Week 5 - classification

Total points 8/8

Student number: *

1005523

✓ There is only one optimal decision tree for a training dataset * 1/1

- ○ True
- ◉ False ✓

✓ Consider the following dataset for a binary classification problem. 3/3

Which of the below is correct?

A	B	Class Label
T	F	+
T	T	+
T	T	+
T	F	−
T	T	+
F	F	−
F	F	−
F	F	−
T	T	−
T	F	−

- ○ The overall entropy before splitting is 0.9710 and the gain after splitting on A is 0.2813
- ○ The Gini index before splitting is 0.48 and the gain in Gini after splitting on A is 0.1371
- ◉ Both are correct. ✓
- ○ None are correct.

✓ Bayes theorem is useful: * 1/1

- ◉ When we don't know the joint probability of A and B occurring together. ✓
- ○ If we want to calculate the probability of A occurring given B, but we only have historic data of B
- ○ If we want to augment SVMs with probabilistic statistics.

✓ I have created a model that takes the entire dataset and uses it to train 5 models (logistic regression, KNN, a large and small decision tree, and a naive bayes model), then it uses those predictions as input to a neural network, which provides the final prediction. *1/1

This is an example of:

- ○ Bagging
- ○ Boosting
- ◉ Stacking ✓
- ○ Random Forest

✓ You are predicting hit songs. You know that 1 song out of every 100 is a hit. *1/1

Which metric is the least insightful for evaluating your model:

- ◉ Accuracy ✓
- ○ Confusion matrix
- ○ Precision and recall
- ○ ROC

✓ The effectiveness of an SVM depends upon: * 1/1

- ○ Selection of Kernel
- ○ Kernel Parameters
- ○ Soft Margin Parameter C
- ◉ All of the above ✓