

Machine Learning Interview Questions

Basic Questions

Q: What is machine learning?

Q: Differentiate between supervised and unsupervised learning.

Q: What is overfitting and how can it be avoided?

Q: Explain the bias-variance tradeoff.

Q: What is cross-validation?

Q: What are the common evaluation metrics for classification problems?

Q: What is the difference between precision and recall?

Q: Explain the concept of feature scaling.

Q: What is a confusion matrix?

Q: What is the difference between a model and an algorithm?

Intermediate Questions

Q: Describe the k-nearest neighbors algorithm.

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Q: What is the difference between L1 and L2 regularization?

Q: Explain the concept of gradient descent.

Q: What is the purpose of a kernel in SVM?

Q: How does a decision tree work?

Q: What is ensemble learning?

Q: Explain the concept of boosting.

Q: What is PCA and how is it used in machine learning?

Q: Describe the process of feature selection.

Q: What is the difference between batch and online learning?

Advanced Questions

Q: Explain the architecture of a convolutional neural network (CNN).

Q: What are recurrent neural networks (RNNs) and how are they used?

Q: Describe the process of training a deep learning model.

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Q: What is transfer learning and how is it applied?

Q: Explain the concept of reinforcement learning.

Q: What are generative models and how do they differ from discriminative models?

Q: Describe the process of hyperparameter tuning.

Q: What is the difference between supervised and unsupervised feature learning?

Q: Explain the concept of attention mechanisms in neural networks.

Q: What are the challenges of deploying machine learning models in production?