A3.1 - Performance Assessment: review quiz on probability and statistics

This task will be graded after the deadline

¡Tu respuesta es exitosa! Tu calificación es 0.0%. [Tarea #6425abd219a5d14ac53ec9ba]

Your answers are correctly formatted and have been saved for future grading. You will receive your grade after the deadline.

Pregunta 1:

Your answer has been saved for future grading.

Let a decision tree model M be used to classify 1000 independent test examples. We consider the following events:

- A: M *classifies the third test example as positive*;
- B: M *classifies the third test example as negative*.

The model is fixed and deterministic.

Select all valid answers.

- [x] Those events are **not random** because the decision model is deterministic, i.e. it always predicts the same class for a given test point.
- [ ] Those events are **independent** because the test examples are independent.
- [ ] Those events are **random** because the test examples should be considered to be drawn at random.
- [ ] Those events are **not mutually exclusive** because either of them can happen.
- [ ] **Mutually exclusive** events are never **independent**.
- [x] Two **mutually exclusive** events A and B cannot be **independent** provided that $P(A) > 0$ and $P(B) > 0$.
- [x] Those events are **mutually exclusive** because they cannot both occur.

Pregunta 2:

Your answer is correctly formatted and has been saved for future grading.

A polynomial kernel SVM is estimated on a validation set to have a 75% classification accuracy. When this model is run to classify a stream of new test examples, what is the expected number of examples to be processed until the *first* classification error appears (include the first error in the total number of examples required)?

4

Pregunta 3:

✓ Your answer is correctly formatted and has been saved for future grading.

How do you expect this number to *vary* according to the actual set of test examples? Report the standard deviation of your estimator.

When rounding, give at least 3 decimals.

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0.014
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Pregunta 4:

✓ Your answer is correctly formatted and has been saved for future grading.

What is the expected number of examples to be processed until the *fifth* classification error is observed (include all 5 errors in the total number of examples required)?

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20
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