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1. Which of the following can address overfitting?

1 / 1 point



Remove a random set of training examples



Collect more training data



Correct
If the model trains on more data, it may generalize better to new examples.



Select a subset of the more relevant features.



Correct
If the model trains on the more relevant features, and not on the less useful features, it may generalize better to new examples.



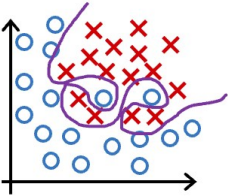
Apply regularization



Correct
Regularization is used to reduce overfitting.

2. You fit logistic regression with polynomial features to a dataset, and your model looks like this.

1 / 1 point



What would you conclude? (Pick one)



The model has high bias (underfit). Thus, adding data is, by itself, unlikely to help much.



The model has high variance (overfit). Thus, adding data is, by itself, unlikely to help much.



The model has high variance (overfit). Thus, adding data is likely to help



The model has high bias (underfit). Thus, adding data is likely to help



Correct
The model has high variance (it overfits the training data). Adding data (more training examples) can help.

3. Regularization

1 / 1 point

mean squared error regularization term

$$\min_{\vec{w}, b} J(\vec{w}, b) = \min_{\vec{w}, b} \left[\frac{1}{2m} \sum_{i=1}^m (f_{\vec{w}, b}(\vec{x}^{(i)}) - y^{(i)})^2 + \frac{\lambda}{2m} \sum_{j=1}^n w_j^2 \right]$$

Suppose you have a regularized linear regression model. If you increase the regularization parameter λ , what do you expect to happen to the parameters w_1, w_2, \dots, w_n ?



This will increase the size of the parameters w_1, w_2, \dots, w_n



This will reduce the size of the parameters w_1, w_2, \dots, w_n



Correct

Regularization reduces overfitting by reducing the size of the parameters w_1, w_2, \dots, w_n .