

NAME- MAREESH KUMAR ISSAR

NET ID- mi251

ESSAY TITLE- BAYESIAN CURVE FITTING

**COURSE NAME- 16:332:568 SOFTWARE
ENGINEERING OF WEB APPLICATIONS**

SUBMISSION DATE- 1 March, 2019

SUMMARY

For the Bayesian curve fitting analysis, I have taken the values of alpha and beta as 0.005 and 11.1 respectively. In my program, I am reading data from the CSV file "TSLA1.csv". This file contains 31 rows of the stock price data downloaded from <https://finance.yahoo.com/quote/TSLA/history?p=TSLA>

These files are placed inside the folder Bayesian.

I am taking the first 30 values from the file as an input data set and then applying the Bayesian curve fitting method on these values using a 3 degree polynomial.

RESULT FOR FILE "TSLA1.csv"

actual value is: 322.309998
predicted value is: 331.58717084
variance is: 0.10293969640173732
absolute mean error is: 9.27717284
average relative error is: 0.02878339

RESULT FOR FILE "TSLA2.csv"

actual value is: 252.479996
predicted value is: 299.21251716
variance is: 0.10293969640173732
absolute mean error is: 46.73252116
average relative error is: 0.18509396

RESULT FOR FILE "TSLA3.csv"

actual value is: 284.179993
predicted value is: 297.40584938
variance is: 0.10293969640173732
absolute mean error is: 13.22585638
average relative error is: 0.04654042

RESULT FOR FILE "TSLA4.csv"

actual value is: 349.929993
predicted value is: 342.57239846
variance is: 0.10293969640173732
absolute mean error is: 7.35759454
average relative error is: 0.0210259

RESULT FOR FILE "TSLA5.csv"

actual value is: 355.48999
predicted value is: 335.92883635
variance is: 0.10293969640173732
absolute mean error is: 19.56115365
average relative error is: 0.05502589

RESULT FOR FILE "TSLA6.csv"

actual value is: 300.98999
predicted value is: 293.48240943
variance is: 0.10293969640173732
absolute mean error is: 7.50758057
average relative error is: 0.02494296

RESULT FOR FILE "TSLA7.csv"

actual value is: 295.390015
predicted value is: 344.97363687
variance is: 0.10293969640173732
absolute mean error is: 49.58362187
average relative error is: 0.16785815

RESULT FOR FILE "TSLA8.csv"

actual value is: 279.76001
predicted value is: 263.51213275
variance is: 0.10293969640173732

absolute mean error is: 16.24787725
average relative error is: 0.05807791

RESULT FOR FILE "TSLA9.csv"

actual value is: 348.160004
predicted value is: 322.65270108
variance is: 0.10293969640173732
absolute mean error is: 25.50730292
average relative error is: 0.07326316

RESULT FOR FILE "TSLA10.csv"

actual value is: 278.299988
predicted value is: 264.89829615
variance is: 0.10293969640173732
absolute mean error is: 13.40169185
average relative error is: 0.04815556