Your grade: 100%

Your latest: **100%** • Your highest: **100%** • To pass you need at least 80%. We keep your highest score.

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1. Which of the following can address overfitting?   1 / 1 point

   ☑ Apply regularization

   ⊘ **Correct**
   Regularization is used to reduce overfitting.

   ☐ 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.

2. You fit logistic regression with polynomial features to a dataset, and your model looks like this.   1 / 1 point
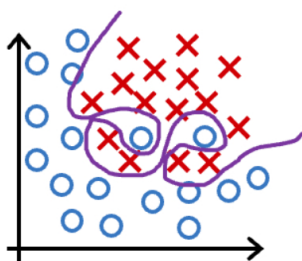
   What would you conclude? (Pick one)

   ○ The model has high 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, by itself, unlikely to help much.

   ○ 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.

1 / 1 point

Regularization

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

mean squared error — regularization term

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

   ○ This will increase the size of the parameters $w_1, w_2, ..., w_n$

   ● This will reduce the size of the parameters $w_1, w_2, ..., w_n$

   ⊘ **Correct**
   Regularization reduces overfitting by reducing the size of the parameters $w_1, w_2, ...w_n$.