Descriminating VIX Rises

Summary

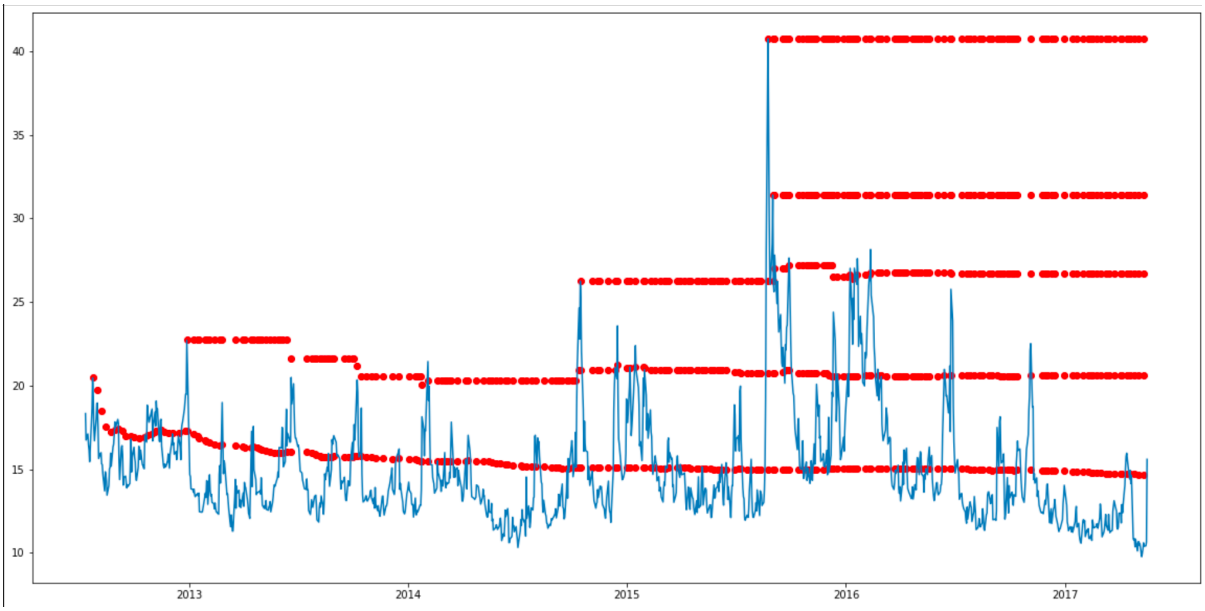
VIX is inversely correlated with different tickers. One way to tell the price action of the stock market is to check when VIX hits certain extrema value. Since VIX is inversely correlated with many tickers, a VIX fall indicates that our ticker will rise in price.

It is not all sunshine and rainbows though. VIX may fall only to rise immediately, evading our carefully laid trap. We need a way to discriminate between VIX rises and tell whether a VIX rise is a true rise or a false rise.

Our hypothesis is that when VIX rises and hits resistance it is a true VIX Rise otherwise the rise is a false Rise.

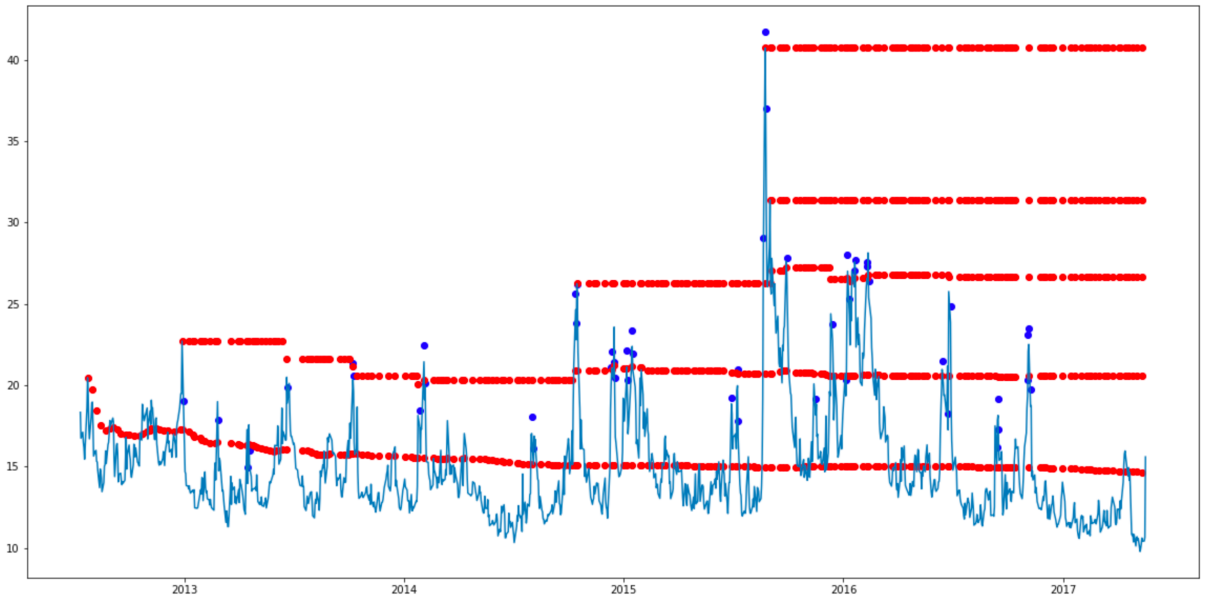
Methodology

First we need an algorithm that detects resistance levels in VIX. I will be using a clustering algorithm that uses the peaks to determine different resistance levels.



Each layer of red dots is the different levels of resistance. As you can see the algorithm captured 5 layers of VIX resistance. The top 3 layers seem fine, but the bottom layer looks like it will trip up the detection. That is why there is an extra condition. Not only does VIX have to hit resistance, but it also has to rise by at least 3 to be considered.

Here are the results of the algorithm's detection. The blue points are the ones the algorithm detected.



During the testing phase we will look at the maximum of the next 3 days. If the highest close in the next 3 days is less than the current close it.

Results: Pos AVG: 2.9090909090909096 Pos Std: 2.9898250315040618 N: 22 Neg AVG: