Trading via Image Classification (2020)

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트레이딩 매매기법을 이미지를 통해 학습 시켜 보자

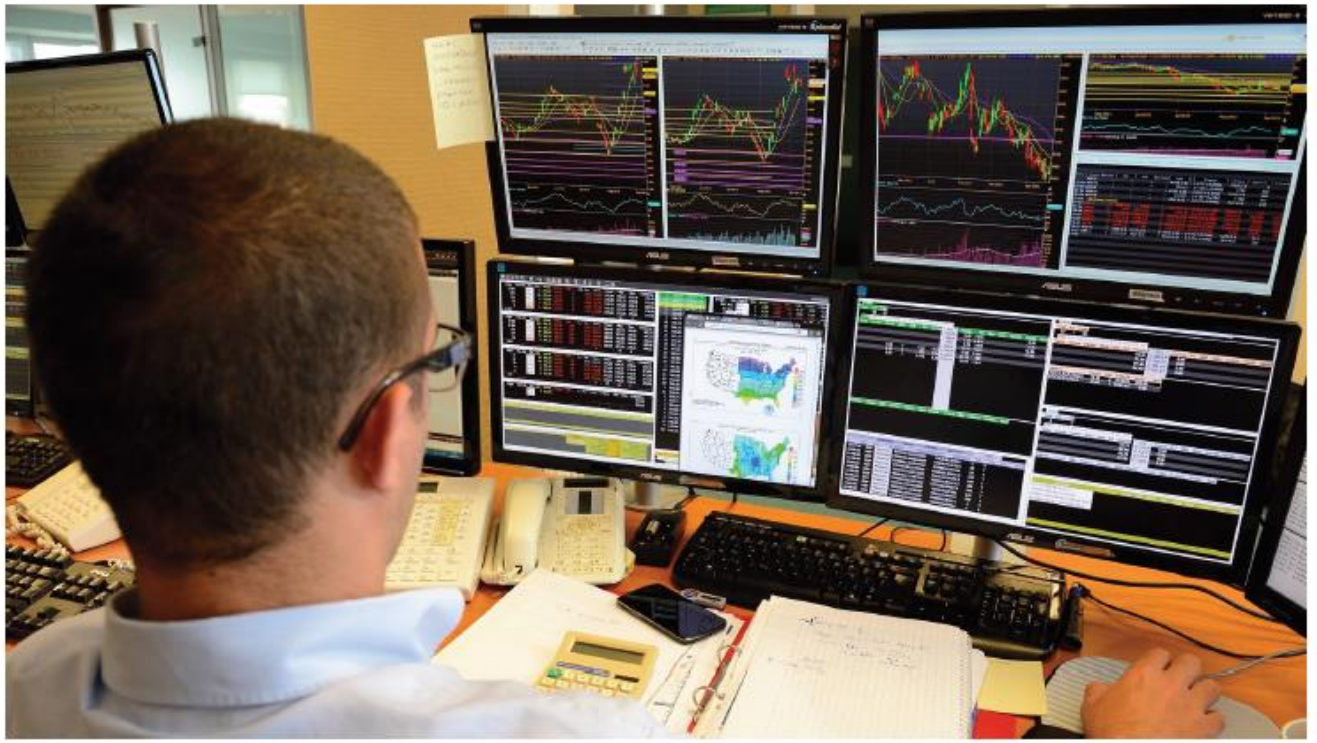

Figure 1: Typical workstation of a professional trader. Credit: Photoagriculture / Shutterstock.com.

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Data and Methods

Figure 2: Converting continuous time series to images.

Data and Methods

Buy Rule: 기술적 지표를 활용하여 간단한 Buy Rule 생성

Data and Methods

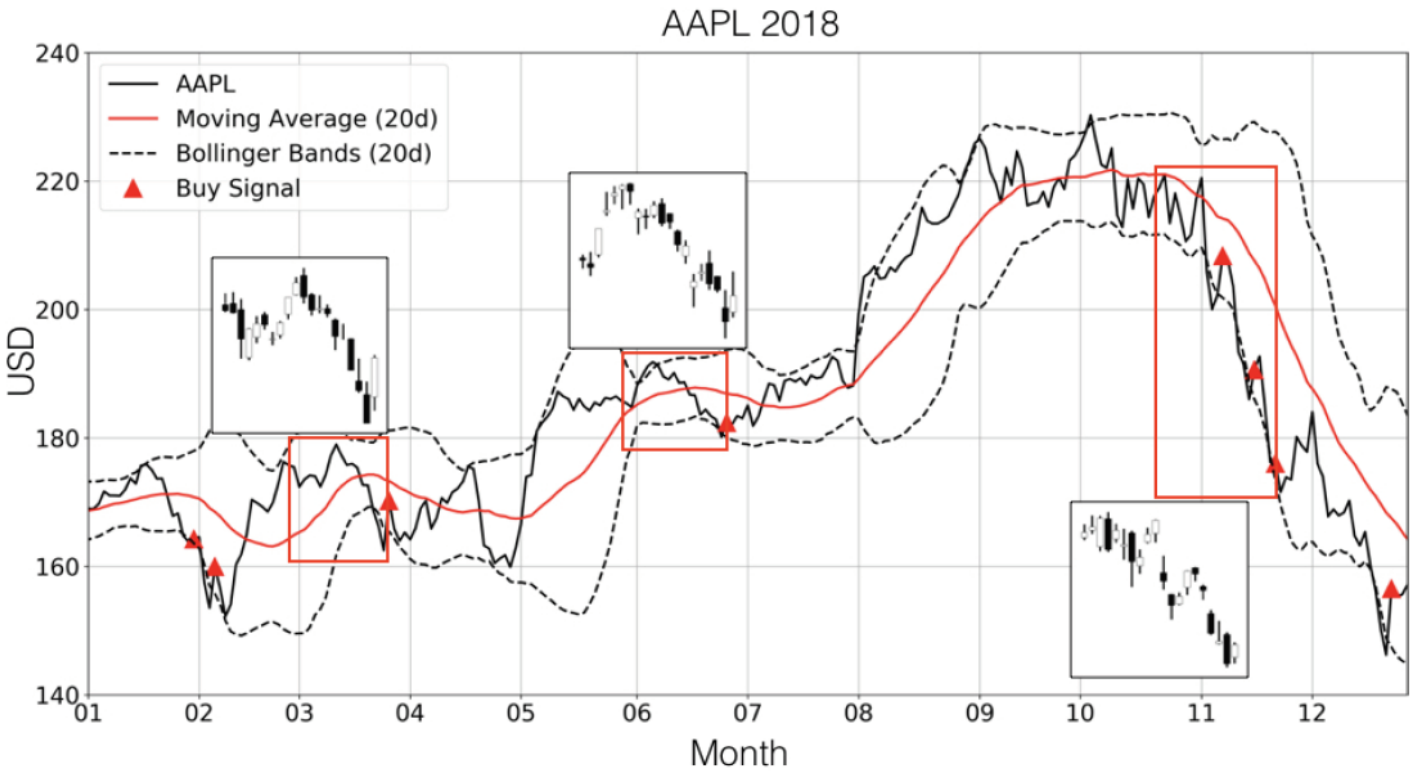


Figure 3: Labeling time series data according to the Bollinger Bands crossing rule.

Data and Methods

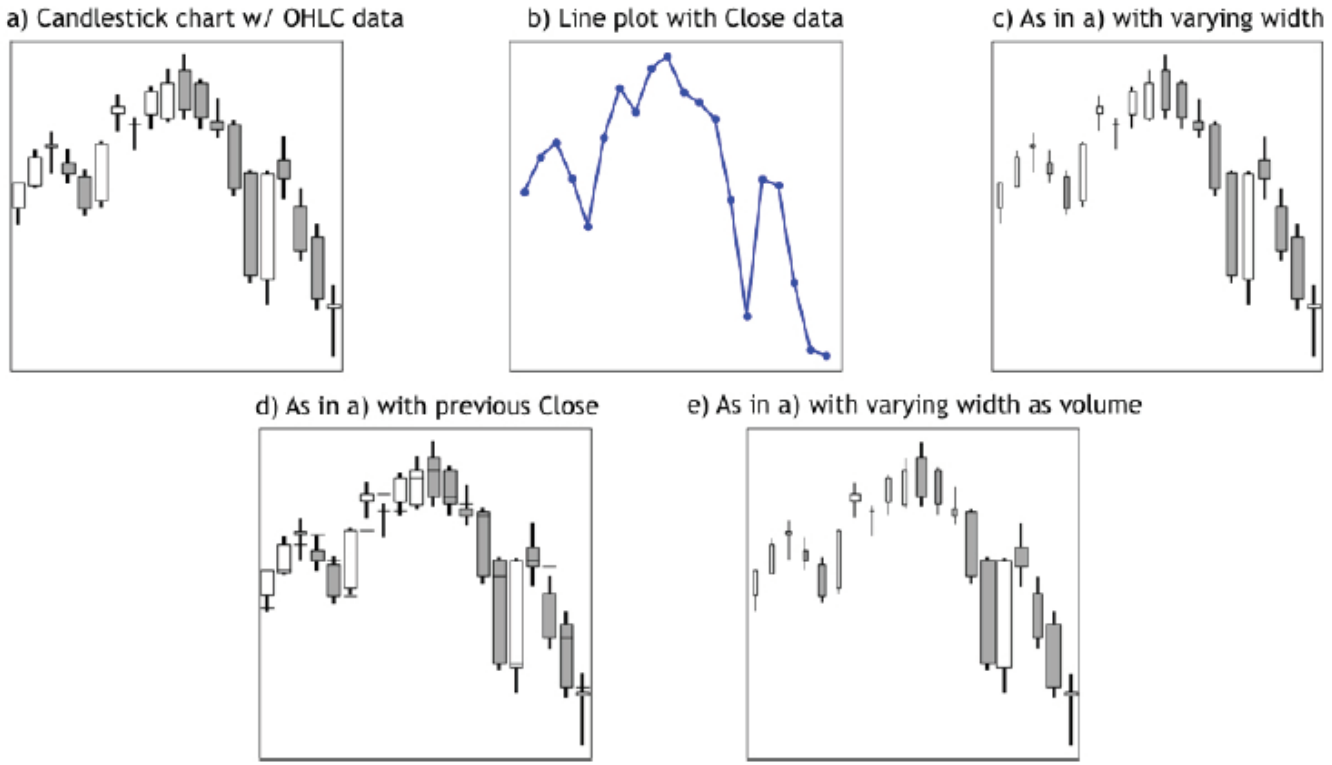


Figure 4: Various visual representations of the same time-series data.

Results

Comparing the accuracy score of a hard voting classifier over the following 16 trained classifiers:

Logistic Regression, Gaussian Naive-Bayes, Linear Discriminant Analysis, Quadratic Discriminant Analysis, Gaussian Process, KNearest Neighbors, Linear SVM, RBF SVM, Deep Neural Net, Decision Trees, Random Forest, Extra Randomized Forest, Ada Boost, Bagging, Gradient Boosting, and Convolutional Neural Net.

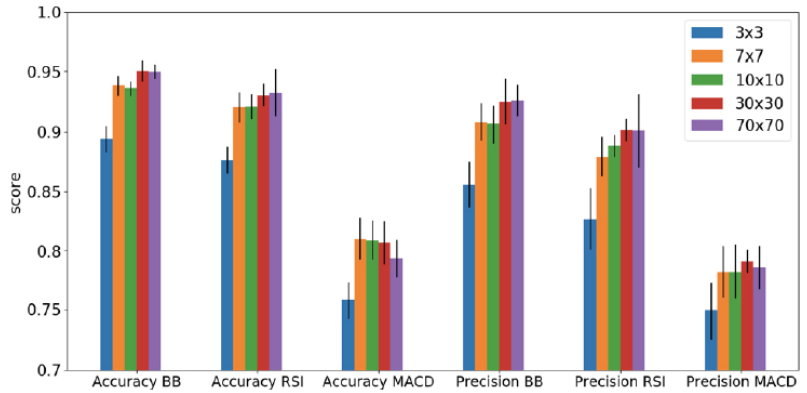


Figure 5: The effect of varying the image resolution on the classification accuracy and precision scores for the three label-generating rules.

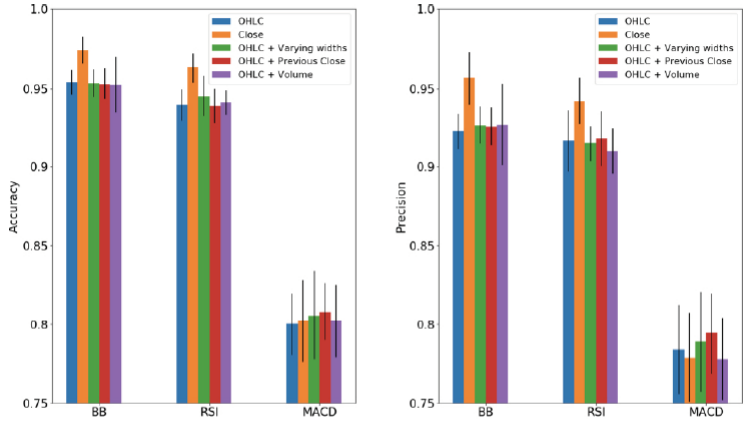


Figure 6: The supervised classification accuracy (left panel) and precision (right panel) scores for the various triggers as a function of the different input representations.

Results

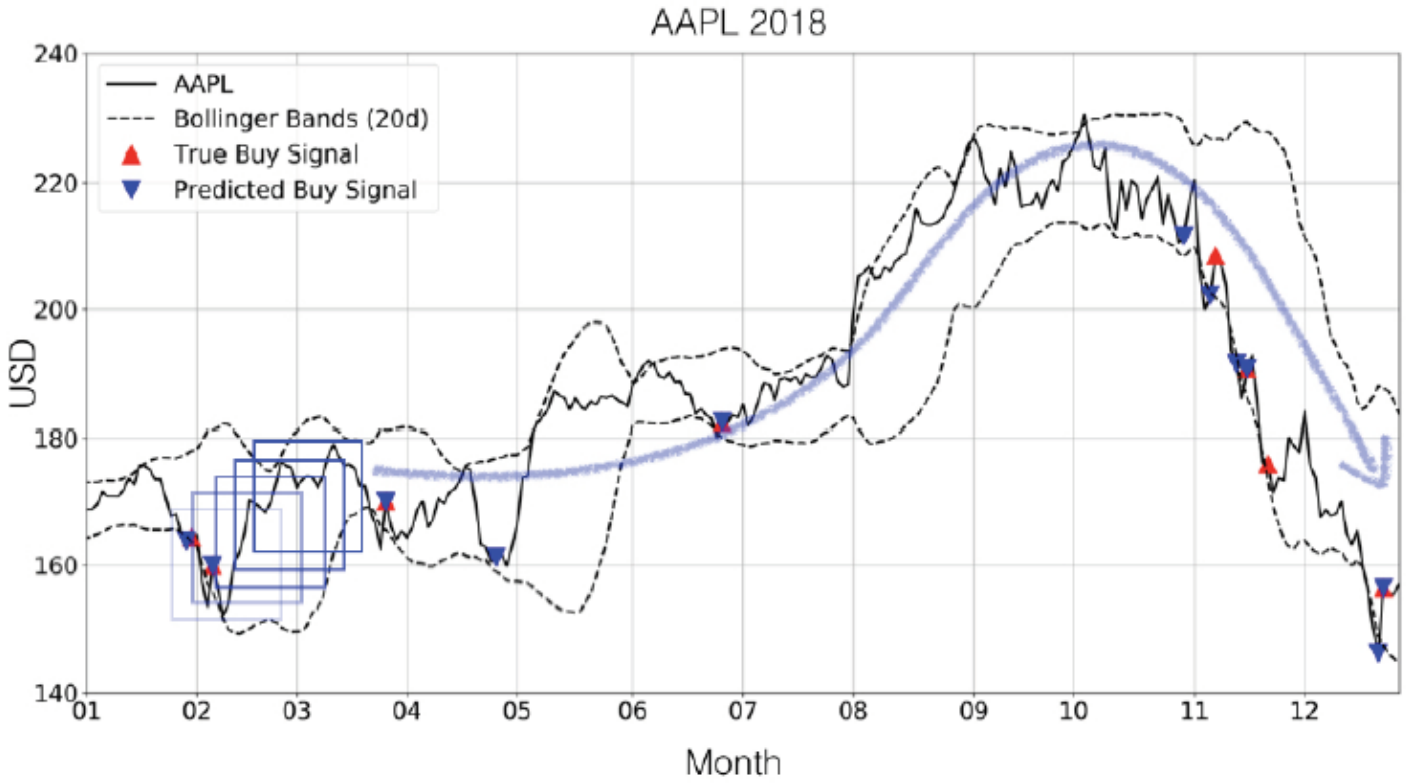
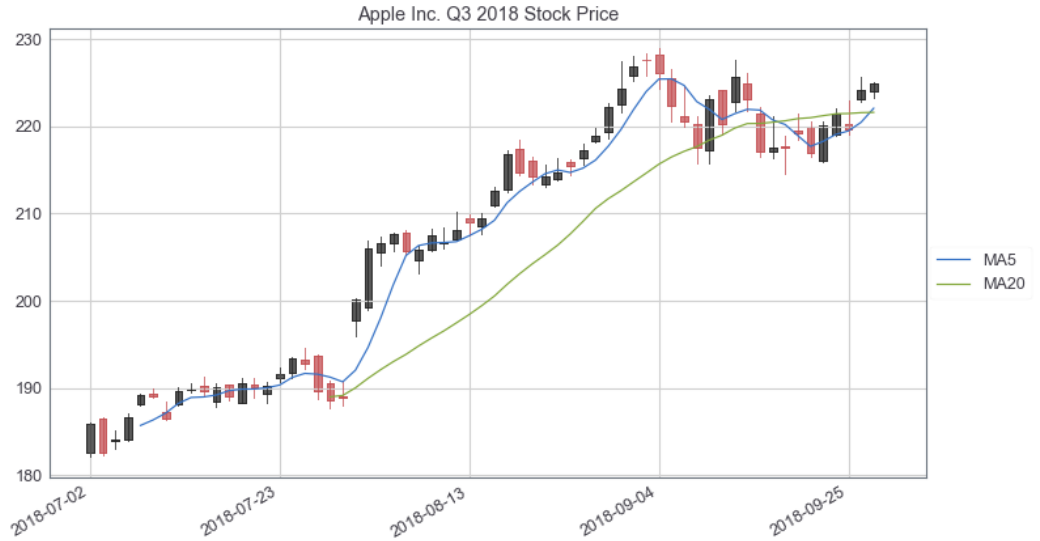


Figure 7: Time-series forecasting using a 20-days rolling window.

ToDo: Implementation

In [58]:
```
from mpl_finance import candlestick2_ohlc
import matplotlib.pyplot as plt
import matplotlib.ticker as ticker
import numpy as np

fig, ax = plt.subplots(figsize=(12,7))
candlestick2_ohlc(ax,data['open_price'],data['high_price'],
                  data['low_price'],data['close_price'],width=0.6)

ax.xaxis.set_major_locator(ticker.MaxNLocator(6))

def mydate(x,pos):
    try:
        return index[int(x-0.5)]
    except IndexError:
        return ''

ax.xaxis.set_major_formatter(ticker.FuncFormatter(mydate))

fig.autofmt_xdate()
plt.title('Apple Inc. Q3 2018 Stock Price')
plt.show()
```



출처: 알파스퀘어 블로그 (파이썬에서 캔들차트 그리기)

Thank you for listening!