

Understanding Model Complexity

TOTAL POINTS 3

1. How do you add model complexity to a linear model?

1 / 1 point

- ☐ By adding features that are weighted sums of other features.
- ☐ By adding features at random to see what works.
- ☒ By adding non-linear feature expansions.
- ☐ You can't, linear models are always linear models.



Correct

Correct! Creating non-linear features allows linear models to capture non-linear relationships.

2. What is the point of regularizers?

1 / 1 point

- ☐ They penalize model inaccuracy
- ☒ They penalize model complexity
- ☐ They make a loss function convex.
- ☐ They fix the mistakes in training data



Correct

Correct! Regularization terms allow us to modify the objective function of a learning algorithm in order to penalize complexity as well as inaccuracy.

3. Overfitting usually means:

1 / 1 point

- ☐ Overfitting doesn't have anything to do with bias and variance.
- ☐ Low bias, low variance
- ☒ Low bias, high variance
- ☐ High bias, high variance
- ☐ High bias, low variance



Correct

Correct! A learning algorithm that overfits has high variance in the models it finds, although it can reduce bias.