Chandelier_Exit

September 29, 2021

1 Chandelier Exit

https://stockcharts.com/school/doku.php?id=chart_school:technical_indicators:chandelier_exit

```
[1]: import numpy as np
     import pandas as pd
     import matplotlib.pyplot as plt

     import warnings
     warnings.filterwarnings("ignore")

     # fix_yahoo_finance is used to fetch data
     import fix_yahoo_finance as yf
     yf.pdr_override()
```

```
[2]: # input
     symbol = 'AAPL'
     start = '2018-08-01'
     end = '2019-01-01'

     # Read data
     df = yf.download(symbol,start,end)

     # View Columns
     df.head()
```

```
[*********************100%***********************]  1 of 1 downloaded
```

```
[2]:               Open        High         Low       Close   Adj Close  \
     Date
     2018-08-01  199.130005  201.759995  197.309998  201.500000  199.243088
     2018-08-02  200.580002  208.380005  200.350006  207.389999  205.067123
     2018-08-03  207.029999  208.740005  205.479996  207.990005  205.660416
     2018-08-06  208.000000  209.250000  207.070007  209.070007  206.728317
     2018-08-07  209.320007  209.500000  206.759995  207.110001  204.790268

                    Volume
     Date
```

```
2018-08-01    67935700
2018-08-02    62404000
2018-08-03    33447400
2018-08-06    25425400
2018-08-07    25587400
```

[3]: `import talib as ta`

[4]: `df['ATR'] = ta.ATR(df['High'], df['Low'], df['Adj Close'], timeperiod=22)`

[5]:
```
df['High_22'] = df['High'].rolling(22).max()
df['Low_22'] = df['Low'].rolling(22).min()
```

[6]:
```
df['CH_Long'] = df['High_22'] - df['ATR'] * 3
df['CH_Short'] = df['Low_22'] + df['ATR'] * 3
```

[7]:
```
df = df.dropna()
df.head()
```

[7]:
```
                 Open        High         Low       Close   Adj Close  \
Date
2018-08-31  226.509995  228.869995  226.000000  227.630005  225.869812
2018-09-04  228.410004  229.179993  226.630005  228.360001  226.594162
2018-09-05  228.990005  229.669998  225.100006  226.869995  225.115677
2018-09-06  226.229996  227.350006  221.300003  223.100006  221.374847
2018-09-07  221.850006  225.369995  220.710007  221.300003  219.588760

              Volume       ATR     High_22      Low_22     CH_Long    CH_Short
Date
2018-08-31  43340100  4.367595  228.869995  200.350006  215.767211  213.452790
2018-09-04  27390100  4.319530  229.179993  204.520004  216.221402  217.478595
2018-09-05  33333000  4.330915  229.669998  204.520004  216.677253  217.512749
2018-09-06  34290000  4.409055  229.669998  204.520004  216.442832  217.747170
2018-09-07  37619800  4.420461  229.669998  204.520004  216.408614  217.781388
```
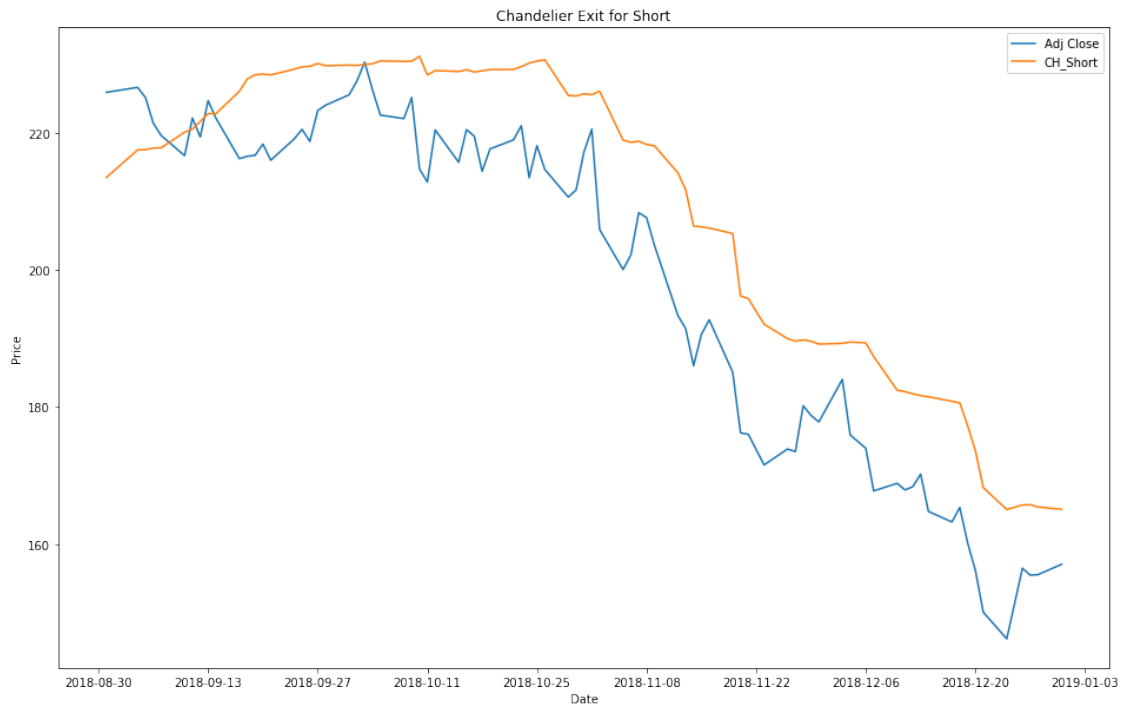
[8]:
```
plt.figure(figsize=(16,10))
plt.plot(df['Adj Close'])
plt.plot(df['CH_Long'])
plt.title('Chandelier Exit for Long')
plt.legend(loc='best')
plt.ylabel('Price')
plt.xlabel('Date')
plt.show()
```

Chandelier Exit for Long
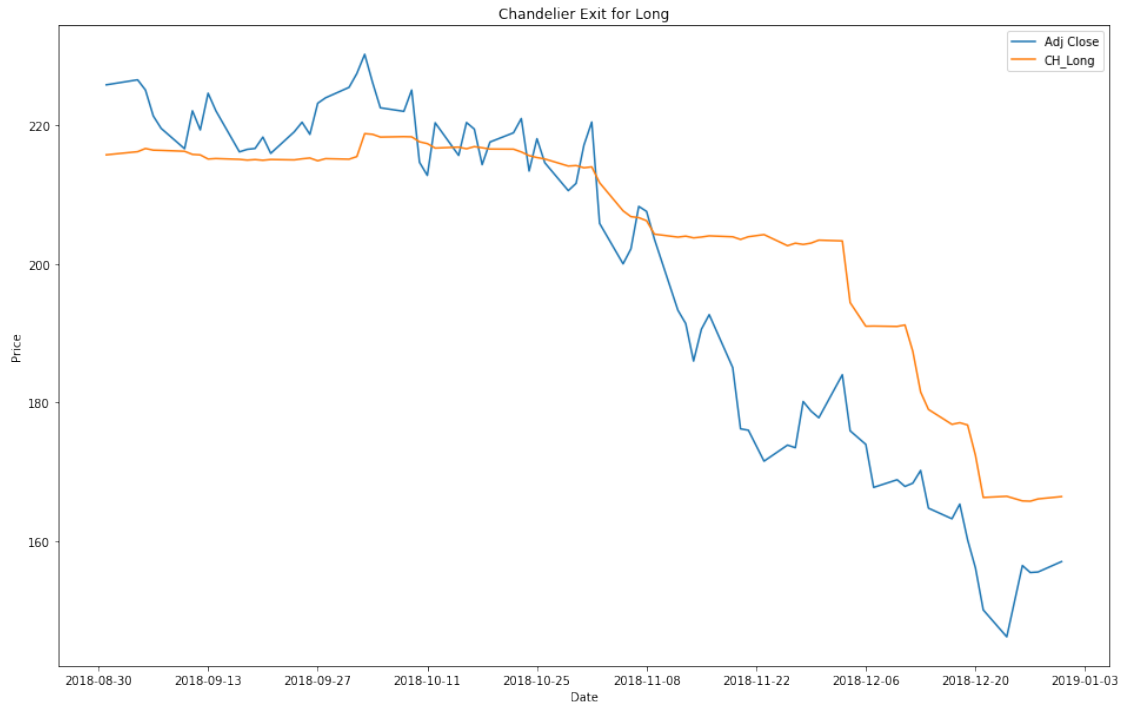
```
[9]: plt.figure(figsize=(16,10))
     plt.plot(df['Adj Close'])
     plt.plot(df['CH_Short'])
     plt.title('Chandelier Exit for Short')
     plt.legend(loc='best')
     plt.ylabel('Price')
     plt.xlabel('Date')
     plt.show()
```

Chandelier Exit for Short

```
[10]: plt.figure(figsize=(16,10))
      plt.plot(df['Adj Close'])
      plt.plot(df['CH_Long'])
      plt.plot(df['CH_Short'])
      plt.title('Chandelier Exit for Long & Short')
      plt.legend(loc='best')
      plt.ylabel('Price')
      plt.xlabel('Date')
      plt.show()
```

Chandelier Exit for Long & Short
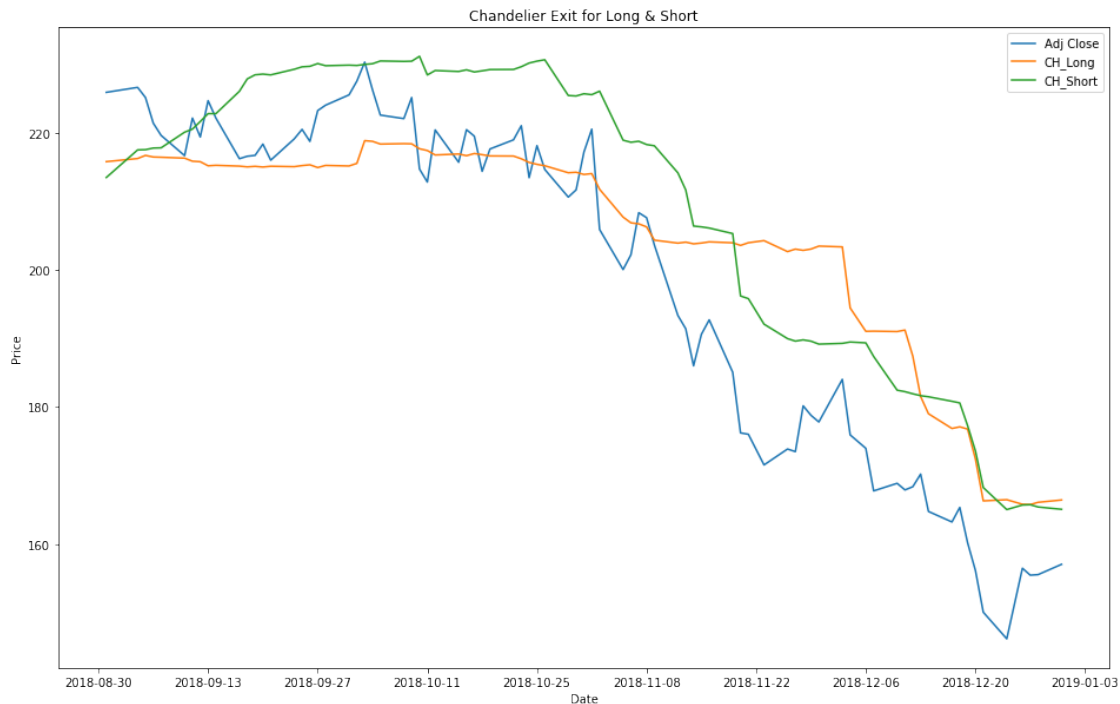
1.1 Candlestick with Chandelier Exit

```
[11]: from matplotlib import dates as mdates
      import datetime as dt


      df['VolumePositive'] = df['Open'] < df['Adj Close']
      df = df.dropna()
      df = df.reset_index()
      df['Date'] = mdates.date2num(df['Date'].astype(dt.date))
      df.head()
```

```
[11]:        Date        Open        High         Low       Close    Adj Close  \
      0  736937.0  226.509995  228.869995  226.000000  227.630005  225.869812
      1  736941.0  228.410004  229.179993  226.630005  228.360001  226.594162
      2  736942.0  228.990005  229.669998  225.100006  226.869995  225.115677
      3  736943.0  226.229996  227.350006  221.300003  223.100006  221.374847
      4  736944.0  221.850006  225.369995  220.710007  221.300003  219.588760


           Volume       ATR     High_22      Low_22     CH_Long    CH_Short  \
      0  43340100  4.367595  228.869995  200.350006  215.767211  213.452790
      1  27390100  4.319530  229.179993  204.520004  216.221402  217.478595
      2  33333000  4.330915  229.669998  204.520004  216.677253  217.512749
      3  34290000  4.409055  229.669998  204.520004  216.442832  217.747170
```

```
4  37619800  4.420461  229.669998  204.520004  216.408614  217.781388

   VolumePositive
0          False
1          False
2          False
3          False
4          False
```

[12]:
```python
from mpl_finance import candlestick_ohlc

fig = plt.figure(figsize=(16,8))
ax1 = plt.subplot(111)
candlestick_ohlc(ax1,df.values, width=0.5, colorup='g', colordown='r', alpha=1.
 ↪0)
ax1.plot(df.Date, df['CH_Long'])
ax1.xaxis_date()
ax1.xaxis.set_major_formatter(mdates.DateFormatter('%d-%m-%Y'))
#ax1.axhline(y=dfc['Adj Close'].mean(),color='r')
ax1v = ax1.twinx()
colors = df.VolumePositive.map({True: 'g', False: 'r'})
ax1v.bar(df.Date, df['Volume'], color=colors, alpha=0.4)
ax1v.axes.yaxis.set_ticklabels([])
ax1v.set_ylim(0, 3*df.Volume.max())
ax1.set_title('Chandelier Exit for Long')
ax1.set_ylabel('Price')
ax1.set_xlabel('Date')
ax1.legend(loc='best')
```
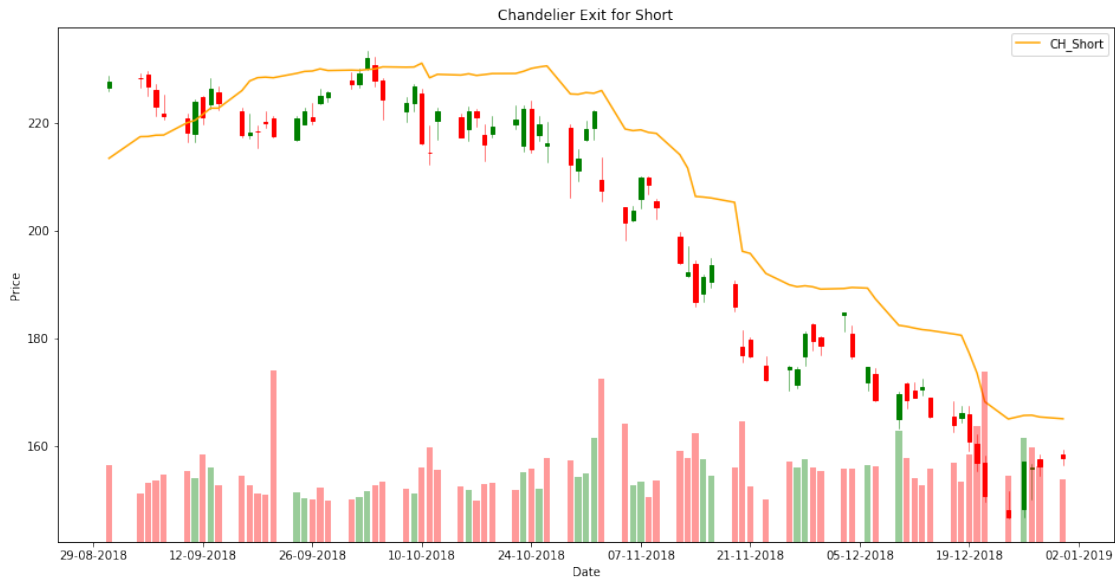
[12]: <matplotlib.legend.Legend at 0x2b07317a5f8>
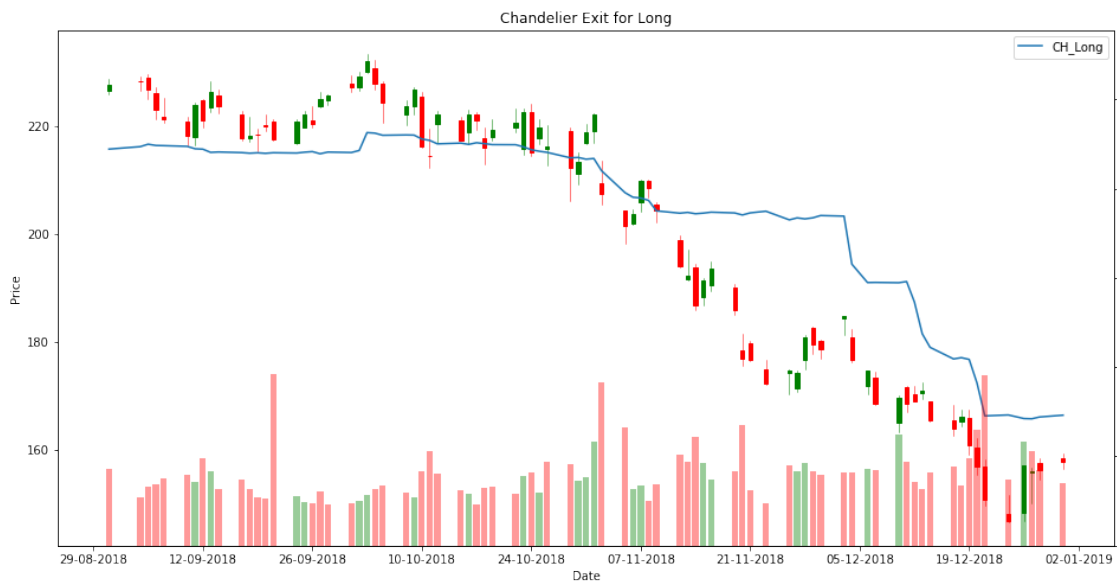
```
[13]: fig = plt.figure(figsize=(16,8))
      ax1 = plt.subplot(111)
      candlestick_ohlc(ax1,df.values, width=0.5, colorup='g', colordown='r', alpha=1.
       ↪0)
      ax1.plot(df.Date, df['CH_Short'], color='Orange')
      ax1.xaxis_date()
      ax1.xaxis.set_major_formatter(mdates.DateFormatter('%d-%m-%Y'))
      #ax1.axhline(y=dfc['Adj Close'].mean(),color='r')
      ax1v = ax1.twinx()
      colors = df.VolumePositive.map({True: 'g', False: 'r'})
      ax1v.bar(df.Date, df['Volume'], color=colors, alpha=0.4)
      ax1v.axes.yaxis.set_ticklabels([])
      ax1v.set_ylim(0, 3*df.Volume.max())
      ax1.set_title('Chandelier Exit for Short')
      ax1.set_ylabel('Price')
      ax1.set_xlabel('Date')
      ax1.legend(loc='best')
```

[13]: <matplotlib.legend.Legend at 0x2b0736a7518>


```
[14]: fig = plt.figure(figsize=(16,8))
      ax1 = plt.subplot(111)
      candlestick_ohlc(ax1,df.values, width=0.5, colorup='g', colordown='r', alpha=1.
       ↪0)
      ax1.plot(df.Date, df['CH_Long'])
```

```
ax1.plot(df.Date, df['CH_Short'])
ax1.xaxis_date()
ax1.xaxis.set_major_formatter(mdates.DateFormatter('%d-%m-%Y'))
#ax1.axhline(y=dfc['Adj Close'].mean(),color='r')
ax1v = ax1.twinx()
colors = df.VolumePositive.map({True: 'g', False: 'r'})
ax1v.bar(df.Date, df['Volume'], color=colors, alpha=0.4)
ax1v.axes.yaxis.set_ticklabels([])
ax1v.set_ylim(0, 3*df.Volume.max())
ax1.set_title('Chandelier Exit for Long & Short')
ax1.set_ylabel('Price')
ax1.set_xlabel('Date')
ax1.legend(loc='best')
```

[14]: <matplotlib.legend.Legend at 0x2b073b4fdd8>