

Assignment No. 2

Course Code: ECAP792

Registration Number: 322201297

Instructions:

a. Attempt all questions given below in your handwriting. Assignments in typed format will not be considered for evaluation.

b. The student has to complete the assignment on the allocated pages only. Any other page in case utilized shall not be considered.

Q1. What do you understand by machine learning. Explain types of machine learning.

[10 Marks] [CO3, U05L4]

Machine learning is a branch of artificial intelligence that involves developing algorithms and statistical models to enable computers to learn from and make predictions or decisions based on data without being explicitly programmed. Below is explanation of types of machine learning:

1. Supervised Learning:

- In supervised learning the algorithms are trained on labeled data, where the input data and the corresponding output are provided.
- The algorithm learns to map input data to the correct output data during training.
- Examples include classification and regression tasks.

2. Unsupervised Learning:

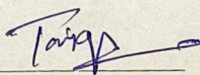
- Unsupervised learning involves training the algorithm on unlabeled data where the algorithm learns to find patterns or structures in data.
- It is used for clustering, dimensionality reduction, and anomaly detection.

3. Reinforcement Learning:

- It involves training an agent to make decisions in an environment to achieve a specific goal.
- The agent learns through trial and error by receiving rewards or penalties for its actions.
- Commonly used in gaming, robotics and autonomous systems.

There are the three main types of machine learning, each serving different purposes and applications in various fields.

Signature of the Student



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Note:-

CO: is the Course Outcome as per your course syllabus.

L1-L6: Learning level objectives as per Revised Bloom Taxonomy (RBT).



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Q2. Write down steps along with snapshots to explain data preparation and adding data sources in Tableau.

[10Marks][CO9, U17L2]

Data Preparation in Tableau

1. Open Tableau Desktop and connect to your data sources.
2. Once connected, you can see the data preview in Tableau.
3. To prepare the data, you can clean, transform, and shape the data using Tableau's Data Preparation tools.
4. Click on the Data Source tab to access the Data Source page.
5. Here, you can perform various data preparation tasks like renaming fields, creating calculated fields, filtering data, and more.
6. You can also join multiple data sources if needed.

Adding Data Sources in Tableau

1. To add new data source, click on the 'Data' menu at the top of Tableau Desktop.
2. Select 'New Data Source' to connect to a new data file or database.
3. Choose the type of data source you want to connect to (Excel, CSV, SQL, database, etc.)
4. Follow the prompts to select specific data file or database you want to connect to.
5. Once connected, you can see the new data source listed in the Data Source tab.
6. You can now start analyzing and visualizing the data from the newly added data source in Tableau.

Signature of the Student

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