

## Understanding Support Vector Machines

TOTAL POINTS 3

1. Hinge loss...

1 / 1 point

- ☒ Penalizes incorrectly labelled data points that are further from the decision boundary more than those that are closer



Correct

Correct! Hinge loss penalizes data points that are far on the wrong side of the decision boundary.

- ☐ Is a kind of regression loss

- ☒ Is a convex surrogate for misclassification loss



Correct

Correct! Hinge loss is meant to capture important characteristics of misclassification loss while still being convex.

- ☐ Changes angles for different points

- ☐ Is a differentiable surrogate for misclassification loss

2. What is true of the line found by hard-margin SVM on linearly separable data?

1 / 1 point

- ☒ The line is the same distance from the closest training example from each class.
- ☐ It minimizes misclassifications.
- ☐ It's always a two-dimensional line.
- ☐ The line is the same distance to multiple training examples from all the classes.



Correct

Correct! The maximum minimum margin is the same distance, as long as the data is actually linearly separable.

3. What package must you import to build Support Vector Machines in scikit-learn?

1 / 1 point

- ☒ svm
- ☐ ensemble
- ☐ tree
- ☐ linear\_model
- ☐ svc



Correct

Correct!