Computer Science & Information Systems

Machine Learning - Lab sheet - Module 6

Exercise 1 - Decision Tree

1 Objective

The objective is to

- implement a decision tree using information gain as the impurity metric on a given dataset.

2 Steps to be performed

Tool Python3

Libraries required numpy, matplotlib, pandas, sklearn

Input Zoo dataset from UCIML (Kaggle) library.

Machine Learning Model Decision Tree

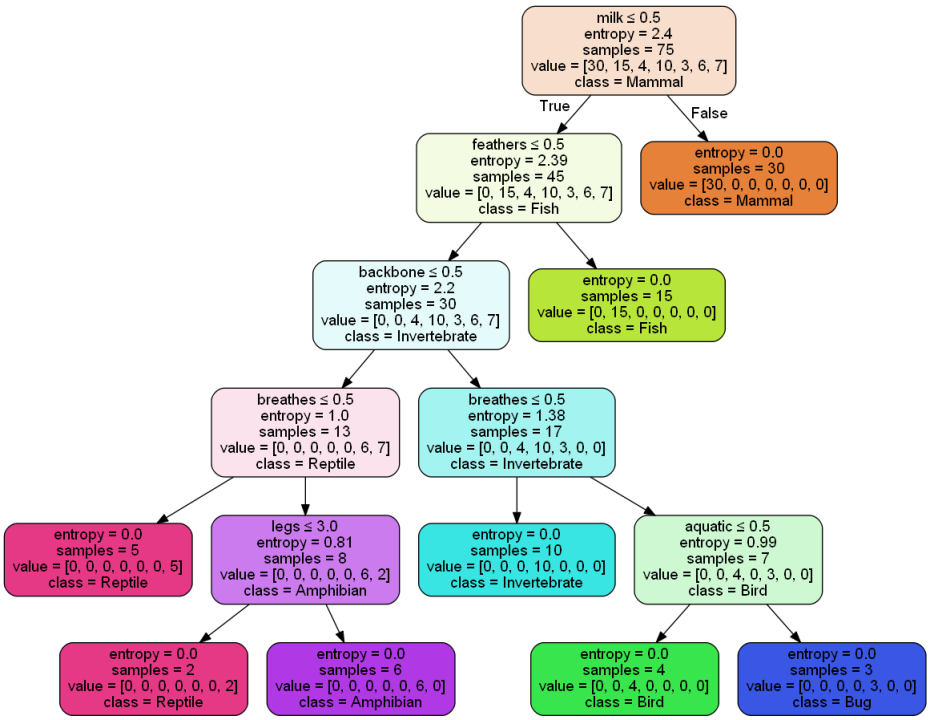
Implementation ML_Lab 10 DecisionTree_Entropy.ipynb

Steps .

- Understand the problem.
- Import required Python libraries.
- Import the dataset and convert to as dataframe.
- Preprocess the data. Extract columns as X and y.
- Partition the dataset into training and testing sets.
- Create an object of machine learning model. Specify the parameters if any.
- Train the model using training set.
- Predict the values for testing set using the model.
- Measure the performance of the model.
- Visualize the decision tree.

3 Results

- A decision tree is fitted for the given dataset.



4 Observation

- The machine learning model is trained and tested using the given dataset.
- The decision tree were drawn for the given dataset.