

1. What Data Science?

Answer: Data science is the study of data to extract meaningful insights for business. It is a multidisciplinary approach that combines principles and practices from the fields of mathematics, statistics, artificial intelligence, and computer engineering to analyze large amounts of data. This analysis helps data scientists to ask and answer questions like what happened, why it happened, what will happen, and what can be done with the results.

2. What Artificial Intelligence?

Answer: Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems. Specific applications of AI include expert systems, natural language processing, speech recognition, and machine vision.

3. What is Machine Learning?

Answer: Machine Learning is an Artificial intelligence technique that teaches computers to learn from experience. Machine learning is the study of algorithms and statistical models used by computer systems to perform a specific task correctly based on patterns without repeated external instructions. It is a subfield of the research field called artificial intelligence. The machine learning algorithm creates a mathematical model of the sample data, called the training data. This is done in order to be able to perform future actions based on past information.

4. Future of Data Science and Real life applications.

Answer: Data science plays a significant role in almost every sector, like internet searching, online business, e-commerce, marketing, healthcare, entertainment, airlines planning, logistics, finance industries, gaming, and almost all sectors & industries in real life.

5. Why Python so popular? Future of Python.

Answer: Python makes it more attractive to use due to its high number of applications and data science multi-libraries.

6. Why Python for data analytics?

Answer: Python makes it more attractive to use due to its high number of applications and data science multi-libraries. Thanks to Python's focus on simplicity and readability. This ease of learning makes Python an ideal tool for beginning programmers. Python programming uses fewer lines of code.

7. Importance of Python in machine learning.

Answer: The practical implementation of Python in machine learning projects and tasks has made the work easier for developers, data scientists, and machine learning engineers. Python can be easily used to analyze and compose available data, which also makes it one of the most popular languages in data science.

8. Importance of Python in deep learning & NLP.

Answer: Powerfully, deep learning-based Natural language processing (NLP) allows marketers to gain a detailed understanding of users, generating more valuable insights. Not only does this enable you to widen the group of people you can target, but you can also target them with more relevant offers.

9. Supervised Learning with examples.

Answer: One practical example of supervised learning problems is **predicting house prices**. How is this achieved? First, we need data about the houses: square footage, number of rooms, features, whether a house has a garden or not, and so on. We then need to know the prices of these houses, i.e. the corresponding labels.

10. Unsupervised learning with examples.

Answer: Unsupervised learning is when it can provide a set of unlabelled data, which is required to analyze and find patterns inside. The examples are dimension reduction and clustering.

11. Role and responsibilities of a Database Engineer.

Answer: Database engineers design and maintain databases, increase data storage capacity, and troubleshoot database functionality issues. They also review database performance and user reports.

12. Role and responsibilities of a Data Analyst.

Answer: Data analysts are responsible for analyzing data using statistical techniques, implementing and maintaining databases, gathering data from primary and secondary sources, and identifying, analyzing, and interpreting trends from the data.

13. Role and responsibilities of a Data Engineer.

Answer: A data engineer is responsible for collecting, managing, and converting raw data into information that can be interpreted by data scientists and business analysts. Data accessibility is their ultimate goal, which is to enable organizations to utilize data for performance evaluation and optimization.

14. Role and responsibilities of a Data Scientist.

Answer: Data Scientist Roles and Responsibilities A data scientist's job is to gather a large amount of data, analyze it, separate out the essential information, and then utilize tools like SAS, R programming, Python, etc. to extract insights that may be used to increase the productivity and efficiency of the business.

15. Role and responsibilities of a Machine Learning Engineer.

Answer: To research, modify, and apply data science and data analytics prototypes. To create and construct methods and plans for machine learning. Employing test findings to do statistical analysis and improve models.