Machine Learning quiz

6 out of 6 correct

1. What is the key difference between Artificial Intelligence (AI) and Machine Learning (ML)?

- ○ AI is a subset of ML
- ◉ ML is a subset of AI
- ○ AI and ML are the same thing
- ○ AI and ML are completely unrelated

Explanation: AI is the broad field of creating intelligent machines, while ML is one of the techniques used within AI to train machines to learn from data and make predictions.

2. Which type of learning requires labeled data for training?

- ◉ Supervised Learning
- ○ Unsupervised Learning
- ○ Semi-Supervised Learning
- ○ Reinforcement Learning

Explanation: In supervised learning, the machine is provided with labeled data during training to learn patterns and relationships between inputs and outputs.

3. Which type of learning does not require labeled data for training?

- ○ Supervised Learning
- ◉ Unsupervised Learning
- ○ Semi-Supervised Learning
- ○ Reinforcement Learning

Explanation: In unsupervised learning, the machine is not provided with labeled data. Instead, it must find patterns and relationships within the data on its own.

4. Which type of learning uses both labeled and unlabeled data for training?

- ○ Supervised Learning
- ○ Unsupervised Learning
- ◉ Semi-Supervised Learning
- ○ Reinforcement Learning

Explanation: In semi-supervised learning, a small amount of labeled data is used along with a large amount of unlabeled data to train the machine.

5. What is the purpose of the validation set in machine learning?

- ○ To train the machine learning model
- ○ To test the machine learning model
- ◉ To evaluate the machine learning model's performance during training
- ○ To evaluate the machine learning model's performance on new, unseen data

Explanation: The validation set is used during the training process to evaluate the performance of the machine learning model on data that it has not seen before.

6. What is the purpose of the test set in machine learning?

- ○ To train the machine learning model
- ○ To validate the machine learning model
- ○ To evaluate the machine learning model's performance during training
- ◉ To evaluate the machine learning model's performance on new, unseen data

Explanation: The test set is used after the machine learning model has been trained to evaluate its performance on data that it has never seen before, which is a critical step in determining the effectiveness of the model.

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