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Classification Evaluation

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Classification Evaluation Quiz

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1. In a confusion matrix, what does the term "true positive (TP)" represent? **1 / 1 point**

- (•) The number of positive instances correctly classified as positive.
- ( ) The number of positive instances correctly classified as negative.
- ( ) The number of negative instances correctly classified as negative.
- ( ) The number of positive instances incorrectly classified as negative.

Correct
Correct! True positive (TP) represents the number of positive instances correctly classified as positive.

2. In a confusion matrix, what does the term "false positive (FP)" represent? **1 / 1 point**

- ( ) The number of positive instances correctly classified as negative.
- ( ) The number of positive instances correctly classified as positive.
- (•) The number of negative instances incorrectly classified as positive.
- ( ) The number of positive instances incorrectly classified as negative.

Correct
Correct! False positive (FP) represents the number of negative instances incorrectly classified as positive.

3. In a confusion matrix, what does the term "true negative (TN)" represent? **1 / 1 point**

- ( ) The number of positive instances correctly classified as negative.
- ( ) The number of positive instances correctly classified as positive.
- (•) The number of negative instances correctly classified as negative.
- ( ) The number of negative instances incorrectly classified as positive.

Correct
Correct! True negative (TN) represents the number of negative instances correctly classified as negative.

4. In a confusion matrix, what does the term "false negative (FN)" represent? **1 / 1 point**

- ( ) The number of positive instances correctly classified as negative.
- ( ) The number of positive instances correctly classified as positive.
- ( ) The number of negative instances correctly classified as negative.
- (•) The number of positive instances incorrectly classified as negative.

Correct
Correct! False negative (FN) represents the number of positive instances incorrectly classified as negative.

5. What is sensitivity (recall) in the context of classification evaluation? **1 / 1 point**

- ( ) The proportion of true negative predictions among all negative instances.
- (•) The proportion of true positive predictions among all positive instances.
- ( ) The proportion of true positive predictions among all negative instances.
- ( ) The proportion of true negative predictions among all positive instances.

Correct
Correct! Sensitivity (recall) is the proportion of true positive predictions among all positive instances.

6. What is precision in the context of classification evaluation? **1 / 1 point**

- ( ) The proportion of true negative predictions among all negative instances.
- ( ) The proportion of true positive predictions among all negative instances.
- (•) The proportion of true positive predictions among all predicted positive instances.
- ( ) The proportion of true negative predictions among all predicted positive instances.

Correct
Correct! Precision is the proportion of true positive predictions among all predicted positive instances.

7. Which evaluation metric provides a balanced measure between precision and recall? **1 / 1 point**

- (•) F1 score
- ( ) Specificity
- ( ) Accuracy
- ( ) Area Under the ROC Curve (AUC)

Correct
Correct! The F1 score provides a balanced measure between precision and recall by considering both metrics in its calculation.

8. What is specificity in the context of classification evaluation? **1 / 1 point**

- (•) The proportion of true negative predictions among all negative instances.
- ( ) The proportion of true positive predictions among all positive instances.
- ( ) The proportion of true negative predictions among all predicted negative instances.
- ( ) The proportion of true positive predictions among all negative instances.

Correct
Correct! Specificity is the proportion of true negative predictions among all negative instances.

9. What is the ROC curve used for in classification evaluation? **1 / 1 point**

- ( ) To visually represent the confusion matrix.
- (•) To visualize the trade-off between sensitivity and specificity at different classification thresholds.
- ( ) To show the distribution of predicted probabilities across all classes.
- ( ) To display the relationship between precision and recall at various thresholds.

Correct
Correct! The ROC curve is used to visualize the trade-off between sensitivity (recall) and specificity at different classification thresholds.

10. What is the AUC (Area Under the ROC Curve) used for in classification evaluation? **1 / 1 point**

- ( ) To measure the accuracy of the classifier.
- ( ) To quantify the balance between sensitivity and specificity.
- ( ) To assess the precision of the classifier's predictions.
- (•) To evaluate the overall performance of the classifier in distinguishing between positive and negative instances.

Correct
Correct! The AUC is used to evaluate the overall performance of the classifier in distinguishing between positive and negative instances.