Practical 1 - (Linear Regression one Variable)

Thursday, 22 January 2026 7:21 AM

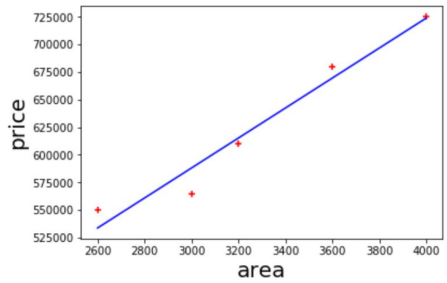
Sample problem of predicting home price in monroe, new jersey (USA)

Below table represents current home prices in monroe township based on square feet area, new jersey

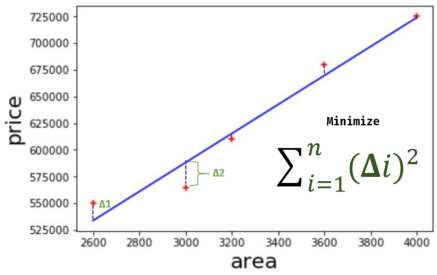
area	price
2600	550000
3000	565000
3200	610000
3600	680000
4000	725000

Problem Statement: Given above data build a machine learning model that can predict home prices based on square feet area

You can represent values in above table as a scatter plot (values are shown in red markers). After that one can draw a straight line that best fits values on chart.



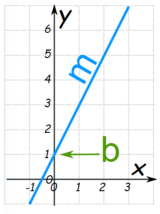
You can draw multiple lines like this but we choose the one where total sum of error is minimum



You might remember about linear equation from your high school days math class. Home prices can be presented as following equation,

home price = m * (area) + b

Generic form of same equation is,



price = m * area + b

y = mx + b

Slope (or Gradient) Y Intercept

Reference: https://www.mathsisfun.com/algebra/linear-equations.html