Machine Learning (ML) solved MCQs

101. MLE estimates are often undesirable because

A. they are biased

B. they have high variance

C. they are not consistent estimators

D. none of the above

B.they have high variance   discuss

102. The difference between the actual Y value and the predicted Y value found using a regression equation is called the

A. slope

B. residual

C. outlier

D. scatter plot

A.slope   discuss

103. Neural netw

A. optimize a cd

C. can be used for regression as well as classification

D. all of the above

C.can be used for regression as well as classification   discuss

104. Linear Regression is a _____ machine learning algorithm.

A. supervised

B. unsupervised

C. semi-supervised

D. can\t say

A.supervised   discuss

105. Which of the following methods/methods do we use to find the best fit line for data in Linear Regression?

A. least square error

B. maximum likelihood

C. logarithmic loss

D. both a and b

A.least square error   discuss

106. Which of the following methods do we use to best fit the data in Logistic Regression?

A. least square error

B. maximum likelihood

C. jaccard distance

D. both a and b

B.maximum likelihood   discuss

107. Lasso can be interpreted as least-squares linear regression where

A. weights are regularized with the l1 norm

B. the weights have a gaussian prior

C. weights are regularized with the l2 norm

D. the solution algorithm is simpler

A.weights are regularized with the l1 norm   discuss

108. Which of the following evaluation metrics can be used to evaluate a model while modeling a continuous output variable?

A. auc-roc

B. accuracy

C. logloss

D. mean-squared-error

D.mean-squared-error   discuss

109. Simple regression assumes a _____ relationship between the input attribute and output attribute.

A. quadratic

B. inverse

C. linear

D. reciprocal

C.linear   discuss

110. In the regression equation Y = 75.65 + 0.50X, the intercept is

A. 0.5

B. 75.65

C. 1

D. indeterminable

B.75.65   discuss

111. The selling price of a house depends on many factors. For example, it depends on the number of bedrooms, number of kitchen, number of bathrooms, the year the house was built, and the square footage of the lot. Given these factors, predicting the selling price of the house is an example of _____ task.

A. binary classification

B. multilabel classification

C. simple linear regression

D. multiple linear regression

D.multiple linear regression   discuss

112. Suppose, you got a situation where you find that your linear regression model is under fitting the data. In such situation which of the following options would you consider?

A. you will add more features

B. you will remove some features

C. all of the above

D. none of the above

A.you will add more features   discuss

113. We have been given a dataset with n records in which we have input attribute as x and output attribute as y. Suppose we use a linear regression method to model this data. To test our linear regressor, we split the data in training set and test set randomly. Now we increase the training set size gradually. As the training set size increases, What do you expect will happen with the mean training error?

A. increase

B. decrease

C. remain constant

D. can't say

D.can't say   discuss

114. We have been given a dataset with n records in which we have input attribute as x and output attribute as y. Suppose we use a linear regression method to model this data. To test our linear regressor, we split the data in training set and test set randomly. What do you expect will happen with bias and variance as you increase the size of training data?

A. bias increases and variance increases

B. bias decreases and variance increases

C. bias decreases and variance decreases

D. bias increases and variance decreases

D.bias increases and variance decreases   discuss

115. Regarding bias and variance, which of the following statements are true? (Here 'high' and 'low' are relative to the ideal model.
(i) Models which overfit are more likely to have high bias

(ii) Models which overfit are more likely to have low bias

(iii) Models which overfit are more likely to have high variance

(iv) Models which overfit are more likely to have low variance

A. (i) and (ii)

B. (ii) and (iii)

C. (iii) and (iv)

D. none of these

B.(ii) and (iii)   discuss

116. Which of the following indicates the fundamental of least squares?

A. arithmetic mean should be maximized

B. arithmetic mean should be zero

C. arithmetic mean should be neutralized

D. arithmetic mean should be minimized

D.arithmetic mean should be minimized   discuss

117. Suppose that we have N independent variables (X1,X2… Xn) and dependent variable is Y. Now Imagine that you are applying linear regression by fitting the best fit line using least square error on this data. You found that correlation coefficient for one of it's variable(Say X1) with Y is 0.95.

A. relation between the x1 and y is weak

B. relation between the x1 and y is strong

C. relation between the x1 and y is neutral

D. correlation can't judge the relationship

B.relation between the x1 and y is strong   discuss

118. In terms of bias and variance. Which of the following is true when you fit degree 2 polynomial?

A. bias will be high, variance will be high

B. bias will be low, variance will be high

C. bias will be high, variance will be low

D. bias will be low, variance will be low

C.bias will be high, variance will be low   discuss

119. Which of the following statements are true for a design matrix X ∈ Rn×d with d > n? (The rows are n samplepoints and the columns represent d features.)

A. least-squares linear regression computes theweights w = (xtx)−1 xty

B. the sample points are linearly separable

C. x has exactly

D. at least one

D.at least one   discuss

120. Point out the wrong statement.

A. regression through the origin yields an equivalent slope if you center the data first

B. normalizing variables results in the slope being the correlation

C. least squares is not an estimation tool

D. none of the mentioned

C.least squares is not an estimation tool					*discuss*

121. Suppose, you got a situation where you find that your linear regression model is under fitting the data. In such situation which of the following options would you consider?

A. you will add more features

B. you will remove some features

C. all of the above

D. none of the above

A.you will add more features					*discuss*

122. If X and Y in a regression model are totally unrelated,

A. the correlation coefficient would be -1

B. the coefficient of determination would be 0

C. the coefficient of determination would be 1

D. the sse would be 0

B.the coefficient of determination would be 0					*discuss*

123. Regarding bias and variance, which of the following statements are true? (Here 'high' and 'low' are relative to the ideal model.
(i) Models which overfit are more likely to have high bias
(ii) Models which overfit are more likely to have low bias
(iii) Models which overfit are more likely to have high variance
(iv) Models which overfit are more likely to have low variance

A. (i) and (ii)

B. (ii) and (iii)

C. (iii) and (iv)

D. none of these

B.(ii) and (iii)					*discuss*

124. Which of the following statements are true for a design matrix X ∈ Rn×d with d > n? (The rows are n sample points and the columns represent d features.)

C. x has exactly d − n eigenvectors with eigenvaluezero

D. at least one principal component direction is orthogonal to a hyperplane that contains all the samplepoints

D.at least one principal component direction is orthogonal to a hyperplane that contains all the samplepoints   discuss

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125. Problem in multi regression is ?

A. multicollinearity

B. overfitting

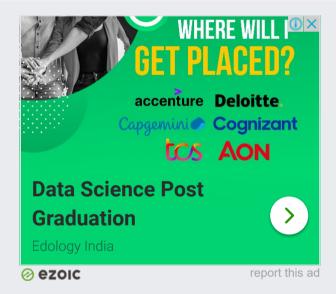C. both multicollinearity & overfitting

D. underfitting

C.both multicollinearity & overfitting   discuss

« Set 4   Set 6 »

1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27
28	29	30	31

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