Module 4

Trade Call Prediction using Classification

In this module, we'd be covering the concept of classification and utilize our skills to solve the following queries – (Stock Price = Close Price)

Problem Statements

4.1 Import the csv file of the stock which contained the Bollinger columns as well.

- Create a new column 'Call' , whose entries are -
  'Buy' if the stock price is below the lower Bollinger band
  'Hold Buy/ Liquidate Short' if the stock price is between the lower and middle Bollinger band
  'Hold Short/ Liquidate Buy' if the stock price is between the middle and upper Bollinger band
  'Short' if the stock price is above the upper Bollinger band

- Now train a classification model with the 3 bollinger columns and the stock price as inputs and 'Calls' as output. Check the accuracy on a test set. (There are many classifier models to choose from, try each one out and compare the accuracy for each)

- Import another stock data and create the bollinger columns. Using the already defined model, predict the daily calls for this new stock.

4.2 Now, we'll again utilize classification to make a trade call, and measure the efficiency of our trading algorithm over the past two years. For this assignment , we will use RandomForest classifier.

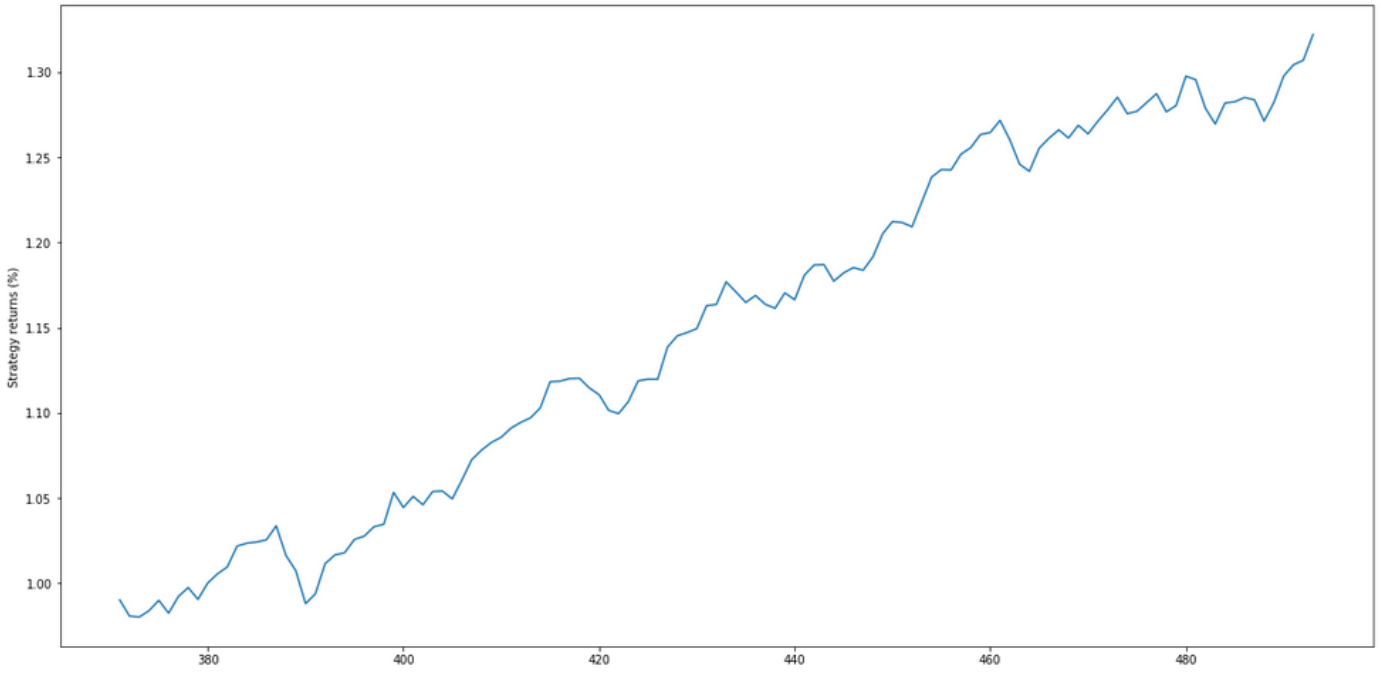
- ✔ Import the stock data file of your choice

- ✔ Define 4 new columns , whose values are:
  % change between Open and Close price for the day
  % change between Low and High price for the day
  5 day rolling mean of the day to day % change in Close Price
  5 day rolling std of the day to day % change in Close Price

- ✔ Create a new column 'Action' whose values are:
  1 if next day's price(Close) is greater than present day's.
  (-1) if next day's price(Close) is less than present day's.
  i.e. Action [i] = 1 if Close[i+1] > Close[i]
  i.e. Action [i] = (-1) if Close[i+1] < Close[i]

- ✔ Construct a classification model with the 4 new inputs and 'Action' as target

- ✔ Check the accuracy of this model , also , plot the net cumulative returns (in %) if we were to follow this algorithmic model



Before you proceed, please take this **quick quiz** on Module four for us to assess your learning

Getting stuck and need a little guidance? Get access to the **guidance program (https://careerlauncher.com/cl-online/ProductDesc.jsp?prodeid=0K4XsvNcqbM%3D&prodCat=DATA%20ANALYTICS&prodGroup=Online%20Coaching)** from our machine learning faculty!