

DAILY ASSESSMENT FORMAT

Course:	Machine learning with Python	Name:	Bindu.N.R
Link:	https://cognitiveclass.ai/courses	USN:	4AL17EC101
Org By :	IBM	Semester & Section:	6-B
Github Repository:	bindunr-python	Date:	17/06/2020


Progress on 17-06-2020

• Topic Completed Today

Simple Linear Regression (12:50)

[Bookmark this page](#)

Simple Linear Regression (12:50)



A good model can be used to predict what the approximate emission of each car is. How do we use this line for prediction now? Let us assume, for a moment, that the line is a good fit of data. We can use it to predict the emission of an unknown car. For example, for a sample car, with engine size 2.4, you can find the emission is 214. Now, let's talk about what this fitting line actually is.

We're going to predict the target value, y .

In our case, using the independent variable, "Engine Size," represented by x_1 .

The fit line is shown traditionally as a polynomial. In a simple regression problem (a single x), the form of the model would be $\theta_0 + \theta_1 x_1$. In this equation, y is the dependent variable or the predicted value, and x_1 is the independent variable; θ_0 and θ_1 are the parameters of the line that we must adjust. θ_1 is known as the "slope" or "gradient"

Evaluation Metrics in Regression (3:06)

[Bookmark this page](#)

Evaluation Metrics in Regression (3:06)

What is an error of the model?

$$MAE = \frac{1}{n} \sum_{i=1}^n |y_i - \hat{y}_i|$$

(MSE), and Root Mean Squared Error (RMSE). But, before we get into defining these, we need to define what an error actually is.

In the context of regression, the error of the model is the difference between the data points and the trend line generated by the algorithm.

Since there are multiple data points, an error can be determined in multiple ways.

Mean absolute error is the mean of the absolute value of the errors.

This is the easiest of the metrics to understand, since it's just the average error.

Mean Squared Error (MSE) is the mean of the squared error.

It's more popular than Mean absolute error because the focus is geared more towards large errors.

This is due to the squared term exponentially increasing larger errors in comparison to smaller ones.

Root Mean Squared Error (RMSE) is the square root of the mean squared error.

• Progress Report

ML0101ENV3 Progress | Cognitive Class

Cognitive Class: ML0101ENV3 Machine Learning with Python

Learning Paths Courses

Help Bindu_N_R

Course Discussion Wiki Resources **Progress**

Course Progress for Student 'Bindu_N_R' (bindu6433@gmail.com)

Section	Progress (%)
RQ 01	100%
RQ 02	100%
RQ 03	0%
RQ 04	0%
RQ 05	0%
RQ Avg	~40%
Final	0%
Total	20%

Welcome!

Welcome! (3:15)

No problem scores in this section

