Quiz - Linear Model Example

Total points 14/14

Email *

shinoda.c.i@gmail.com

Exercise 1) Linear Model

Use the following case description for the next 4 questions:

Joe is a gardener that performs lawn mowing services. Mark, one of his customers, developed the following model to describe the price charged by Joe to perform his lawn mowing services.

price(d,a) = 20 + d . 3 + a . 10 USD

"d" describes the distance, in kilometers, from Joe's house to the customer's house and "a" describes the lawn area

Assuming the following services performed by Joe as a test set: *

1/1

a = 30, d = 10, price = 355 USD

a = 20, d = 20, price = 270 USD

What is the Test MSE (Mean Squared Error) for the model?

62.5

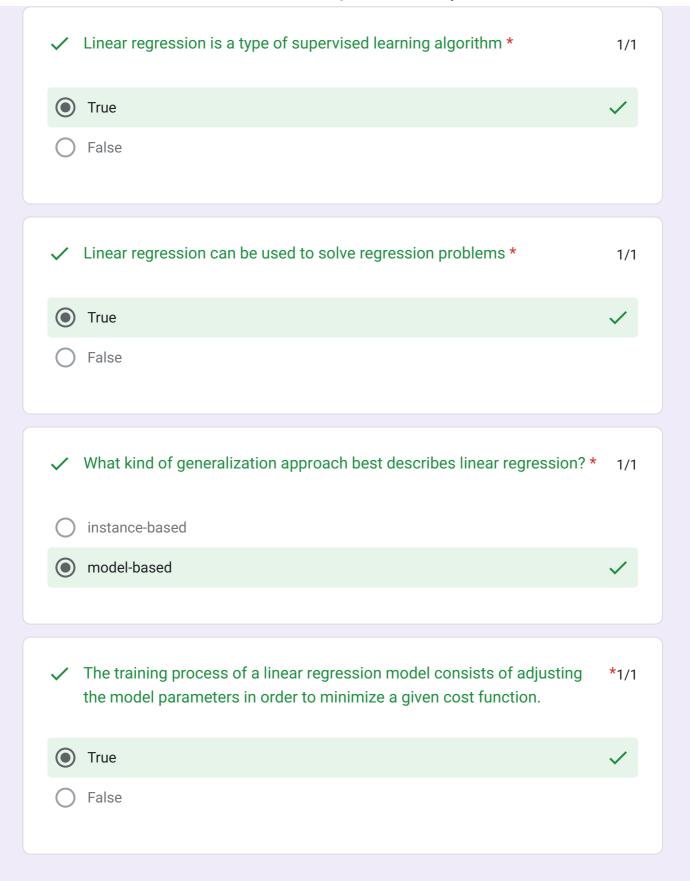


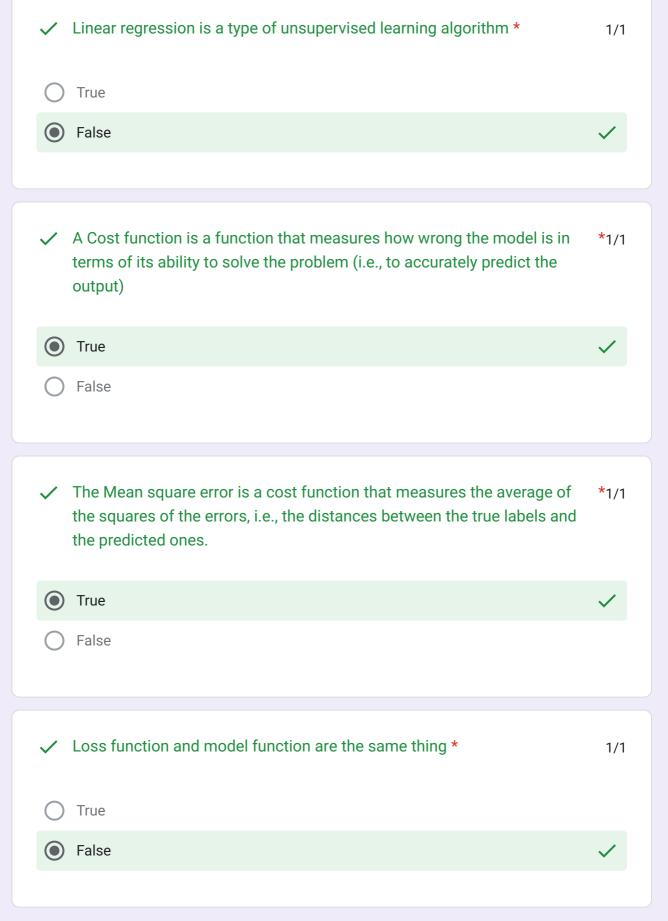
Feedback

 $((20+10.3+30.10-355)^2 + (20+20.3+20.10-270)^2)/2 = ((-5)^2 + (10)^2)/2 = 125/2 =$ 62.5

✓	Select the true alternatives *	1/1
	a) In the exercise 1 problem, d (distance) and a (area) are considered labels	
	b) The lawn service price has a linear relationship with "d" (distance) and "a" (area in square meters)	✓
	c) According to this model, Joe would charge approximately 295.00 USD for a service that is 25 km far from his home and requires mowing a lawn with 20 square meters.	✓
	d) This model is equivalent to a Multivariate linear model	✓
~	Select only the values that are used as parameters on the model	*1/1
	proposed by Mark (exercise 1).	
	20	✓
	355	
	3	✓
	270	
	27010	✓

✓ Select only the values that are used as labels in the test set. *	1/1
20	
355	✓
3	
270	✓
10	
✓ What is a "model" in machine learning? *	1/1
A model is a mathematical relationship derived from data that an ML system uses to make predictions	n 🗸
A model is a smaller representation of the thing you're studying.	
A model is a piece of computer hardware	
✓ Why does a model need to be trained before it can make predictions?	* 1/1
A model doesn't need to be trained. Models are available on most computer	S.
A model needs to be trained so it won't require data to make a prediction.	
A model needs to be trained to learn the mathematical relationship between features and the label in a dataset.	n the 🗸





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