

Course: 0404 Advanced Predictive Modelling
Assessment: Advanced Predictive Modelling Concepts
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Correct answers: 28 / 28
Time spent: 00:00:38
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Attempt#: 1

Is the following statement true or false?

Binary logistic regression is used when the dependent variable is continuous and independent variables are categorical.

- ☐ True
☒ False

Correct answer

False

Feedback

- That is correct! Well done!

Is the following statement true or false? The sensitivity of classification model is $= 1 - \text{specificity}$:

- ☐ True
☒ False

Correct answer

False

Feedback

- That is correct! Well done!

Is the following statement true or false? The percentage of correctly predicted observations is called the misclassification rate.

- ☐ True
- ☒ False

Correct answer

False

Feedback

- That is correct! Well done!

The ROC Curve stands for:

- ☒ Receiver operating characteristic curve
- ☐ Rate of change curve
- ☐ Neither

Correct answer

Receiver operating characteristic curve

Is the following statement true or false?

Binary logistic regression can be used if the dependent variable is "number of accidents".

- ☐ True
- ☒ False

Correct answer

False

Feedback

- That is correct! Well done!

The classification table of a binary logistic regression model to predict a patient suffering from hypertension is obtained as follows:

Classification table		Predicted	
		0	1
Actual	0	171	87
	1	91	199

What is the sensitivity that the diagnosis correctly identifies a patient suffering from hypertension?

- ☐ 30.42
- ☐ 31.28
- ☐ 65.27
- ☒ 68.62

Correct answer

68.62

In an agricultural setting, scientists use crop yield as the response variable and fertiliser and water as predictor variables to see how different amounts of fertiliser and water on different fields affects crop yield. Can a scientist use binary logistic r

egression to accomplish his research objective?

- ☐ Yes
- ☒ No
- ☐ Cannot say

Correct answer

No

Is the following statement true or false? The odds ratio can be any number ranging from 0 to 1..

- ☐ True
- ☒ False

Correct answer

False

Feedback

- That is correct! Well done!

Is the following statement true or false?

Cross tabulation of observed values and predicted values in a logistic regression model is known as the classification table.

- ☒ True
- ☐ False

Correct answer

True

Feedback

- That is correct! Well done!

Is the following statement true or false? Independent variables are linearly related to log odds.

- ☒ True
- ☐ False

Correct answer

True

Feedback

- That is correct! Well done!

Is the following statement true or false?

The predicted Probability of an outcome variable can only lie between -1 and + 1 in binary logistic regression.

- ☐ True
- ☒ False

Correct answer

False

Feedback

- That is correct! Well done!

If the dependent variable is coded as:

$Y=1$ if a credit card transaction is fraudulent

$=0$ if a credit card transaction is legitimate

Can binary logistic regression be an appropriate approach in the above situation to predict the probability of a fraudulent transaction?

- ☒ Yes
- ☐ No
- ☐ Cannot say

Correct answer

Yes

1- Sensitivity is known as:

- ☐ True positive rate
- ☐ Misclassification rate
- ☒ None of these

Correct answer

None of these

Is the following statement true or false? Sensitivity + Specificity = 1.

- ☐ True
- ☒ False

Correct answer

False

Feedback

- That is correct! Well done!

0 and 1, or pass and fail or true and false used as outcomes of a dependent variable are examples of?

- ☐ Multinomial logistic regression
- ☒ Binary logistic regression
- ☐ Ordinal Logistic regression
- ☐ None of the above

Correct answer

Binary logistic regression

Is the following statement true or false?

Training data in hold-out validation of binary logistic regression should have more sample size than the testing data.

- ☒ True
- ☐ False

Correct answer

True

Feedback

- That is correct! Well done!

Is the following statement true or false?

For a categorical predictor in a logistic regression model, one method is to create dummy variables.

- ☒ True
- ☐ False

Correct answer

True

Feedback

- That is correct! Well done!

Is the following statement true or false?

Misclassification rates depends on the cut-off used for predicted probabilities in binary logistic regression.

☒ True

☐ False

Correct answer

True

Feedback

- That is correct! Well done!

Is the following statement true or false? Independent variables used in binary logistic regression are always ordinal.

☐ True

☒ False

Correct answer

False

Feedback

- That is correct! Well done!

Is the following statement true or false?

In K-Fold cross validation of a binary logistic regression model, k represents the number of independent variables used for model building.

- ☐ True
- ☒ False

Correct answer

False

Feedback

- That is correct! Well done!

Employee satisfaction level in a company ranging from very satisfied, satisfied, unsatisfied and highly unsatisfied can be used as a dependent variable in a binary logistic regression.

- ☐ Yes
- ☒ No

Correct answer

No

Is the following statement true or false? Poisson Regression is most suitable for dependent variables measured as “Count”?

- ☒ True
- ☐ False

Correct answer

True

Feedback

- That is correct! Well done!

Is the following statement true or false?

Multinomial logistic regression can be used for dependent variables measured on a nominal scale with 4 categories.

- ☒ True
- ☐ False

Correct answer

True

Feedback

- That is correct! Well done!

Is the following statement true or false? Multinomial logistic regression can be used to model continuous dependent variables.

- ☐ True
- ☒ False

Correct answer

False

Feedback

- That is correct! Well done!

Is the following statement true or false? In a classification model, the value of sensitivity can be 2.5.

- ☐ True
- ☒ False

Correct answer

False

Feedback

- That is correct! Well done!

Is the following statement true or false?

If the area under the ROC curve is 0.70, then it has 70% accuracy for a binary logistic Regression model.

- ☐ True
- ☒ False

Correct answer

False

Feedback

- That is correct! Well done!

Is the following statement true or false?

The concept of multicollinearity is not applicable in the case of binary logistic Regression.

- ☐ True
- ☒ False

Correct answer

False

Feedback

- That is correct! Well done!

Is the following statement true or false?

For predicting the direction of the stock market (as up or down), one can use Poisson regression.

- ☐ True
- ☒ False

Correct answer

False

Feedback

- That is correct! Well done!