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30.4.22

AIM :- Write a program to implement polynomial regression

1) Dataset Description:

A) Name of dataset: Real_estate_valuation_dataset xlsx

B) Description: This dataset consist of data of houses based on which we evaluate prices of the houses. The dataset is available on Kaggle website

c) Size :- This dataset consist of ~~414~~ 414 rows and 8 columns

D) Attributes :- This dataset has ~~8 features~~ 7 features, all of them are continious values.

a) NO. :- Serial No
b) transaction date
c) house age
d) distance to the nearest MRT station
e) Number of stores
f) Latitude
g) Longitude

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E) Label :- The target data is price of the house which is generated based on features of the house.

2) Model Evaluation :-

A) Name :- Polynomial regression

B) Type :- This is a supervised learning model, used for regression type problem

C) Algorithm :-

Input :- features and target data of training dataset

step 1: Create n-dimension graph and plot all the datapoints ~~of the~~ on the graph

step 2: plot a best fit polynomial line on the datapoint of order 2 or more so that the generated output and the target data has the least error

equation: $y = b_0 + b_1 x + b_2 x^2 + \dots b_n x^n$

where y is target, b_0 is intercept and $b_1, b_2 \dots b_n$ are slope

step 3: Based on the generated ~~graf~~ polynomial regression curve new data points are tested.

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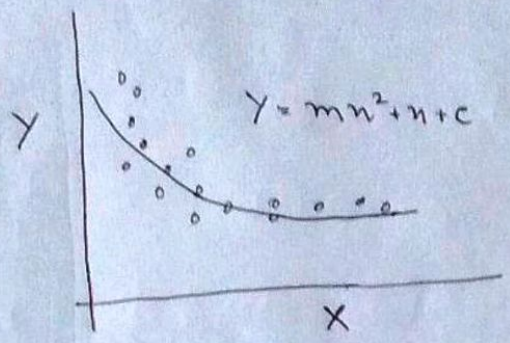
D) Draw :-



X → feature
Y → target

3) Result Analysis :-

* In this dataset we have applied 2 degree polynomial regression and the accuracy is 68%, that means predicted data are correctly recognized by the features.

* we have also tried other model such as Linear regression where accuracy is 57% and polynomial regression more than 2 degree is failing to be a good model so degree 2 polynomial is best for this dataset.