Test AI & ML

① Large X with missing data

② (a) they cannot handle missing values

③ Improving feature selection

④ All features are considered at each split.

⑤ Target variable is skipped.

⑥ Sigmoid.

⑦ Recall

⑧ Training time

⑨ Because distance calculation depends on scale.

⑩ Logistic Regression

11) Ans- overfitting in decision trees is used for check the correct parameters and depth of the data set with multiple nodes and branches. Depth as a parameter are used when ~~the~~ we need the data clearity and accurate answers.

Test . AI & ML.

(1) Large k with noisy data

(2) (a) They Cannot handle missing values

(3) Improving feature Selection

(4) All features are Considered at each split.

(5) Target variable is Categorical.

(6) Sigmoid.

(7) Recall

(8) Traning time

(9) Because distance calculation depends on Scale.

(10) Logistic Regression

11) Ans- Overfitting in decision Trees is used for check the correct Parameters and depth of the data set with multiple nodes and Branches. Depth as a parameter are used when ~~the~~ we need the data clearity and accurate answers.

Ans:- Bagging and Random forest addressing problem
Both a overfitting and high variance
Problem noticed.

⇒ Bagging create multiple trees of same training set (dataset)
= Random forest create taining more presize dataset..

⇒ Explain Random forest working in detail

Ans Random forest are mainly work to create multiple trees during comparing of each dataset for solving the Bable and Boost the accuracy and performance the final result.

= Bootstrap Sampling - It is also a part of Bagging. In this these are also create multiple tree for Better Prediction and result.

= Random feature selection = It is used in to boild data correction and reduce the randiy of the selective dataset.

A fraud detection model produced the following result

	Predicted fraud	Predicted Not fraud
Actual fraud	120	30
Actual Not fraud	50	800

(a) Calculate Accuracy
(b) Calculate Precision
(c) Calculate Recall
(d) Calculate F1 Score
(e) Is this model acceptable for fraud detion?

TP = 120
FN = 30
FP = 50
TN = 800
Total = 1000

Accuracy — $A = \frac{TP + TN}{Total} = \frac{120 + 800}{1000} = \frac{920}{1000}$

$= 0.82\ \%$

Precision $= P = \frac{TP}{TP + FP} = \frac{120}{120 + 50} = \frac{120}{170} = 0.70$

Recall $= \frac{TP}{TP + FN} = \frac{120}{120 + 30} = \frac{120}{150} = 0.8\ \%$

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F1 Score = $\frac{\text{Precision} * \text{Recall}}{\text{Precision} + \text{Recall}}$

$F1 = 2 \times \frac{0.70 \times 0.8}{0.70 + 0.8} = \frac{1.12}{1.5} = 0.74$

- Yes, the model Acceptable for Fraud detection.