TRI-NIT_TEAM3_ML04

Background and Introduction

We are a Team of freshers from NITW, attempting to solving #ML04 in the Tri-NIT Hackathon 2022 using a linear regression model.

The objective is to predict the next day's closing price for the stock under consideration, IBM.

We tweaked the traditional linear regression model to predict a polynomial curve that fits the data given ideally.

Technology Used:

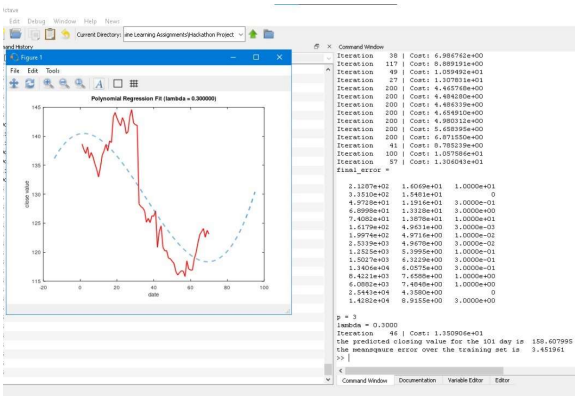
The ML program was created completely on Octave language.

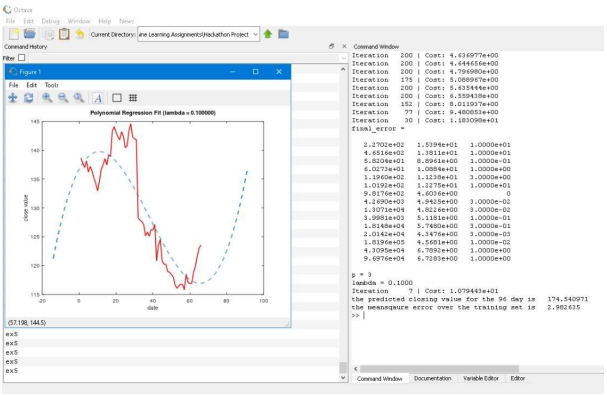
Logic & Explanation

We ran our simulation over 15 polynomial orders and 10 orders of lambda (our regularization parameter) to smoothen out the curve of the given dataset.

This resulted in a total 150 iterations, and the program chose the best fit to minimize the error between predicted and actual values.

The dataset given for any 'D' days was divided in an 80:20 ratio for training and data validation to ensure the system understood the dataset and can predict satisfactorily.





Graph for 101th day: Order of polynomial: 3, lambda: 0.3 | Graph for 96th day: Order of polynomial: 3, lambda:0.1

Conclusion

We found that the program is able to predict the (n+1) th days closing value with average rms error value of around 3 for data between 80th and 100th day

Credits:

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