Congratulations! You passed!

TO PASS 80% or higher

Keep Learning

GRADE 98.21%

Module 3 Quiz

LATEST SUBMISSION GRADE

98.21%

1. A supervised learning model has been built to predict whether someone is infected with a new strain of a virus. The probability of any one person having the virus is 1%. Using accuracy as a metric, what would be a good choice for a baseline accuracy score that the new model would want to outperform?

1 / 1 point

Correct

2. Given the following confusion matrix:

1 / 1 point

	Predicted Positive	Predicted Negative
Condition Positive	96	4
Condition Negative	8	19

Compute the accuracy to three decimal places.

Compute the precision to three decimal places.

Correct

4. Given the following confusion matrix:

1 / 1 point

	Predicted Positive	Predicted Negative
Condition Positive	96	4

5. Using the fitted model `m` create a precision-recall curve to answer the following question:

1 / 1 point

For the fitted model `m`, approximately what precision can we expect for a recall of 0.8?

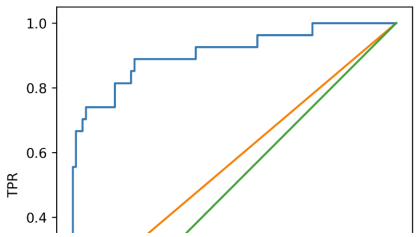
(Use y_test and X_test to compute the precision-recall curve. If you wish to view a plot, you can use `plt.show()`)

```
y_scores = m.decision_function(X_test)
precision, recall, thresholds = precision_recall_curve(y_test, y_scores)
point = np.argmin(np.abs(thresholds))
point_p = precision[point]
point_r = recall[point]

plt.figure()
plt.xlim([0.0, 1.01])
plt.ylim([0.0, 1.01])
plt.plot(precision, recall)
plt.plot(point_p, point_r, marker='o', markersize=12)
plt.show()
```

Run

Reset

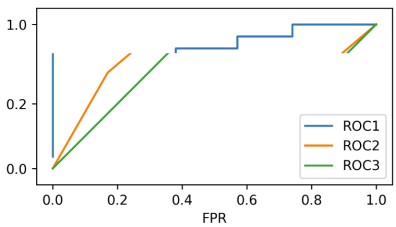


Correct

7. Given the following models and accuracy scores, match each model to its corresponding ROC curve.

1 / 1 point

- Model 1 test set accuracy: 0.91
- Model 2 test set accuracy: 0.79
- Model 3 test set accuracy: 0.72



Correct

9. Which of the following is true of the R-Squared metric? (Select all that apply)

0.75 / 1 point

Incorrect

10. In a future society, a machine is used to predict a crime before it occurs. If you were responsible for tuning this machine, what evaluation metric would you want to maximize to ensure no innocent people (people not about to commit a crime) are imprisoned (where crime is the positive label)?

1 / 1 point

Correct

Correct

13. Using the already defined RBF SVC model `m`, run a grid search on the parameters C and gamma, for values [0.01, 0.1, 1, 10]. The grid search should find the model that best optimizes for recall. How much better is the recall of this model than the precision? (Compute recall - precision to 3 decimal places)

1 / 1 point

(Use y_test and X_test to compute precision and recall.)

```
#print(m)
parameters = {'gamma': [0.01, 0.1, 1, 10], 'C': [0.01, 0.1, 1, 10]}
grid_clf = GridSearchCV(m,parameters, scoring='recall').fit(X_train, y_train)
grid_pred = grid_clf.best_estimator_.predict(X_test)
pre_sc = precision_score(y_test, grid_pred)
rec_sc = recall_score(y_test, grid_pred)
print(pre_sc, rec_sc)
print("{:.3f}".format(rec_sc - pre_sc))

```

Run

Reset

Correct