PRIOR KNOWLEDGE

Date	10 November 2022
Team ID	PNT2022TMID21470
Project Name	Fertilizers Recommendation System For Disease Prediction
Maximum Marks	4 Marks

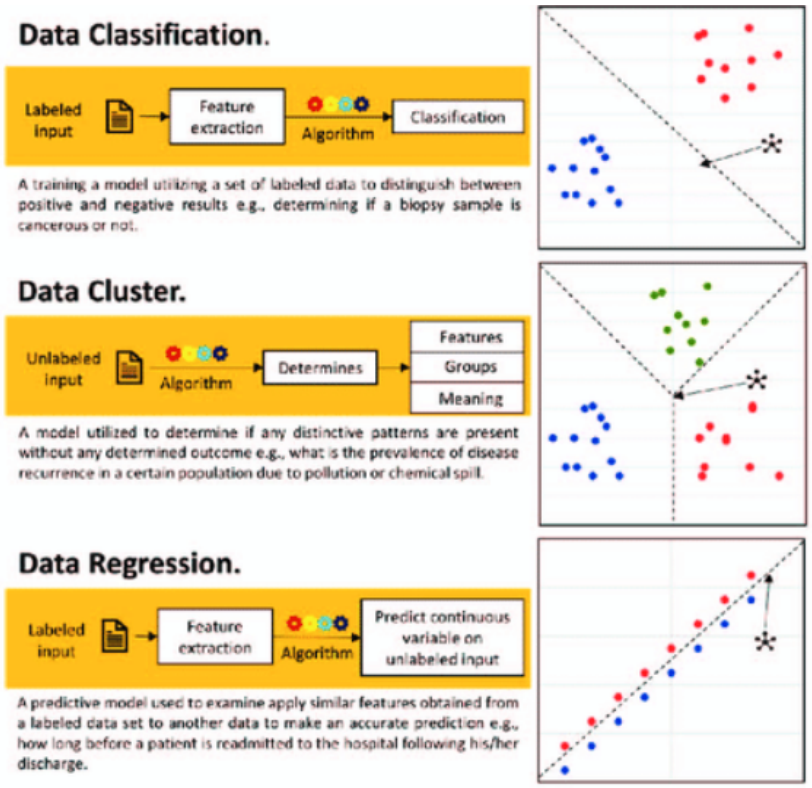
Prior Knowledge:

The prior knowledge needed to build the application for the chosen problem is discussed below.

1. Supervised and Unsupervised Learning

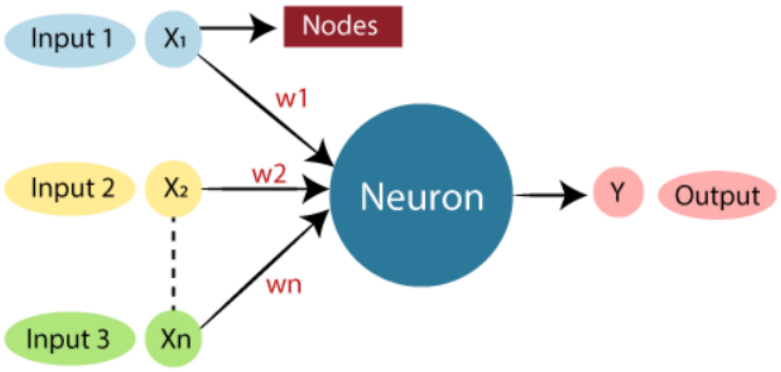
   Supervised and Unsupervised learning are the two techniques of machine learning.Supervised learning is a machine learning method in which models are trained using labeled data. In supervised learning, models need to find the mapping function to map the input variable (X) with the output variable (Y).Unsupervised learning is another machine learning method in which patterns are inferred from the unlabeled input data. The goal of unsupervised learning is to find the structure and patterns from the input data.

2. Regression, Classification and Clustering



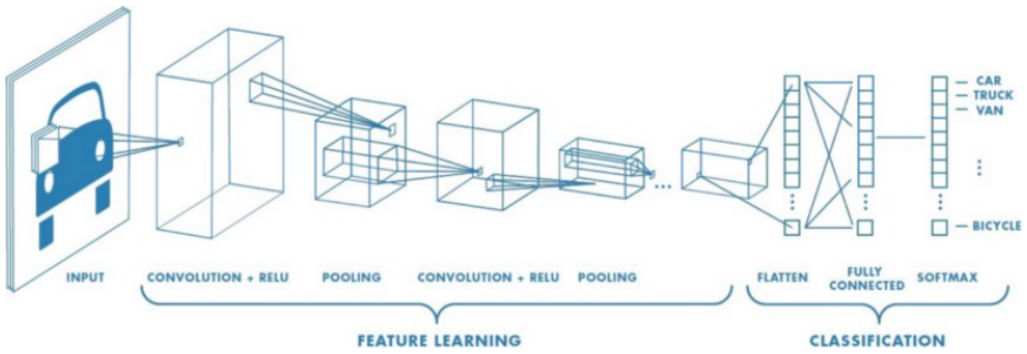
3. Artificial Neural Networks

The term "Artificial neural network" refers to a biologically inspired sub-field of artificial intelligence modeled after the brain. An Artificial neural network is usually a computational network based on biological neural networks that construct the structure of the human brain. Similar to a human brain has neurons interconnected to each other, artificial neural networks also have neurons that are linked to each other in various layers of the networks.



4. Convolutional Neural Networks

A Convolutional Neural Network (ConvNet/CNN) is a Deep Learning algorithm that can take in an input image, assign importance (learnable weights and biases) to various aspects/objects in the image, and be able to differentiate one from the other. The pre-processing required in a ConvNet is much lower as compared to other classification algorithms. While in primitive methods filters are hand-engineered, with enough training, ConvNets have the ability to learn these filters/characteristics.



5. Python Flask

   Flask is a web application framework written in Python. It is developed by Armin Ronacher, who leads an international group of Python enthusiasts named Pocco. Flask is based on the Werkzeug WSGI toolkit and Jinja2 template engine. Both are Pocco projects.Web Server Gateway Interface (WSGI) has been adopted as a standard for Python web application development. Jinja2 is a popular templating engine for Python. Flask is often referred to as a micro framework. It aims to keep the core of an application simple yet extensible. Flask does not have a built-in abstraction layer for database handling, nor does it have form validation support. Instead, Flask supports the extensions to add such functionality to the application.