

Variants of Gradient Descent

- **Batch Gradient Descent (BGD)** calculates the gradient using the entire training dataset in each iteration. This method is accurate but has a high computational cost for large datasets.
- **Stochastic Gradient Descent (SGD)** calculates the gradient using a single training example in each iteration. This method is noisy but has a low computational cost.
- **Mini-Batch Gradient Descent (MBGD)** calculates the gradient using a small batch of training examples in each iteration. This method is a compromise between BGD and SGD.

Question



Which gradient descent variant calculates the gradient using the entire training dataset in each iteration?

- ☒ Batch Gradient Descent (BGD)
- ☐ Stochastic Gradient Descent (SGD)
- ☐ Mini-Batch Gradient Descent (MBGD)

✓ Correct

Feedback: This is Correct. BGD computes the gradient using all training examples, leading to accurate updates but high computational cost for large datasets. For more information, refer to the video "Gradient Descent".

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