

Web Application Assignment 3

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Project

This project is based on Python3, please run "bayesian_curve_fitting.py" with proper csv data kept in "./data/".

Data and Tests

In this assignment, a total of 10 real stocks datasets covering several tech giants have been chosen for test. The output result of the program is copied below for convenience.

```
-----FB-hist-2016-2017 Summary-----  
Predicted Val   : 120.2975  
Actual Val     : 120.9000  
Range Prediction : [119.3870, 121.2079]  
Absolute Error  : 0.6025  
Relative Error  : 0.4984%
```

```
-----MSFT-03-02-2017 Summary-----  
Predicted Val   : 64.4717  
Actual Val     : 64.4700  
Range Prediction : [63.5551, 65.3884]  
Absolute Error  : 0.0017  
Relative Error  : 0.0027%
```

```
-----CCF-hist-2016-2017 Summary-----  
Predicted Val   : 87.3372  
Actual Val     : 89.2500  
Range Prediction : [86.4268, 88.2476]  
Absolute Error  : 1.9128  
Relative Error  : 2.1432%
```

-----YHOO-03-02-2017 Summary-----

Predicted Val : 46.3315
Actual Val : 46.2700
Range Predction : [45.4148, 47.2482]
Absolute Error : 0.0615
Relative Error : 0.1328%

-----CCF-03-02-2017 Summary-----

Predicted Val : 93.9848
Actual Val : 93.9500
Range Predction : [93.0670, 94.9027]
Absolute Error : 0.0348
Relative Error : 0.0371%

-----FB-03-02-2017 Summary-----

Predicted Val : 136.7452
Actual Val : 136.8776
Range Predction : [135.8274, 137.6631]
Absolute Error : 0.1324
Relative Error : 0.0967%

-----MSFT-hist-2016-2017 Summary-----

Predicted Val : 63.1379
Actual Val : 62.9500
Range Predction : [62.2274, 64.0483]
Absolute Error : 0.1879
Relative Error : 0.2985%

-----GOOG-03-02-2017 Summary-----

Predicted Val : 832.8301
Actual Val : 832.1900
Range Predction : [831.9134, 833.7468]
Absolute Error : 0.6401
Relative Error : 0.0769%

-----YHOO-hist-2016-2017 Summary-----

Predicted Val : 36.7166

Actual Val : 36.6100

Range Predction : [35.8062, 37.6271]

Absolute Error : 0.1066

Relative Error : 0.2912%

-----GOOG-hist-2016-2017 Summary-----

Predicted Val : 795.0877

Actual Val : 800.4000

Range Predction : [794.1772, 795.9981]

Absolute Error : 5.3123

Relative Error : 0.6637%

Summary

In 90% cases, the relative error is less than 7%, Bayesian Curve Fitting based prediction seems to work well for stock prices.