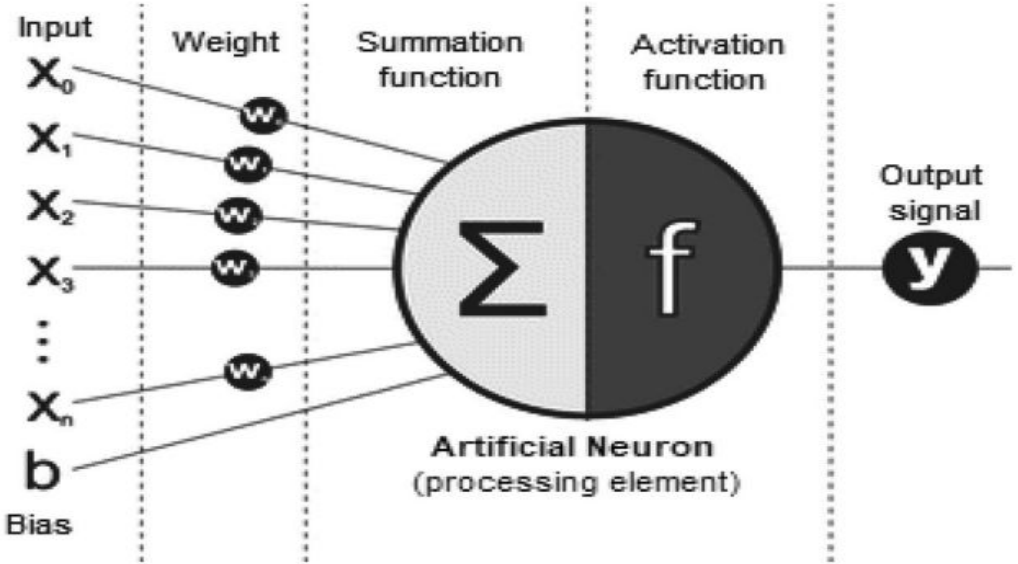
Deep Learning:

A comprehensive overview

Neural Network

- A neural network consists of numerous information messengers called neurons that receive and process input data.
- Data is passed and processed through the 3 layers namely: input, hidden, and output layers.

Deep Learning



Types of data

- **Sequential Data** like text streams and audio fragments are a set of sequences
- **Image data** is a rectangular array of numbers, symbols, or expressions arranged in rows and columns in a 2D array of numbers
- **Tabular Data** consists data in the form of rows and columns.

Properties and Dependencies

- Data dependencies
- Hardware dependencies
- Feature Engineering
- Model Training and Execution time

Supervised or Discriminative Learning

- **Multi-Layer Perceptron(MLP)**
- **Convolutional Neural Network(CNNs):**
- **Recurrent Neural Networks(RNNs)**

Generative or Unsupervised Learning

- **Generative Adversarial Network (GAN)**
- **Auto-Encoders:**
- **Kohonen Map:**
- **Restricted Boltzmann Machine(RBM):**

Deep Networks for Hybrid Learning

- Hybrid Deep Neural Networks
- Deep Transfer Learning(DTL)
- Deep Reinforcement Learning (DRL)

Summary


THANK YOU