| قائمة الاسئلة |
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| امتحان نهاية الفصل الدراسي الثاني - للعام الجامعي 1446 هـ - الموافق -2025/2024م-كلية الحاسوب وتكنولوجيا المعلومات :: مقدمه في ع |
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1) Which of the following is NOT an objective of data exploration?
- 1) - Understanding the data
- 2) - Preparing the data for analysis
- 3) - Applying data mining tasks
- 4) + Ignoring the data mining results

2) Which of the following is NOT a form of data visualization?
- 1) - Histogram
- 2) - Scatter plot
- 3) - Box plot
- 4) + Linear regression analysis

3) What does a quantile plot visualize?
- 1) - The frequency of data points within specified intervals
- 2) - The relationship between two categorical variables
- 3) + The quantiles of a dataset compared to a theoretical distribution
- 4) - The cumulative distribution function of a dataset

4) Which of the following steps is NOT part of the roadmap for data exploration?
- 1) - Organize the data set
- 2) - Find the central point for each attribute
- 3) + Ignore the spread of the attributes
- 4) - Visualize the relationship between attributes

5) In a traditional programming approach, which of the following is true?
- 1) - Both input (X) and output (y) are used to train a model
- 2) + Input (X) is processed by a program to produce an output (y)
- 3) - A machine learning model is created to generate outputs
- 4) - Data is used to learn and create a model

6) Which of the following is NOT a type of data science technique?
- 1) - Clustering
- 2) - Time series forecasting
- 3) - Regression
- 4) + Astronomy

7) Which of the following best describes prior knowledge?
- 1) - Information that is gained during the data analysis process
- 2) + Pre-existing information or understanding about a topic
- 3) - Data collected from experiments
- 4) - Conclusions drawn from data visualization

8) What is the first step in data preparation?
- 1) - Data Cleaning
- 2) + Data Collection
- 3) - Data Transformation
- 4) - Data Integration

9) What is the first step in the modeling process according to the flowchart?
- 1) - Evaluation
- 2) - Test Data
- 3) - show result
- 4) + Training Data

10) Which step involves using the test data to assess the model's performance?

1) - Build model
2) + Evaluation
3) - Training Data
4) - Final Model

11) What happens if the model does not meet the desired performance during the evaluation step?
1) - The model is finalized
2) - The process restarts from data collection
3) + The process goes back to the "Build model" step
4) - The test data is changed

12) Which of the following is NOT a type of empirical model
1) - Classification
2) - Clustering
3) + Reinforcement Learning
4) - Regression

13) Which formula represents the correlation between two variables (X and Y)?
1) - (SMC)
2) - Jaccard coefficient
3) + Correlation (X, Y)
4) - Cosine similarity (|X, Y|)

14) …. is the process of finding meaningful groups in data.
1) + Clustering
2) - Classification
3) - codine similarity
4) - visulization

15) Which of the following is NOT a type of clustering?
1) - Hierarchical clustering
2) - K-means clustering
3) - Grid-based clustering
4) + Linear regression

16) what is Decision Trees?
1) + algorithm
2) - science
3) - MCS
4) - CMS

17) Which of the following techniques falls under the category of Classification?
1) - Linear Regression
2) + Decision Trees
3) - Apriori
4) - k-Means

18) What type of machine learning technique is Logistic Regression categorized under?
1) - Classification
2) + Regression
3) - Association Analysis
4) - Clustering

19) Which of the following techniques is used for Clustering?
1) - Support Vector Machines
2) - Naïve Bayesian
3) + Self-Organizing Maps
4) - FP-Growth

20) Which technique is NOT a Classification method?
1) - k-Nearest Neighbors
2) + Linear Regression
3) - Naïve Bayesian
4) - Ensemble Learners

21) What is a Neural Network?
1) + is a type of machine learning model inspired by the structure and function of the human brain.
2) - A method for organizing data into clusters
3) - A technique used to predict time series data
4) - A method for organizing data

22) Which of the following is a key component of a neural network?
1) - Clusters
2) + Neurons
3) - Decision Trees
4) - Regression lines

23) What are the layers in a neural network?
1) + Input layer, Hidden layer(s), Output layer
2) - Training layer, Testing layer, Validation layer
3) - Data layer, Processing layer, Result layer
4) - Observation layer, Computation layer, Conclusion layer

24) ….receives raw data as input (e.g., numbers, images, text)?
1) + Input Layer
2) - Hidden Layer(s)
3) - Output Layer
4) - Merge layer

25) in….......each input is represented as a neuron (a circle)?
1) + Input Layer
2) - Hidden Layer(s)
3) - sortLayer
4) - Merge layer

26) …...processes the input data?
1) - Input Layer
2) + Hidden Layer(s)
3) - sortLayer
4) - Merge layer

27) ….performs mathematical operations using weights, biases, and activation functions
1) - Input Layer
2) + Hidden Layer(s)
3) - sortLayer
4) - Merge layer

28) ….produces the final result (e.g., a prediction or classification).
1) - Input Layer
2) - Hidden Layer(s)
3) - sortLayer
4) + output layer

29) …..a unit in the network?
1) - Weight
2) - Bais
3) + Neuron

4)    -    Activation Function

30) ...…..controls the influence of one neuron on another.
- 1)    +    Weight
- 2)    -    Bais
- 3)    -    Neuron
- 4)    -    Activation Function

31) ….......adjusts the output of neurons?
- 1)    -    Weight
- 2)    +    Bais
- 3)    -    Neuron
- 4)    -    Activation Function

32) …....decides whether a neuron should activate or not (e.g., Sigmoid, ReLU)?
- 1)    -    Weight
- 2)    -    Bais
- 3)    -    Neuron
- 4)    +    Activation Function

33) What is the main purpose of the backpropagation in neural networks?
- 1)    +    To minimize the error by adjusting the weights
- 2)    -    To initialize the weights of the network
- 3)    -    To calculate the output of the network
- 4)    -    To convert data into numerical format

34) During the backpropagation process, how are the weights updated?
- 1)    -    Randomly
- 2)    +    Using gradient descent
- 3)    -    By averaging
- 4)    -    Using a threshold function

35) …...compares the predicted output with the actual result?
- 1)    -    Randomly
- 2)    +    Loss Calculation
- 3)    -    By averaging
- 4)    -    Using a threshold function

36) What does "deployment" refer to in the context of machine learning models?
- 1)    -    The initial training of the model on the dataset
- 2)    -    The process of evaluating the model's performance
- 3)    -    The preprocessing of data before training the model
- 4)    +    Implementing a machine learning model into an application

37) Which two steps lead to "Prepare Data"?
- 1)    +    Business Understanding and Data Understanding
- 2)    -    Training Data and Test Data
- 3)    -    Building Model using Algorithms and Deployment
- 4)    -    Knowledge and Actions and Applying Model and Performance Evaluation

38) Which step comes immediately after "Prepare Data"?
- 1)    -    Business Understanding
- 2)    -    Data Understanding
- 3)    +    Building Model using Algorithms
- 4)    -    Deployment

39) What is "training data" in machine learning?
- 1)    -    Data used to test the accuracy of a model
- 2)    +    Data used to train the model to recognize patterns and make predictions

3)   -     Data used for visualizing data trends

4)   -     Data used to store the final model

40) What is the primary purpose of test data in machine learning?

    1)   -     To train the model to recognize patterns

    2)   +     To evaluate the model's performance on new, unseen data

    3)   -     To preprocess data before training

    4)   -     To store the model's predictions