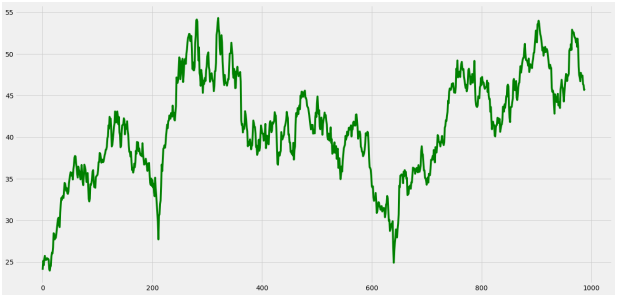
Investment Robot Counsellor

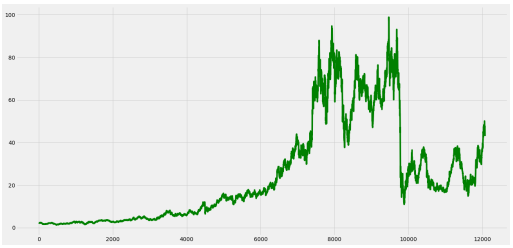
We have investigated two different
analysis methods to trade stocks, moving average and RSI.
We have tested the methods on two different stocks.

Stock 1: aa.us



Stock 2: ae.us

Stock 1: aa.us



Ideally our analysis methods would
tell us to buy the stock
when the price is going up and sell
when its going down.
so we could avoid the big price drop
around day 8000 and day 10000

Here we see the evolution in price for stock 1.
Where the y-axis reprecent the price in USD and
the x-axis reprecent days.
We see that the overall direction for the stock is upwards with one step fall
around day 10000.

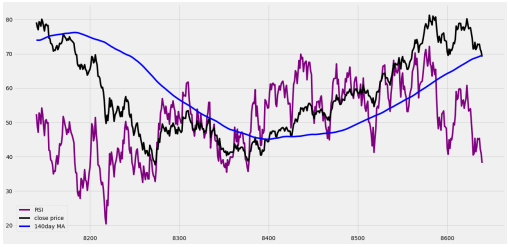
Short and long term moving average

A close up look at the moving average with a short moving average of 30 days
and a long moving average of 140 days

We see that the 2 moving averages is good at clarifying
up and downards going trends

Moving average and RSI

A close up look at the moving average with RSI strategy



We see that the moving averages is good at clarifying
up and downards going trends and the RSI indicates when the stock is overbought
or oversold

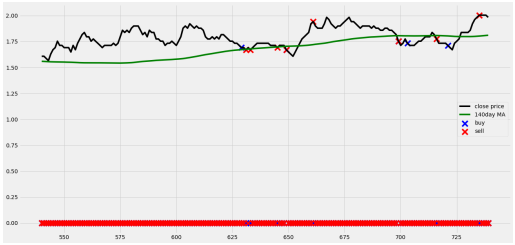
Short and long term moving average - buy and sell spots

A close up look at where the moving average strategy tells us to
buy and sell the stock

We see that there are some cases where the strategy tells us to buy fx. day 660 and
then sell at day 680 at a profit. In these cases the strategy works, but there
is a majority of false positives where we sell at a loss.

Moving average and RSI - buy and sell spots

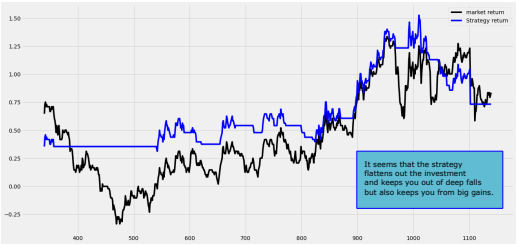
A close up look at where the Moving average and RSI strategy tells us to
buy and sell the stock



There is a majority of false positives where we sell at a loss.
We can see that this combination of strategies doesn't perform that well on a steady market.

Moving average return vs market return - short term

A close up look at the outcome of the moving average strategy



We see that the strategy saves us from following the stock on a downward going trend
around day 200 - 450, but it also misses some upwards going trends and equals out
by day 800.

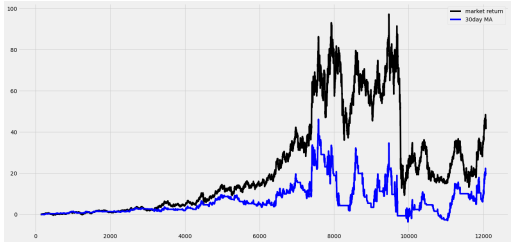
Moving average and RSI return vs market return - short term

A close up look at the outcome of the moving average and RSI strategy

Compared with the short and long term moving average
this strategy performs poorly on this stock.
With this in mind and a overall worse
outcome than holding the stock, this combination seems to be a misfit.

Moving average return vs market return - long term

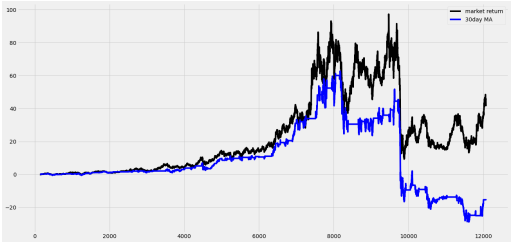
A look at the outcome of the moving average strategy



Here we see a much different picture being painted than the short term.
It is clear that the strategy's return is not greater than simply holding the stock.
Generally we are not loosing money but the gain is small compared with the market return.

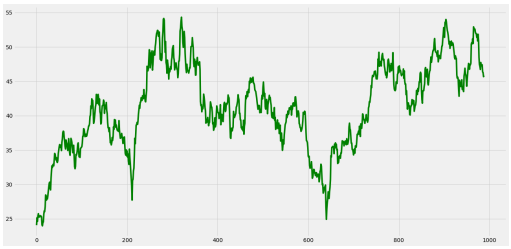
Moving average and RSI return vs market return - long term

A look at the outcome of the moving average and RSI strategy



Here we see the same as with the short term. The strategy overall follows the marke
but it misses some upwards going trends and overall cannot keep up.

Stock 2: ae.us



We will try the same strategies with stock 2 to see if we will get a different outcome.

Here we see the evolution in price for stock 2.
Where the y-axis reprecent the price in USD and
the x-axis reprecent days.
We see that the direction for the stock is much more dynamic than stock 1

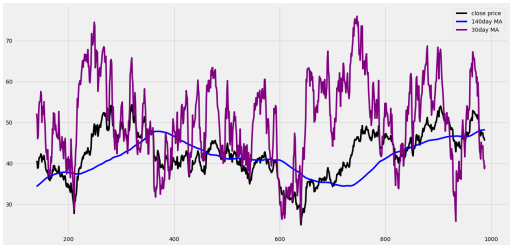
Short and long term moving average

A close up look at the moving average with a short term moving average of 30 days and a long term moving average of 140 days

We see that the 2 moving averages are good at clarifying
up- and downwards going trends just like with stock 1

Moving average and RSI

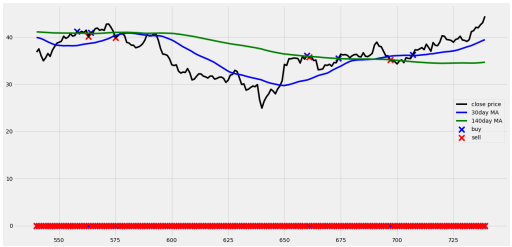
A close up look at the moving average with RSI strategy



We see that the moving averages is good at clarifying
up- and downwards going trends and the RSI indicates when the stock is overbought or oversold just like with stock 1

Short and long term moving average - buy and sell spots

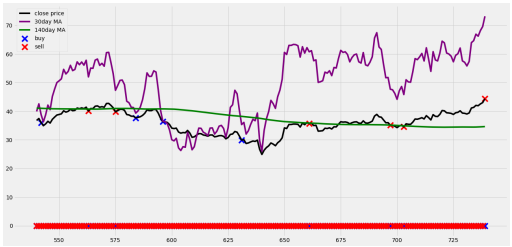
A close up look at where the moving average strategy tells us to buy and sell the stock



We see that there are some cases where the strategy tells us to buy and later sell at a profit just like with stock 1.
Again there is a majority of false positives where we sell at a loss.

Moving average and RSI buy and sell spots

A close up look at when the moving average and RSI strategy tells us to buy or sell the stock



There is a majority of false positives like we saw on the short and long term moving averages but we see some gains from a combination of the two strategies

Moving average return vs market return - short term

A close up look at the outcome of the moving average strategy

Strategies can perform differently on different stocks.
That is why you have to backtest your strategy on a long term and on multiple stocks

We see that the strategy performs much worse then with stock 1.
We are generally at a loss at all time

Moving average and RSI return vs market return - short term

A close up look at the outcome of the moving average and RSI strategy

Compared with the short and long term moving average, this strategy performs extremely well with this stock. With a general gain and a general better outcome than holding the stock this combination seems to be a good fit.

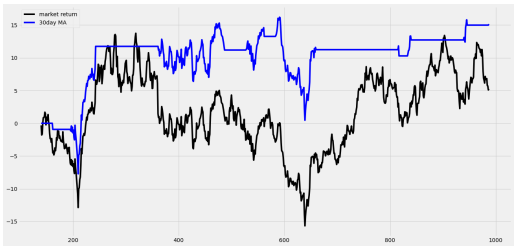
Moving average return vs market return - long term

A look at the outcome of the moving average strategy

Again we see that the strategy is not that good. It does save us from 2 downfalls but the general results are at a loss.

Moving average and RSI return vs market return - long term

A look at the outcome of the moving average and RSI strategy



Here we see the same as with the short term. The strategy generally follows the market but it performs better most of the time. It follows the upwards going trends and generally outperforms the short and long term moving average.

Next step

We can see that the two strategies we have explored generally performs quite poorly. To a certain degree the combination of moving average and RSI strategies could make a profit on a highly fluctuating market but with a small margin and great risk.

Based on this analysis it makes sense to explore other more complex methods of analysis and therefore we will incorperate a neural network combined with further analysis.