What is Machine Learning?: Machine Learning is a subset of artificial intelligence that enables computers to “learn” from and make predictions or decisions based on data without being explicitly programmed.

3 basic Types of Machine Learning include:

Supervised Learning: Uses labeled data for training.

Unsupervised Learning: Identifies patterns in unlabeled data.

Reinforcement Learning: Between Supervised and unsupervised learning, the algorithm learns from feedback(correct or incorrect) and maximizes rewards through exploration.

What is Supervised Learning?

This is when we train an algorithm with correct responses aka (targets), and based on the targets the algorithm does something called (generalization) to respond correctly to all the possible inputs. This is also called learning from exemplars.

Applications of Supervised Learning include:

Medical Diagnosis, Fraud detection and Speech recognition.

What is classification and regression?

When we look at Supervised Machine Learning Algorithms they can be divided into two types:

Classification and Regression:

With Classification:

The algorithms are used to solve problems in which the output is categorical, for example:”Yes” or “No”, Male or Female etc.

Classification algorithms predict the categories which are present in the dataset.

Some applications of classification algorithms are:

Spam Detection, Email Filtering etc.

With Regression:

Regression algorithms are used to solve regression problems in which there is a definite linear relationship between the input and output variables.

These are used to predict continuous output variables eg(weather prediction).

Eg of algorithms are Simple Linear Regression Algorithm.