

StockAnalysis

August 17, 2018

0.1 Basic Stock Analysis

Bryant Crocker In order to pull in daily stock prices I will use the ffn library. The ffn library pulls in data from yahoo finance. I will start on the first of Janauary 2010. A few years after the 2008 recession.

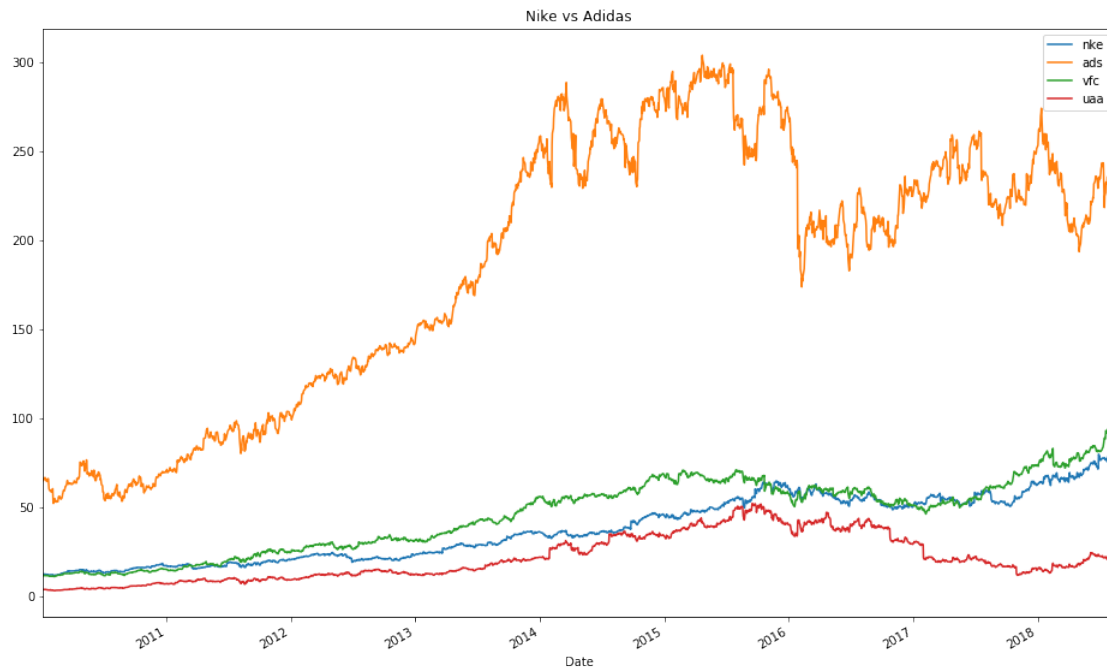
I am looking at:

- Under Armour - UAA
- Nike - NKE
- Adidas - ADS
- Vans Footwear Company - VFC

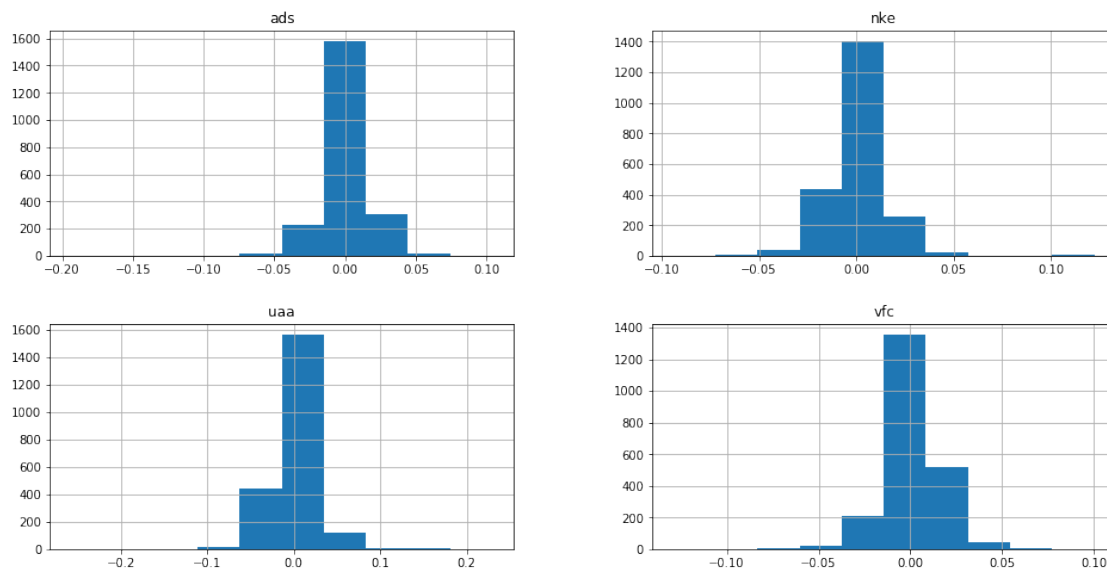
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Out [46]:
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	nke	ads	vfc	uaa
Date				
2010-01-04	12.217500	64.652290	11.234499	3.51000
2010-01-05	12.266110	64.779861	11.448840	3.61500
2010-01-06	12.191328	65.103653	11.402914	3.69500
2010-01-07	12.310980	65.702194	11.623373	3.65125
2010-01-08	12.286675	66.408684	11.562134	3.64375

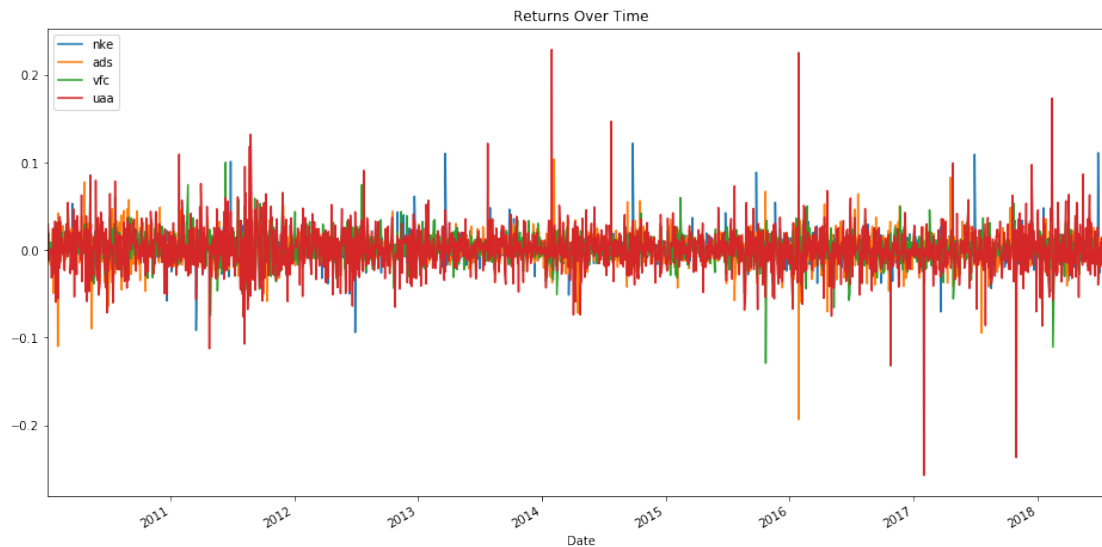
A simple plot of historical prices. Their seems to be a fair deal of variabilty around the price of Adidas.



Under armour has the highest returns on average. Note that the x-axis of the histograms are not on the same scale.



```
Out[9]: nke      0.000976
        ads      0.000742
        vfc      0.001079
        uaa      0.001160
        dtype: float64
```



1 Forecasts:

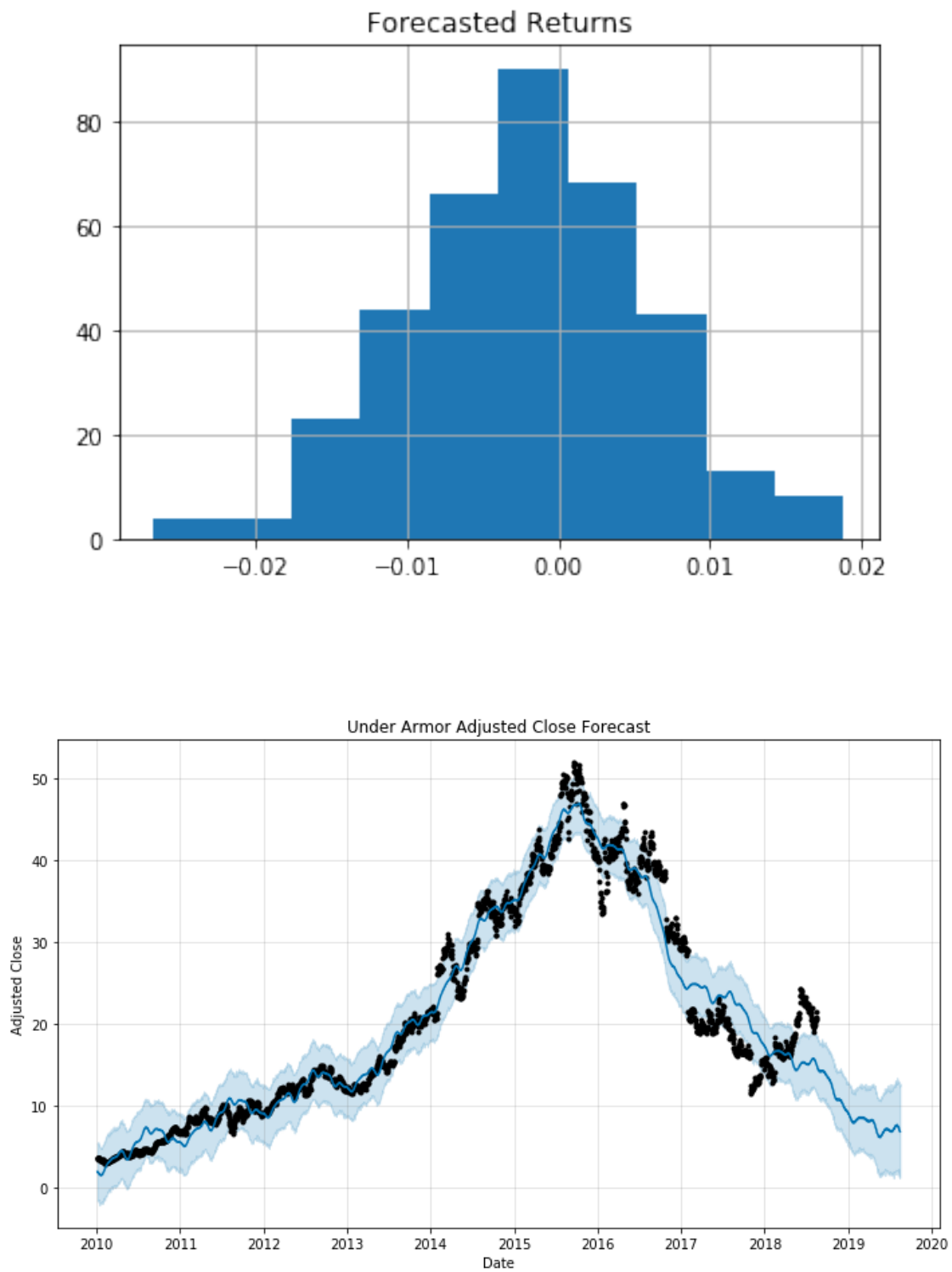
To forecast future closing values of the selected securities, I will use the Facebook's *prophet* forecasting api. Prophet fits a general additive model using time series data.

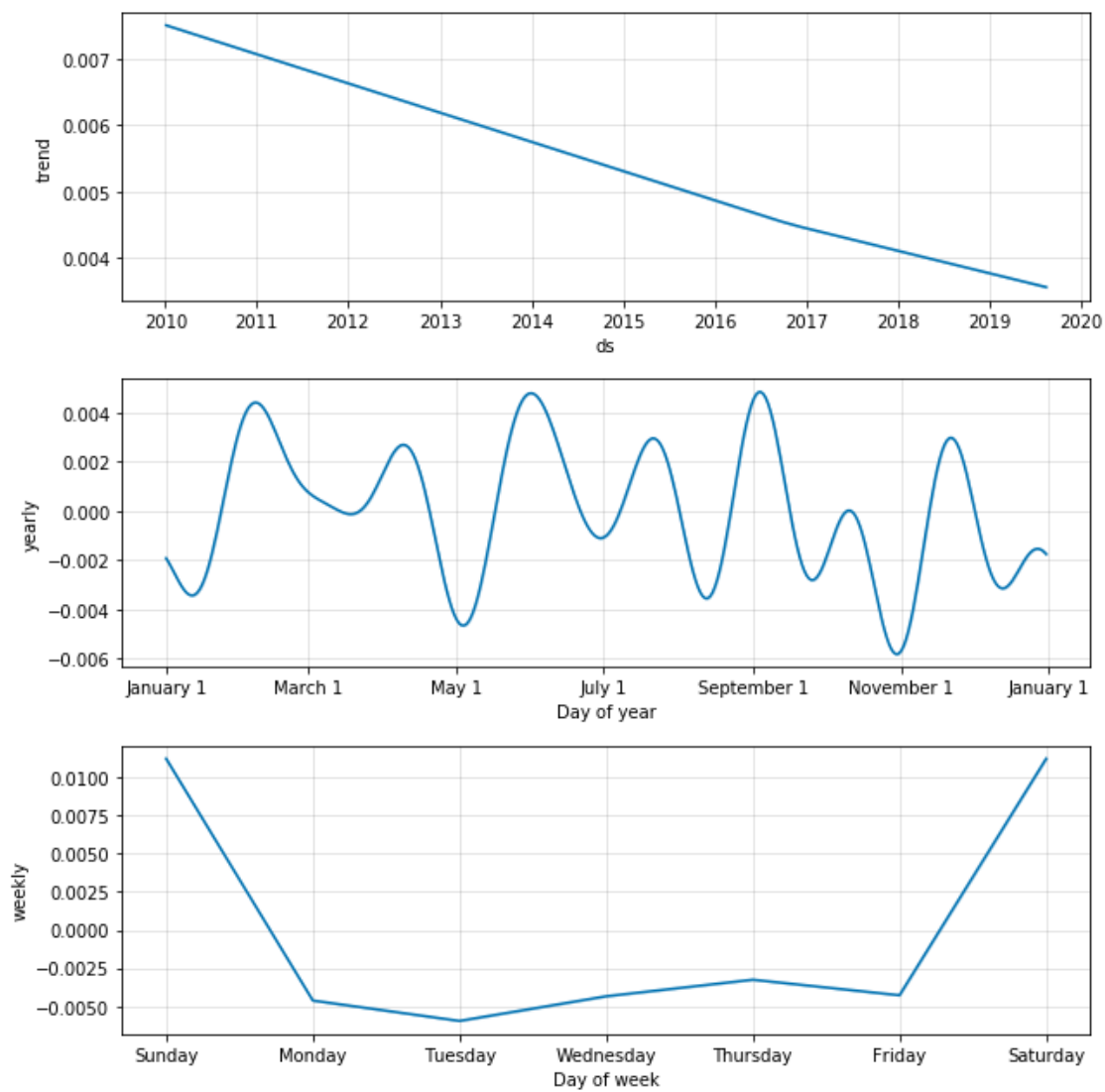
1.1 Under Armor

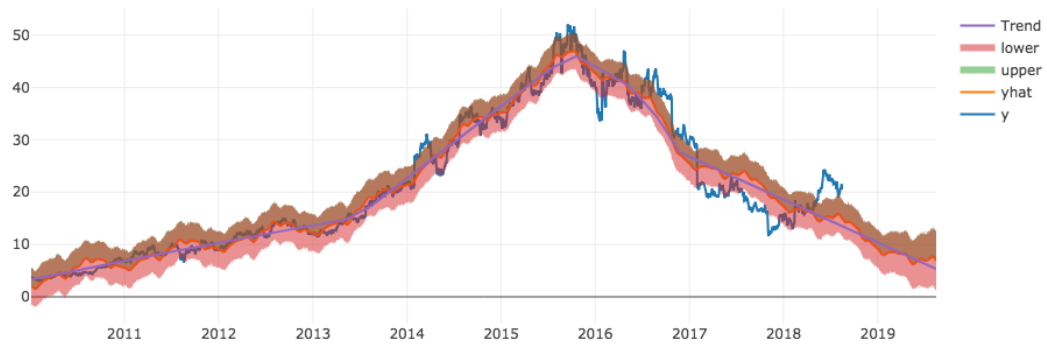
INFO:fbprophet.forecaster:Disabling daily seasonality. Run prophet with daily_seasonality=True

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Out[41]:
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	ds	yhat	yhat_lower	yhat_upper
2531	2019-08-12	7.199764	1.366720	12.644800
2532	2019-08-13	7.065798	1.422699	12.593406
2533	2019-08-14	6.988523	1.201404	12.945474
2534	2019-08-15	6.972645	1.328302	12.429903
2535	2019-08-16	6.893145	1.337763	12.725954





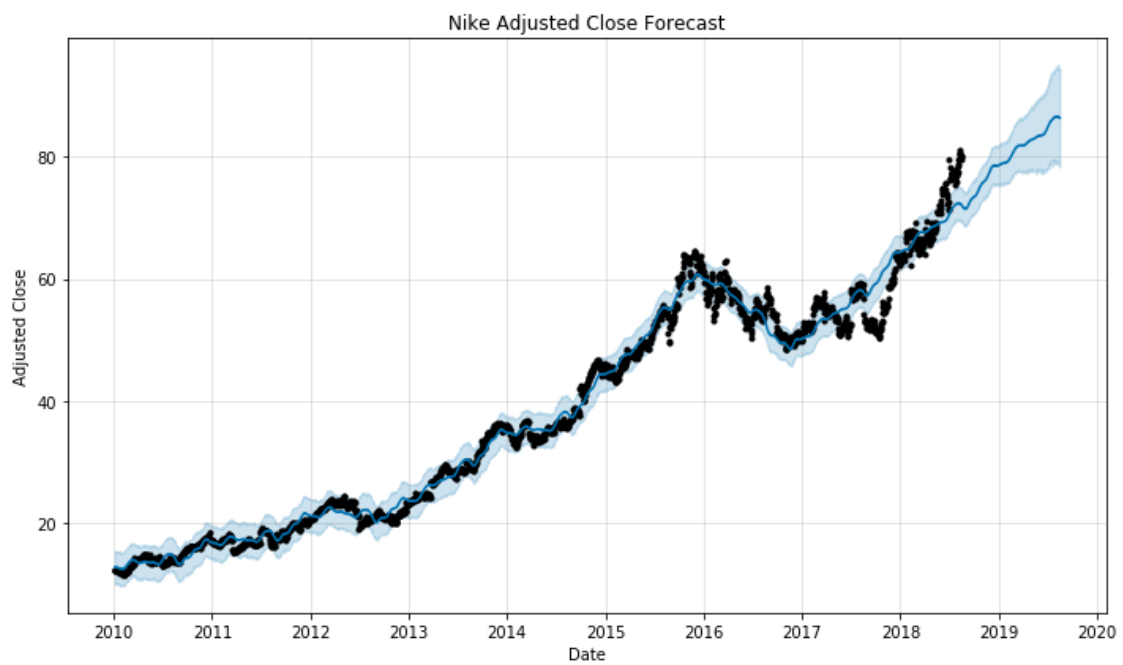
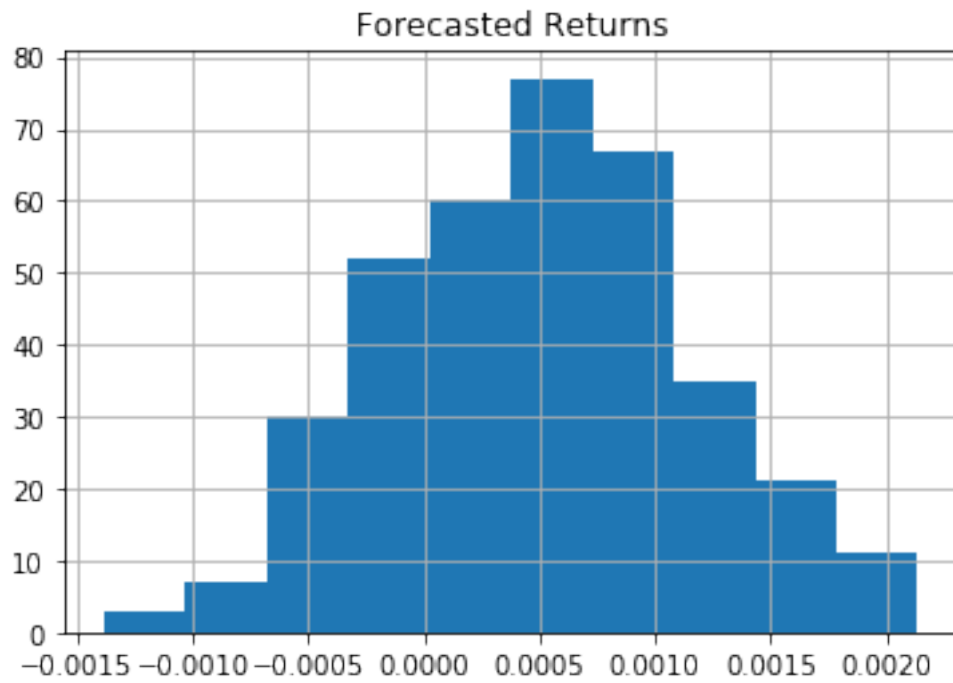


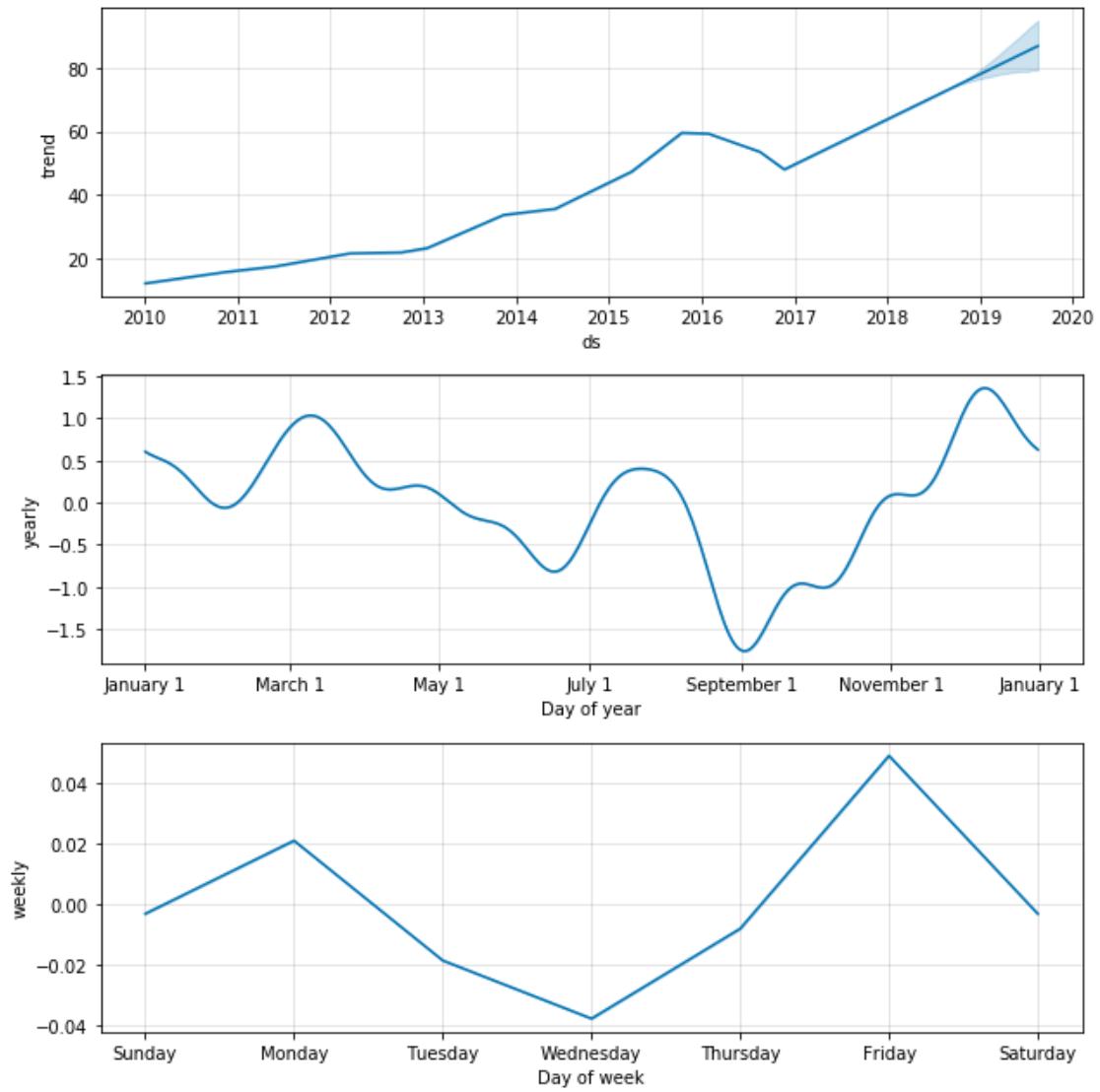
2 Nike Forecast

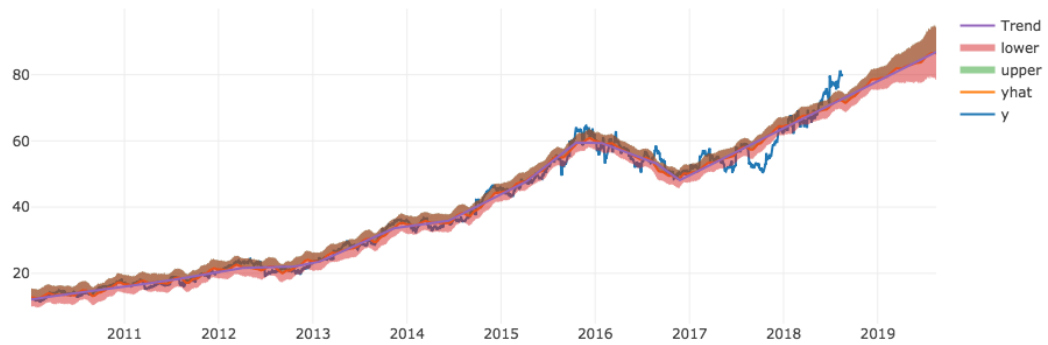
INFO:fbprophet.forecaster:Disabling daily seasonality. Run prophet with daily_seasonality=True

Out[17]:

	ds	yhat	yhat_lower	yhat_upper
2531	2019-08-12	86.565791	78.400229	94.900681
2532	2019-08-13	86.485883	78.932840	94.186121
2533	2019-08-14	86.421228	78.593322	94.596662
2534	2019-08-15	86.400944	78.448677	94.286317
2535	2019-08-16	86.404088	78.592350	94.527547





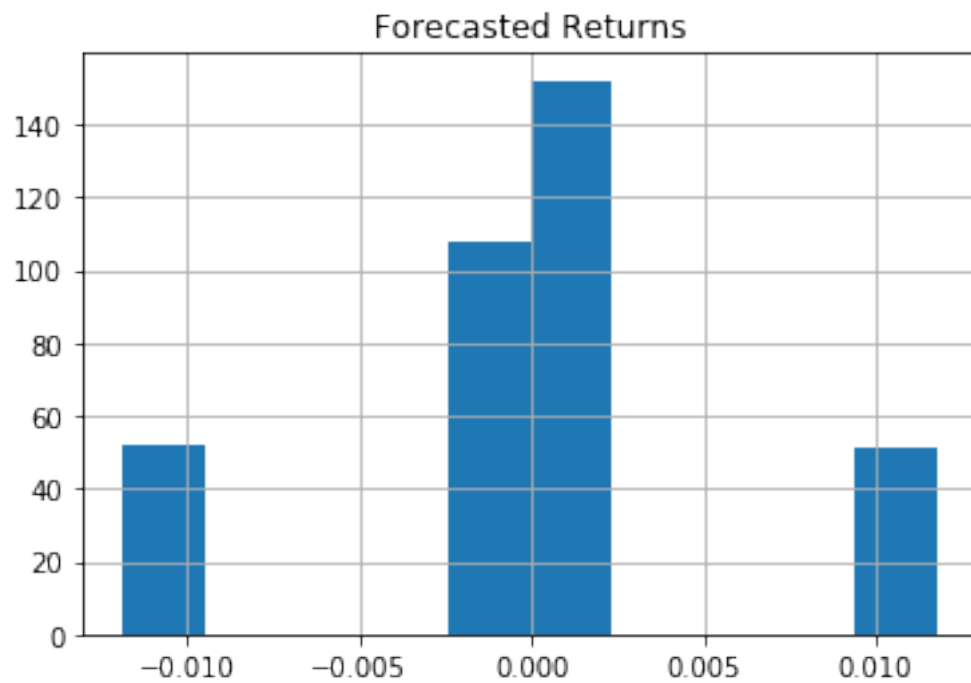


3 Adidas Forecast

INFO:fbprophet.forecaster:Disabling daily seasonality. Run prophet with daily_seasonality=True

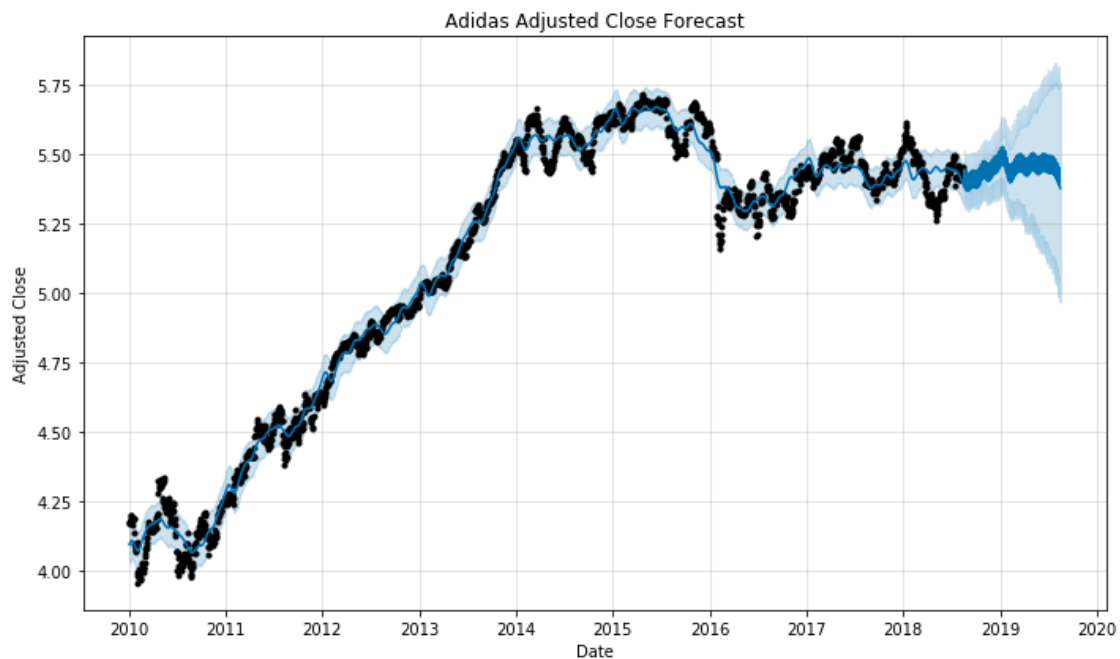
Out [22] :

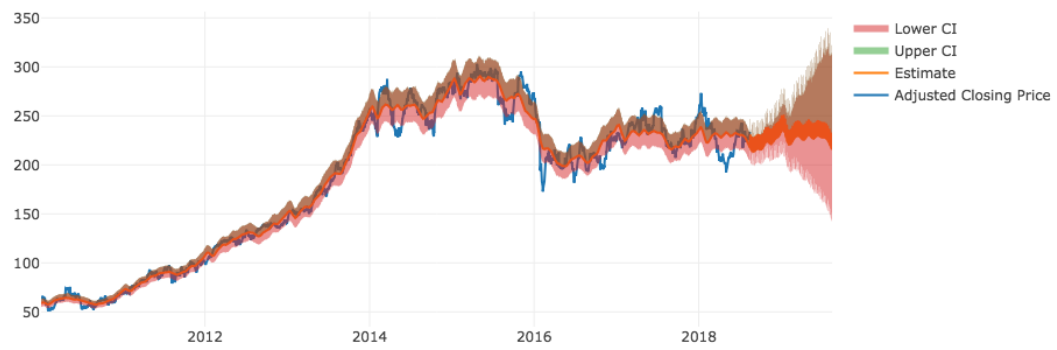
	ds	yhat	yhat_lower	yhat_upper
2531	2019-08-12	5.388282	4.986944	5.741578
2532	2019-08-13	5.385470	4.983736	5.748145
2533	2019-08-14	5.384394	4.968318	5.748430
2534	2019-08-15	5.382223	4.968564	5.760302
2535	2019-08-16	5.379032	4.988289	5.741895

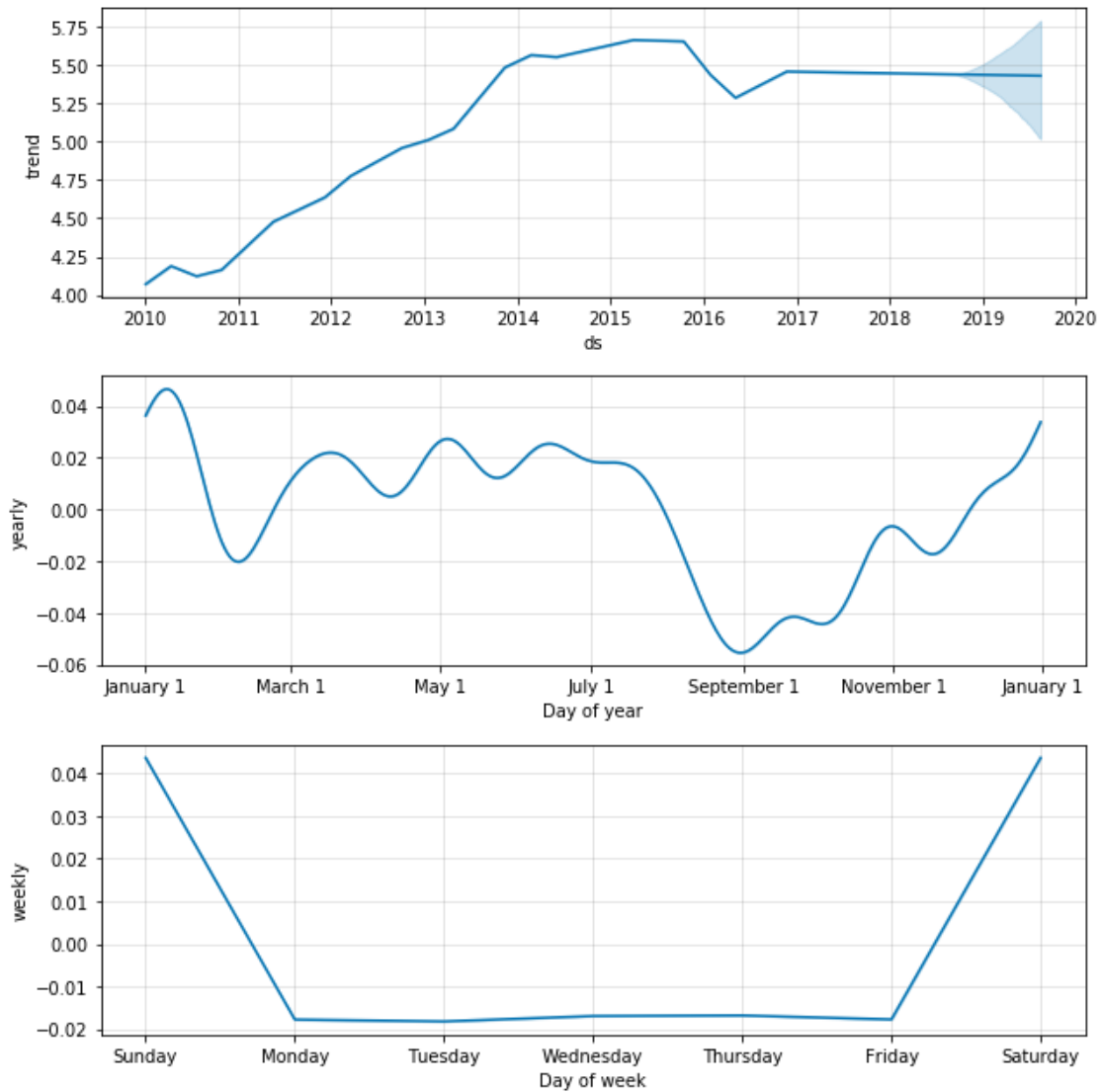


Out [24] :

	ds	yhat	yhat_lower	yhat_upper
0	2010-01-04	58.931005	55.149396	62.956123
1	2010-01-05	59.067436	54.931006	63.395284
2	2010-01-06	59.293865	55.349541	63.140817
3	2010-01-07	59.437134	55.348818	63.318060
4	2010-01-08	59.498442	55.541527	63.626843





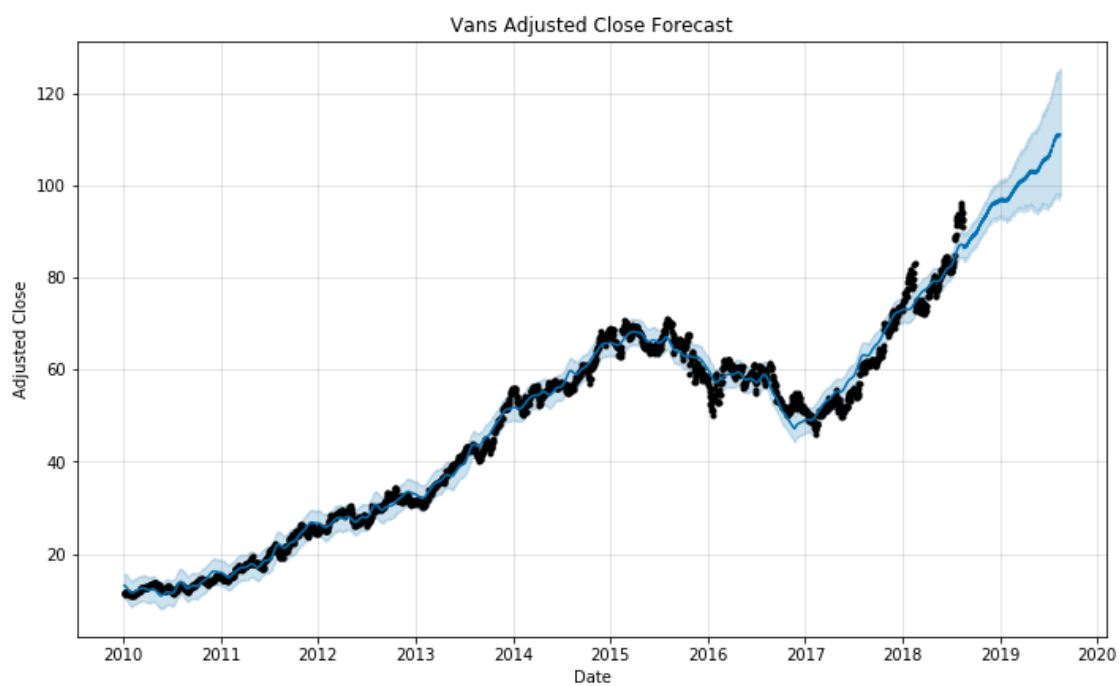
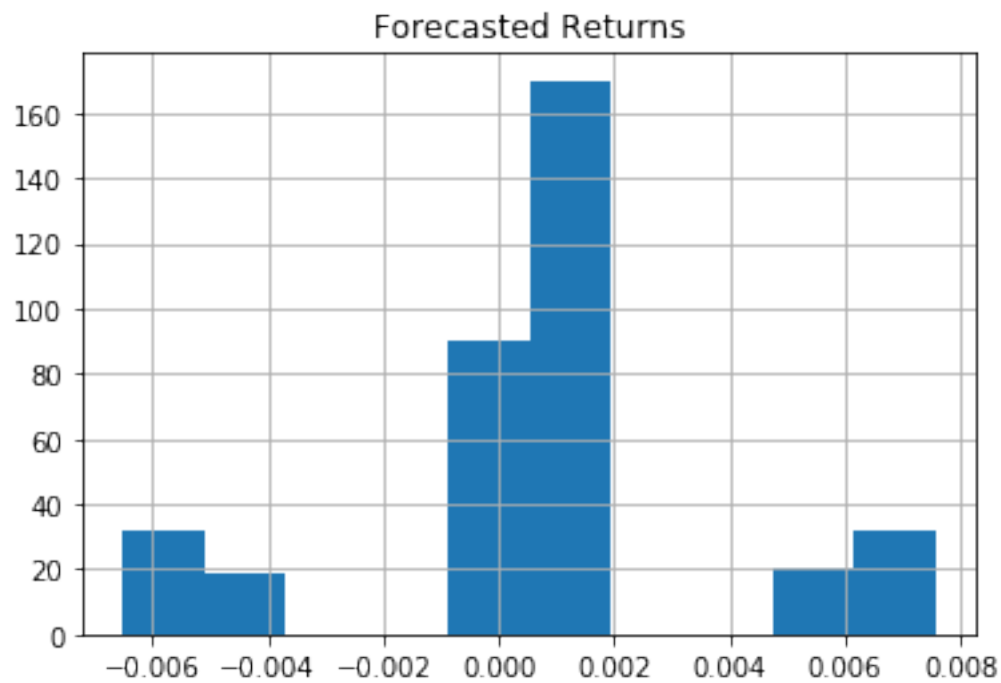


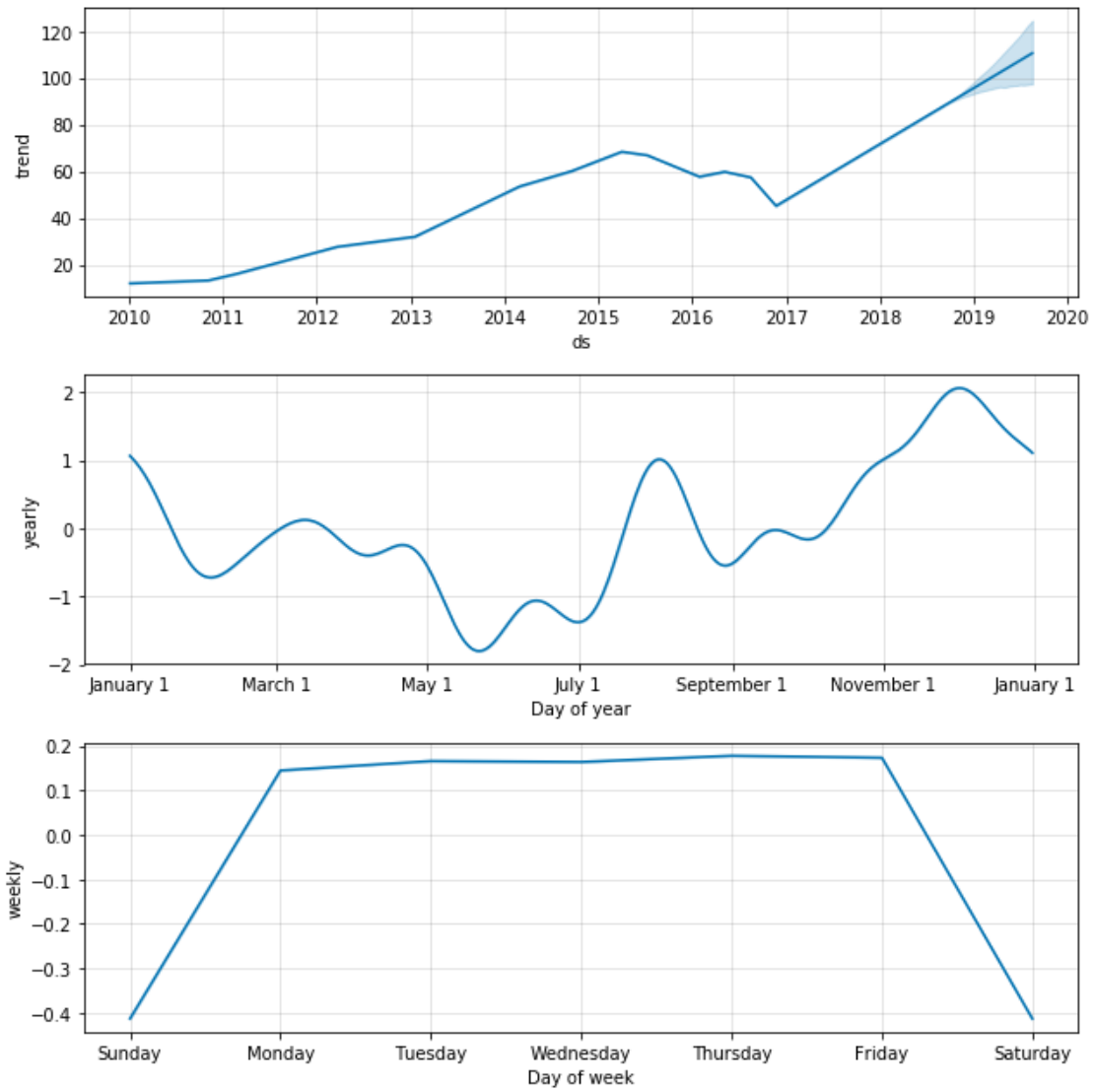
4 Vans Footwear Forecast

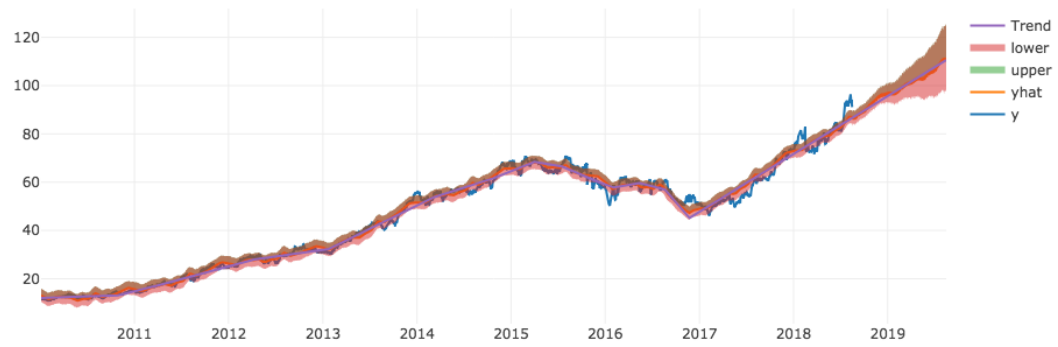
INFO:fbprophet.forecaster:Disabling daily seasonality. Run prophet with daily_seasonality=True

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Out[28]:
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	ds	yhat	yhat_lower	yhat_upper
2531	2019-08-12	111.052921	97.948524	124.915833
2532	2019-08-13	111.052085	98.392702	124.485337
2533	2019-08-14	111.024584	97.567074	125.361352
2534	2019-08-15	111.011038	97.645971	125.346584
2535	2019-08-16	110.978431	97.810674	125.119352







Out [33]:

	ds	y
0	2010-01-04	11.234499
1	2010-01-05	11.448840
2	2010-01-06	11.402914
3	2010-01-07	11.623373
4	2010-01-08	11.562134