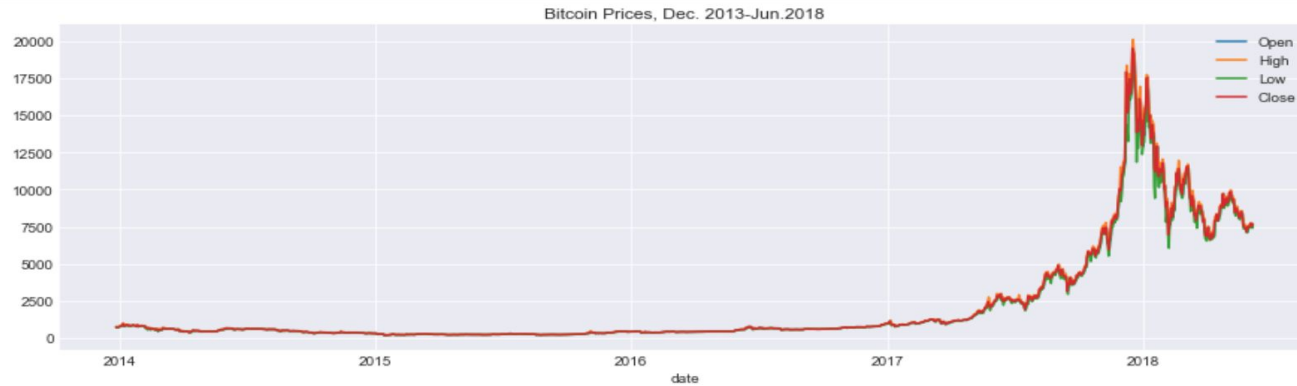


Samuel Kim
Thinkful Data Science Program
Fall 2018

Forecast Cryptocurrencies: Closing Price Predictions

Context





Features & Objectives

- Existing Columns (Dec. 2013 - Jun. 2018)
 - Open, High, Low and Close
 - Volume Traded at Close
 - Market Cap
- New Columns
 - Mean price (adding Open, High, Low, Close, divide by 4)
 - Projection (shifting last 2 wks/14 days of close values to compare forecasted price with actual)
- Objective
 - Creating an accurate model for determining Crypto prices at close that also makes close/adjacent projections for future closing prices



Model Specifications

Random Forest Regressor (Chosen for its strong performance and overall flexibility)

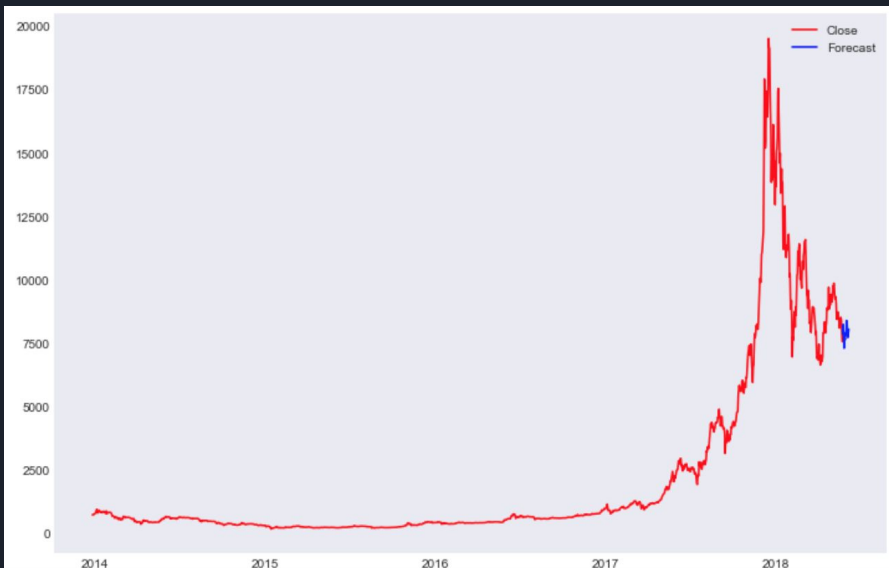
- Test size of 0.2, n_estimators=150, random state=101
- Determined Accuracy %
- Juxtaposed random predicted value with actual value

(Alternative) Linear Regression, Decision Trees

Model Outcome: Bitcoin

Accuracy: 92.37%

Value Predicted: 653.98, Actual Value: 665.68

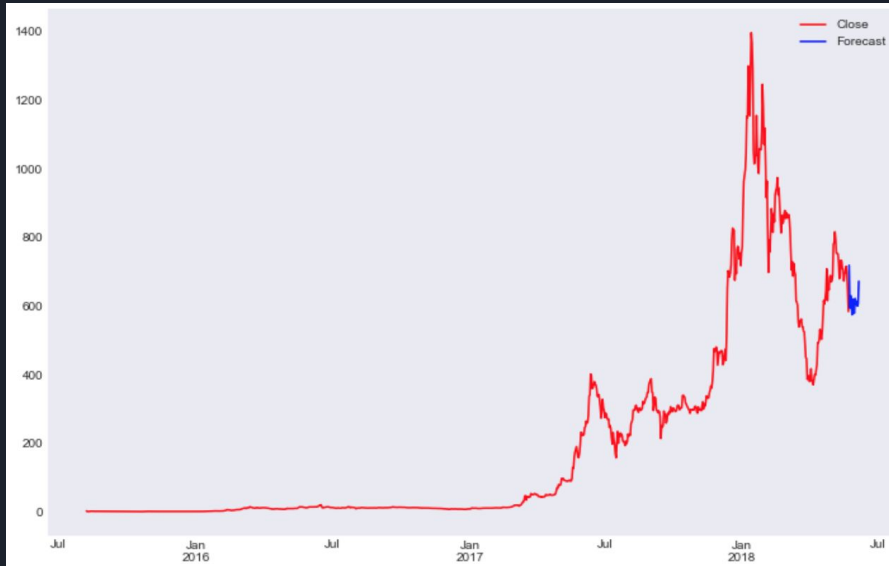


	Forecast	
2018-05-24	7815.836133	7587.34
2018-05-25	7994.950333	7480.14
2018-05-26	7465.556267	7355.88
2018-05-27	7362.875467	7368.22
2018-05-28	7833.886600	7135.99
2018-05-29	7890.088533	7472.59
2018-05-30	7545.223067	7406.52
2018-05-31	7651.584933	7494.17
2018-06-01	8533.725000	7541.45
2018-06-02	8154.540733	7643.45
2018-06-03	8001.075533	7720.25
2018-06-04	7800.043867	7514.47
2018-06-05	7891.900600	7633.76
2018-06-06	8236.551400	7653.98

Model Outcome: Ethereum

Accuracy: 89.39%

Value Predicted: 10.71, Actual Value: 9.04



	Forecast	
2018-05-24	718.427400	601.75
2018-05-25	593.673933	586.73
2018-05-26	630.154667	587.28
2018-05-27	607.637067	572.67
2018-05-28	574.466467	516.04
2018-05-29	619.277267	565.39
2018-05-30	585.179867	559.59
2018-05-31	578.905067	577.64
2018-06-01	621.800067	580.04
2018-06-02	603.872600	591.81
2018-06-03	613.916800	618.33
2018-06-04	599.748933	592.99
2018-06-05	606.043667	609.30
2018-06-06	672.130400	607.12

Model Outcome: Ripple

Accuracy: 81.03%

Value Predicted: 0.00629, Actual Value: 0.00639



	Forecast	
2018-05-24	0.616133	0.640258
2018-05-25	0.743387	0.636208
2018-05-26	0.660482	0.626494
2018-05-27	0.602900	0.612884
2018-05-28	0.596533	0.609781
2018-05-29	0.604922	0.610749
2018-05-30	0.587484	0.627679
2018-05-31	0.602439	0.621636
2018-06-01	0.636644	0.624824
2018-06-02	0.654752	0.648982
2018-06-03	0.660298	0.673594
2018-06-04	0.642130	0.703623
2018-06-05	0.637671	0.683840
2018-06-06	0.638821	0.681668



Who might this Help?

- Parties/Individuals investing (or planning to do so) in cryptocurrencies
- Companies advising investors on when to invest
- High Frequency Algorithmic Trading (by the Hour, by the Minute)
- Automated Trading Applications



Model Shortcomings to Consider

It's a volatile market

- Does not predict external events and its impacts
- Potential for overfitting (limited amount of data, may fail to accurately predict future compiling sets of data)
- The “Black Box” - provides output without much insight.



THANK YOU.