VPMP Polytechnic, Gandhinagar

Department of Computer Engineering – Semester 5

Assignment 1

Unit – I (Introduction of Machine Learning)

1. List Applications of machine learning. *****

2. Differentiate between machine learning and human learning. *****

3. How does Machine Learning work? Explain it with block diagram. *****

4. List out Types of Machine Learning and explain any one in detail. *****

5. List Tools and Technology used in Machine Learning with explanation. *****

6. Describe Reinforcement Learning with diagram.

Note: * means compulsory question to be written in Assignment Book.

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Assignment 2

Unit – II (Python libraries suitable for Machine Learning)

1. How to create a series from a list, numpy array and dict?

2. Explain following function with its syntax and example. *

   - power()
   - ptp()
   - meidan()

   - read_CSV()
   - amax()
   - add()

   - reshape()

3. How can we sort the DataFrame?

4. How can you set the font size of a plot using Matplotlib? *

5. Explain stack () function and array_split () function in Numpy.

6. Write a Python program to implement the following function in Pandas. *

   - DataFrame()
   - drop()

   - dropna()
   - duplicated()

7. Define Pandas. List key features of Pandas. *

8. Define Numpy. List key features of Numpy. *

Note: * means compulsory question to be written in Assignment Book.

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Assignment 3

Unit – III (Preparing to Model and Pre-processing)

1. Explain Ensemble Approach for performance improvement in detail. *****
2. Explain Confusion matrix with suitable example. *****
3. What are the missing values? And how do you handle missing values?
4. List types of Data in Machine Learning with explanations and examples. *****
5. Describe K-fold cross validation. *****
6. Describe Machine Learning Activities with diagram. *****
7. Define Dimensionality Reduction.

Note: * means compulsory question to be written in Assignment Book.

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Assignment 4

Unit– IV (Supervised Machine Learning Models)

1. Discuss K-NN algorithm in detail. *****

2. List out types of supervised learning explain any one in detail. *****

3. Write applications of Supervised Machine Learning. *****

4. List out types of Regression Analysis. Explain linear regression in detail.

5. Explain working of supervised machine learning. *****

6. Relate the appropriate data type of following examples. *****

   - Nationality of students
   - Feedback from students to faculty
   - Temperature in thermometer

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Assignment 5

Unit– V (Unsupervised Machine Learning Models Unsupervised)

1. Differentiate between Supervised and Unsupervised Learning. *****

2. Define Association with diagram. List out Association methods. *****

3. Write advantages of Unsupervised Machine Learning. *****

4. List Clustering Methods and explain any two in detail. *****

5. Classify following applications based on types of unsupervised machine learning.

   - City Planning
   - Social Network Analysis
   - Online Shopping Recommendations

6. Answer Following. *****

   - Need of unsupervised learning
   - Working of unsupervised learning

Note: * means compulsory question to be written in Assignment Book.