Your grade: 100%

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1. What does the k parameter in k-NN represent?   1 / 1 point

   ○ The number of classes in the data

   ○ The number of features in the data

   ⦿ The number of nearest neighbors used for prediction

   ○ The distance measure used to calculate similarity

   ⊘ **Correct**
   k is the count of nearest neighbors considered when making a prediction.

2. What is the primary purpose of scaling features before applying k-NN?   1 / 1 point

   ○ To make computation faster

   ⦿ To ensure all features contribute equally to the distance measure

   ○ To reduce the total number of features

   ○ To give more weight to features with higher values

   ⊘ **Correct**
   Scaling ensures that no single feature unfairly influences the distance metric.

3. What is the primary goal of an SVM classifier in a binary classification task?   1 / 1 point

   ○ To find a line that passes through the majority of data points

   ○ To find multiple hyperplanes for each class

   ⦿ To create a hyperplane that maximizes the margin between two classes

   ○ To minimize the number of support vectors needed

   ⊘ **Correct**
   SVM finds a hyperplane that maximizes the margin between classes to improve separation.

4. What is the role of the C parameter in SVM?   1 / 1 point

   ⦿ It controls the width of the margin by allowing some misclassifications

   ○ It sets the number of support vectors

   ○ It determines the dimensionality of the data space

   ○ It defines the kernel function used for the SVM

   ⊘ **Correct**
   C sets the tradeoff between a wide margin and tolerating misclassifications.

5. What does bias refer to in the context of predictive modeling?   1 / 1 point

   ○ The variability of the model's predictions across different datasets

   ○ The number of support vectors in a model

   ○ The degree of complexity of the model

   ⦿ The average difference between predicted values and actual target values

   ⊘ **Correct**
   Bias measures how far off the model's predictions are from the true values on average.