#1. What is the purpose of regularization techniques like L1 and L2 regularization in machine learning?

☐
1. To increase the number of features in the dataset
☐
2. To reduce the complexity of the model
☐
3. To add noise to the data and increase variability
☐
4. To decrease the learning rate of the model
☐
5. None of the above

#2. Which algorithm is commonly used for natural language processing tasks such as text generation and language translation?

☐
1. Decision Tree
☐
2. K-Means Clustering
☐
3. Recurrent Neural Network (RNN)
☐
4. Support Vector Machine (SVM)
☐
5. None of the above

#3. What does the term “batch gradient descent” refer to in the context of machine learning optimization?

☐
1. Updating model parameters after each training example

☐
2. Updating model parameters using the entire training dataset
☐
3. Updating model parameters using a random subset of the training data
☐
4. Updating model parameters using the validation data
☐
5. None of the above

#4. What is the primary purpose of the term “bias-variance tradeoff” in machine learning?

☐
1. The balance between underfitting and overfitting
☐
2. The tradeoff between training time and accuracy
☐
3. The tradeoff between model complexity and prediction accuracy
☐
4. The balance between recall and precision
☐
5. None of the above

#5. What is the purpose of the “SVM” (Support Vector Machine) algorithm in machine learning?

☐
1. To perform clustering of data points
☐
2. To predict continuous values
☐
3. To classify data points into two categories
☐
4. To generate random numbers for simulations

☐
5. None of the above

#6. What is the primary function of “gradient boosting” algorithms in machine learning?

☐
1. To decrease the training time of the model
☐
2. To decrease the complexity of the model
☐
3. To combine multiple weak learners into a strong learner
☐
4. To increase the learning rate of the model
☐
5. None of the above

#7. What does the term “bagging” refer to in ensemble learning techniques?

☐
1. Combining multiple weak learners into a strong learner
☐
2. Training multiple models independently and combining their predictions
☐
3. Assigning weights to features based on their importance
☐
4. Adjusting hyperparameters of the model
☐
5. None of the above

#8. What is the primary purpose of the “dropout” technique in neural networks?

☐
1. To reduce the learning rate
☐
2. To add noise to the input data to increase variability

☐
3. To randomly deactivate some neurons during training
☐
4. To increase the number of layers in the network
☐
5. None of the above

#9. Which technique is commonly used for feature scaling in machine learning?

☐
1. Min-Max Scaling
☐
2. Feature Engineering
☐
3. One-Hot Encoding
☐
4. Decision Trees
☐
5. None of the above

#10. What is the primary purpose of A/B testing in data science?

☐
1. To perform feature selection for machine learning models
☐
2. To compare two versions of a webpage or app and determine which one performs better
☐
3. To clean and preprocess data
☐
4. To transform categorical variables into numerical values
☐
5. None of the above

#11. What is the primary objective of the K-Nearest Neighbors (KNN) algorithm in

machine learning?

☐
1. To classify data points into predefined classes
☐
2. To optimize decisions over time using trial and error
☐
3. To predict continuous values
☐
4. To find patterns and relationships in data points
☐
5. None of the above

#12. In the context of machine learning, what is the role of the activation function in a neural network?

☐
1. To preprocess input data before feeding it to the network
☐
2. To control the learning rate of the network
☐
3. To transform the weighted sum of inputs into an output
☐
4. To calculate the distance between data points
☐
5. None of the above

#13. What is the purpose of the term “confusion matrix” in the evaluation of classification models?

☐
1. To measure the prediction accuracy of a model
☐
2. To calculate the area under the ROC curve

☐
3. To visualize the performance of a model
☐
4. To calculate true positive, true negative, false positive, and false negative values
☐
5. None of the above

#14. What does the term “bagging” refer to in ensemble learning techniques?

☐
1. Combining multiple weak learners into a strong learner
☐
2. Training multiple models independently and combining their predictions
☐
3. Assigning weights to features based on their importance
☐
4. Adjusting hyperparameters of the model
☐
5. None of the above

#15. What is the purpose of the “dropout” technique in neural networks?

☐
1. To reduce the learning rate
☐
2. To add noise to the input data to increase variability
☐
3. To randomly deactivate some neurons during training
☐
4. To increase the number of layers in the network
☐
5. None of the above

#16. Which technique is commonly used for feature scaling in machine learning?

☐
1. Min-Max Scaling
☐
2. Feature Engineering
☐
3. One-Hot Encoding
☐
4. Decision Trees
☐
5. None of the above

#17. What is the primary purpose of A/B testing in data science?

☐
1. To perform feature selection for machine learning models
☐
2. To compare two versions of a webpage or app and determine which one performs better
☐
3. To clean and preprocess data
☐
4. To transform categorical variables into numerical values
☐
5. None of the above

#18. What is the purpose of k-fold cross-validation in machine learning?

☐
1. To split the dataset into training and testing sets
☐
2. To evaluate a model's performance on an independent dataset
☐
3. To create multiple train-test splits and average the performance
☐
4. To transform categorical variables into numerical values

☐

5. None of the above

#19. What does the term “bagging” refer to in ensemble learning techniques?

☐

1. Combining multiple weak learners into a strong learner

☐

2. Training multiple models independently and combining their predictions

☐

3. Assigning weights to features based on their importance

☐

4. Adjusting hyperparameters of the model

☐

5. None of the above

#20. What is the primary purpose of the “dropout” technique in neural networks?

☐

1. To reduce the learning rate

☐

2. To add noise to the input data to increase variability

☐

3. To randomly deactivate some neurons during training

☐

4. To increase the number of layers in the network

☐

5. None of the above

Finish

Results