Try again once you are ready

Grade received 62.50% To pass 80% or higher

Try again

Feature Selection

Total points 4

1. Consider a **binary classification** problem in a **2D** feature space. What is the shape of the **boundary** separating the 2 classes in an ideal setting?

1 / 1 point

- (●) Linear
- ( ) Parabola
- ( ) Sigmoid
- ( ) Perceptron

Correct
Exactly! This is the simplest functional form of a boundary.

2. **Feature selection** is characterized by: (check all that apply).

1 / 1 point

- [x] Remove features that don't influence the outcome.

Correct
Right on track! Feature selection deals with removing nuisance variables.

- [ ] Accounting for data changes over time (drift, seasonality, etc).
- [ ] Ensuring numerical features follow the same numerical range
- [ ] Ensuring that the serving dataset is representative of future inference requests.
- [x] Identify features that best represent the relationship between two or more variables.

Correct
Good job! Feature selection identifies features with predictive power.

3. What is the definition of backward elimination?

0 / 1 point

- (●) We start by selecting all features in the feature set and calculating their feature importances. We then prune features from the current feature set to select a subset of the features based on the feature importances, We recursively prune features on the new subset until no model performance improvement is observed.
- ( ) We first start with no features. In each iteration we keep adding features which will increase the model performance until no performance improvement is observed.
- ( ) In this method we start by selecting all the features. We then remove the least significant feature based on model performance. We repeat this step until no improvement is observed in model performance.

Incorrect
Not even close. This is Recursive Feature Elimination.

4. **Embedded methods** combine the best of both worlds, filter and wrapper methods. Embedded methods are: (Check all that apply)

0.5 / 1 point

- [ ] Faster than wrapper methods
- [x] Faster than filter methods

This should not be selected
Not really! Filter methods suffer from inefficiencies as they need to look at all the possible feature subsets

- [x] More efficient than filter methods

Correct
Nice going! Filter methods suffer from inefficiencies as they need to look at all the possible feature subsets.

- [ ] More efficient than wrapper methods