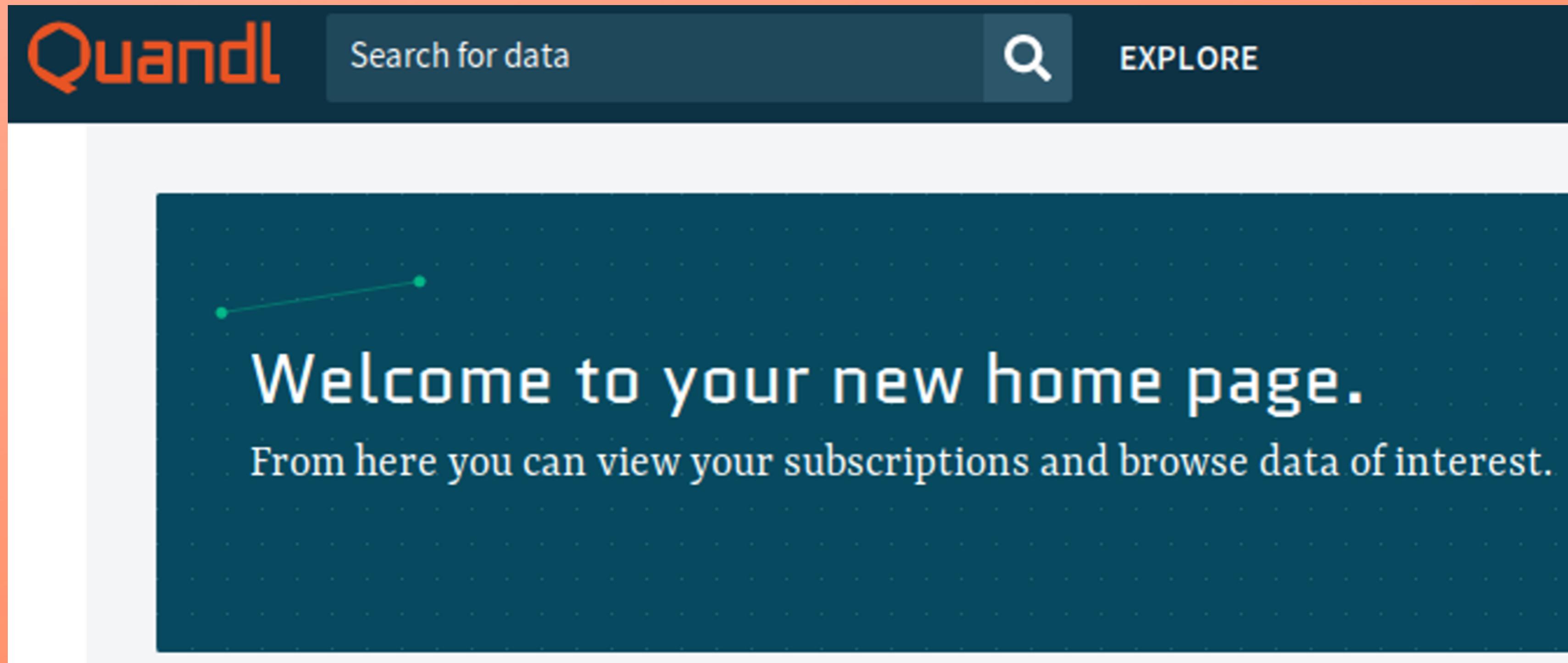
**Quandl - Quandl  
Python Client**



# Live Code



# Buscando o Dataframe desejado no Quandl



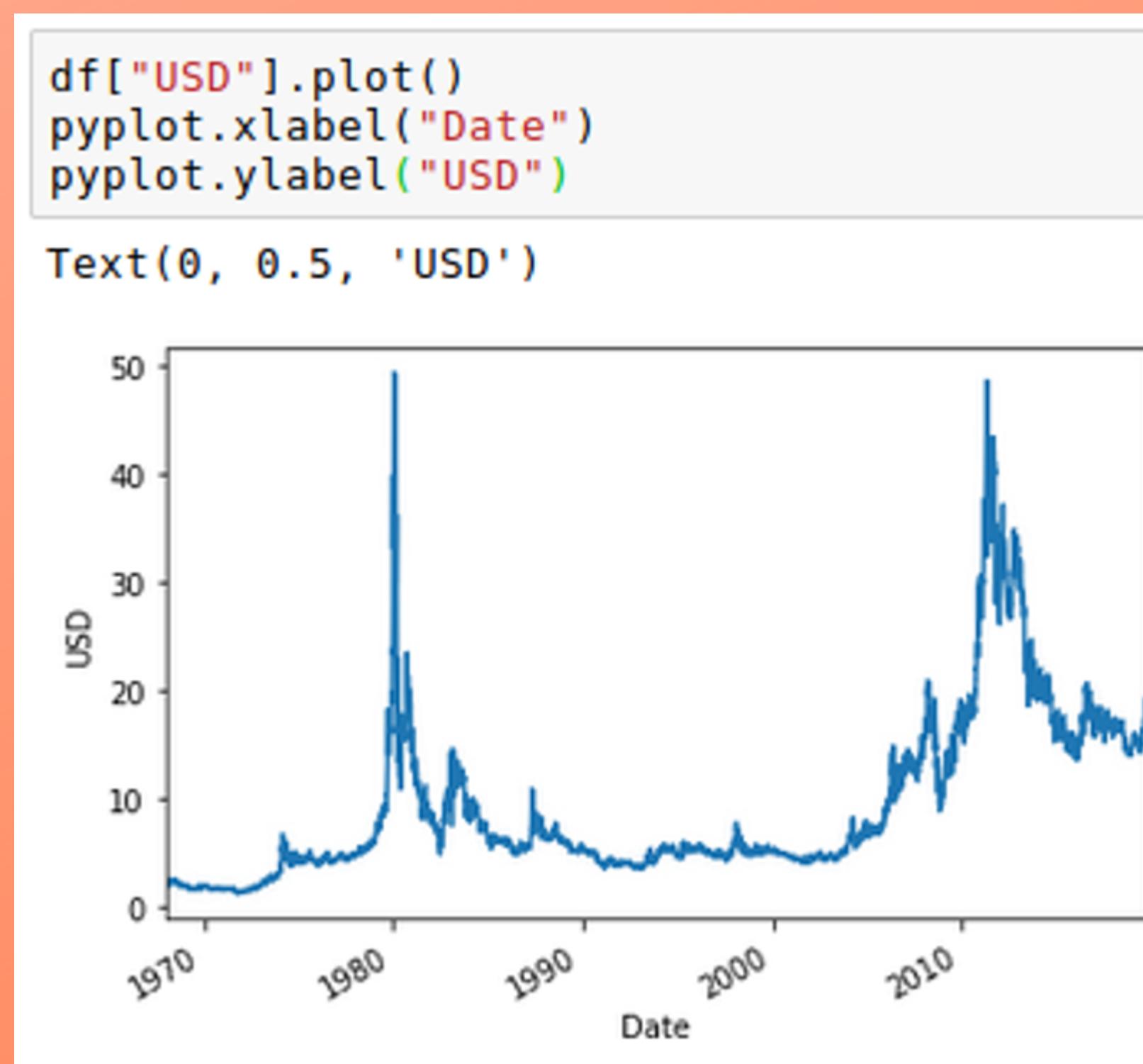
# Importando um dataframe do Quandl

```
from quandl import get  
from matplotlib import pyplot  
  
key = open("../key").read()[:-1]  
df = get("LBMA/SILVER", authtoken = key)
```

```
df.head(3)
```

	USD	GBP	EURO
Date			
1968-01-02	2.173	0.90417	NaN
1968-01-03	2.225	0.92500	NaN
1968-01-04	2.171	0.90208	NaN

É simples verificar o valor histórico



# Importando dados de uma Exchange

```
from ccxt import kraken
from pandas import DataFrame
from datetime import datetime
from matplotlib import pyplot

initial_data = kraken().fetchOHLCV("LTC/USD", timeframe = "1d")
initial_data
```

Time	Open	High	Low	Close	Volume
1508889600000	55.99	57.23	54.1	56.39	17106.91341964
1508976000000	56.39	57.5	55.01	55.56	10817.78532481
1509062400000	55.56	56.17	55.0	55.17	8895.64598233
1509148800000	55.17	55.87	54.0	54.24	6588.54688656
1509235200000	54.24	57.5	53.02	56.75	37804.52359825
1509321600000	56.75	58.01	55.7	56.29	15721.70023841
1509408000000	56.29	56.6	55.0	55.47	12710.26410369
1509494400000	55.44	55.7	53.01	53.46	22844.03947111
1509580800000	53.46	54.88	50.5	54.19	39074.24072338
1509667200000	53.69	57.29	53.51	55.98	26916.55781006
1509753600000	55.98	56.21	54.0	54.89	14261.24525866
1509840000000	54.69	55.2	53.06	54.42	8231.52805934
1509926400000	54.46	55.53	53.06	54.61	32190.28522992
1510012800000	54.61	63.5	54.3	60.6	93116.04707406
1510099200000	60.6	63.93	59.73	62.16	65687.30963232
1510185600000	62.16	66.95	61.81	64.24	46939.43287072
1510272000000	64.24	65.9	55.78	58.8	53725.12229952
1510358400000	58.8	63.99	56.0	61.88	47606.70458082
1510444800000	61.89	62.23	56.61	58.1	44009.35997077
1510531200000	57.72	62.6	57.71	61.82	31022.02000001

# É feito um tratamento nos dados para deixar no formato padrão

```
index, litecoin = [], []
for row in initial_data:
    index.append(datetime.utcfromtimestamp(row[0] / 1000).strftime("%Y-%m-%d"))
    litecoin.append(row[1:])

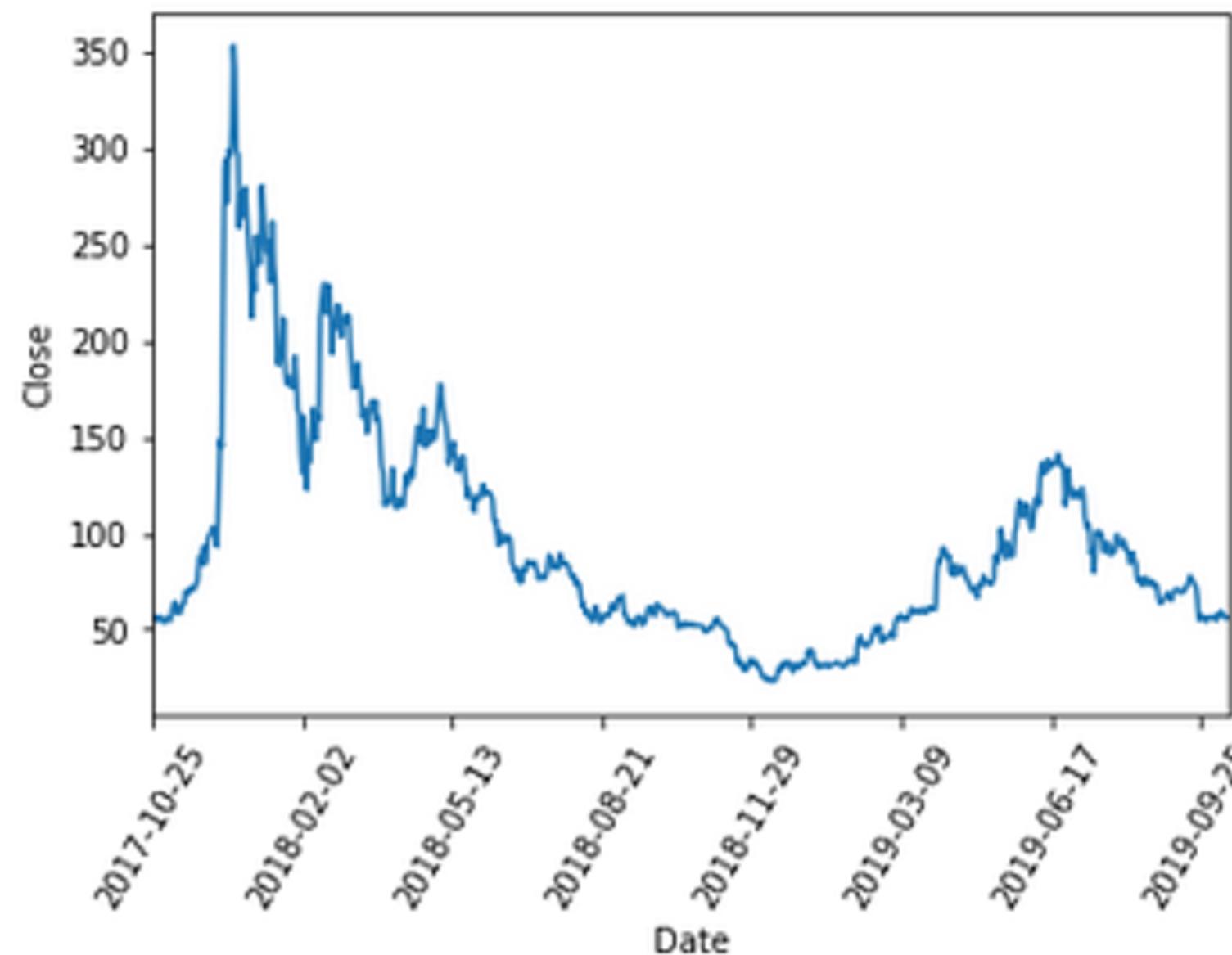
columns = ["Open", "High", "low", "Close", "Volume"]
df = DataFrame(litecoin, columns = columns, index = index)
df.head(3)
```

	Open	High	low	Close	Volume
2017-10-25	55.99	57.23	54.10	56.39	17106.913420
2017-10-26	56.39	57.50	55.01	55.56	10817.785325
2017-10-27	55.56	56.17	55.00	55.17	8895.645982

O resultado é muito semelhante ao anterior

```
df["Close"].plot()  
pyplot.xlabel("Date")  
pyplot.ylabel("Close")  
pyplot.xticks(rotation = 60)
```

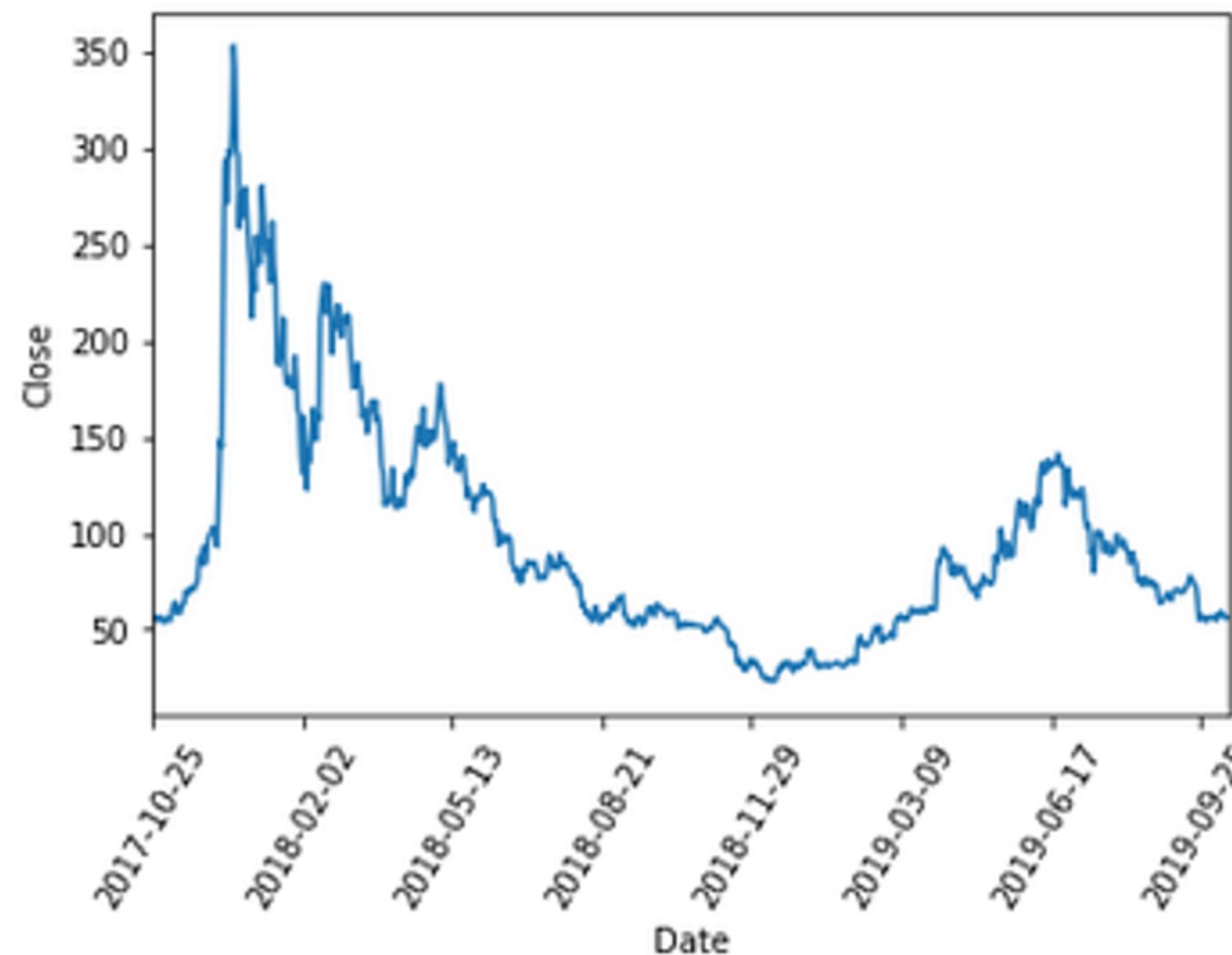
```
(array([ 0., 100., 200., 300., 400., 500., 600., 700., 800.]),  
<a list of 9 Text xticklabel objects>)
```



O resultado é muito semelhante ao anterior

```
df["Close"].plot()  
pyplot.xlabel("Date")  
pyplot.ylabel("Close")  
pyplot.xticks(rotation = 60)
```

```
(array([ 0., 100., 200., 300., 400., 500., 600., 700., 800.]),  
<a list of 9 Text xticklabel objects>)
```







# Fontes

<https://github.com/ccxt/ccxt>

<https://github.com/quandl/quandl-python>

<https://github.com/rafaelcalixto/analise-de-dados-com-python>

<https://www.quandl.com/data/LBMA/SILVER-Silver-Price-London-Fixing>



**THANK**

**YOU**

memegenerator.net

# CONTATOS



[github.com/rafaelcalixto](https://github.com/rafaelcalixto)



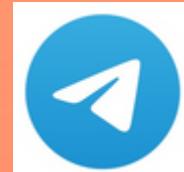
Twitter - @rafaelcalixtopy



<https://www.linkedin.com/in/rafael-calixto-9a11936b/>



[rafaelufpj@yahoo.com.br](mailto:rafaelufpj@yahoo.com.br)



Telegram - @rafaelcalixto



<https://speakerdeck.com/rafaelcalixto/>