SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107
An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF COMPUTER SCIENCE AND DESIGN

COURSE NAME : MACHINE LEARNING

III YEAR /V SEMESTER

Unit 1 - INTRODUCTION

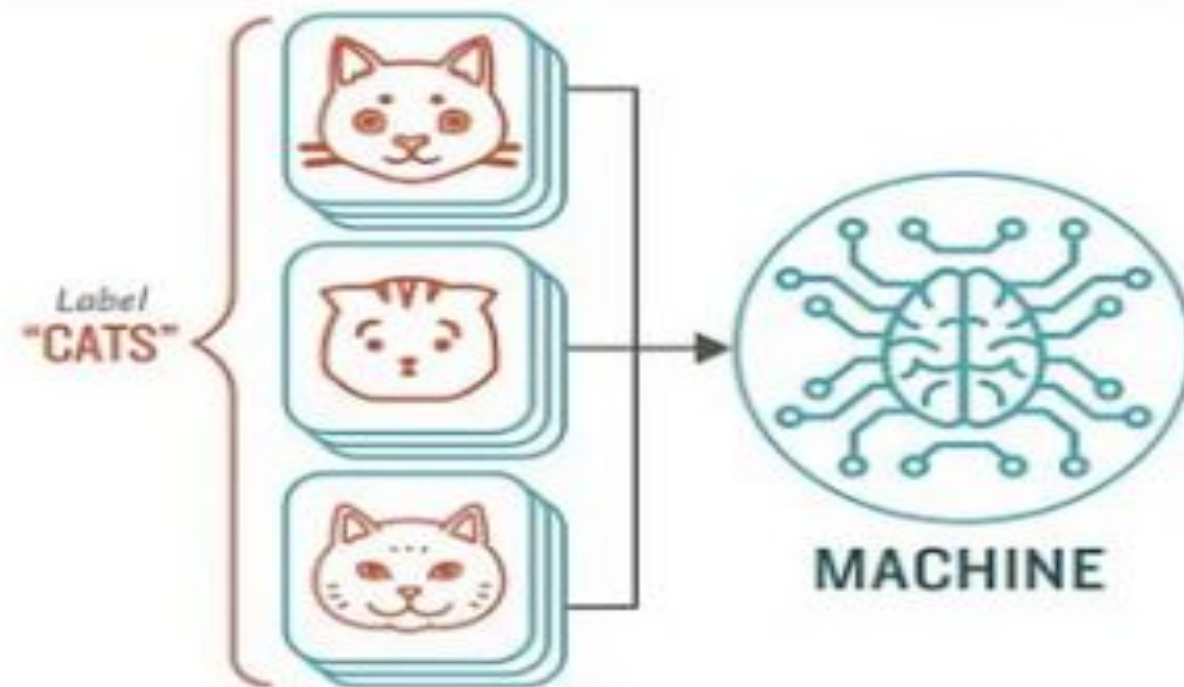Topic 2 : Supervised Learning - Supervised Learning Categories
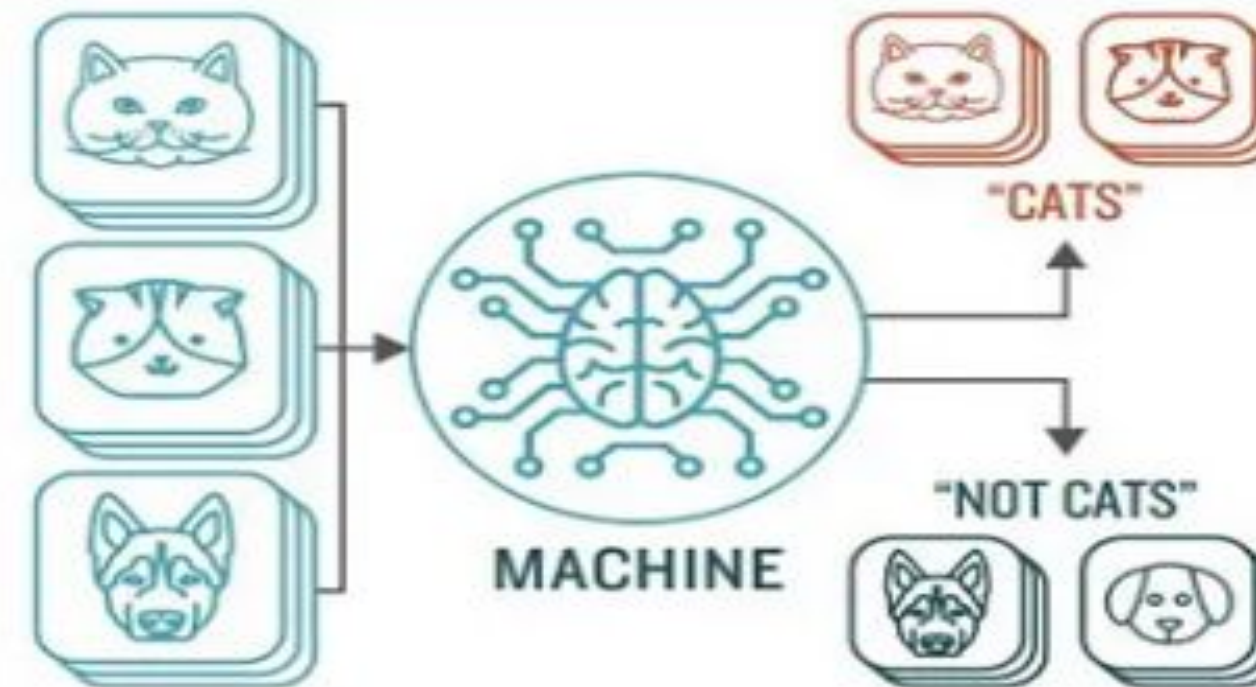
Supervised Learning
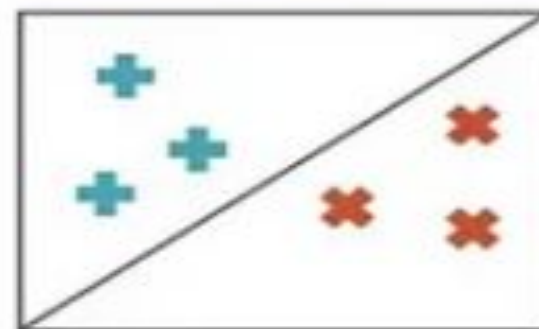
Supervised Learning

- It is based on supervision.

- We train the machines using the "labelled" dataset, and based on the training, the machine predicts the output.

- Here, the labelled data specifies that some of the inputs are already mapped to the output.

- First, we train the machine with the input and corresponding output, and then we ask the machine to predict the output using the test dataset.

Supervised Learning

Example

- Suppose we have an input dataset of cats and dog images. So, first, we will provide the training to the machine to understand the images, such as the shape & size of the tail of cat and dog, Shape of eyes, colour, height (dogs are taller, cats are smaller), etc.

- After completion of training, we input the picture of a cat and ask the machine to identify the object and predict the output.

Supervised Learning

- Now, the machine is well trained, so it will check all the features of the object, such as height, shape, colour, eyes, ears, tail, etc., and find that it's a cat. So, it will put it in the Cat category.

- This is the process of how the machine identifies the objects in Supervised Learning.

Supervised Learning

- The main goal of the supervised learning technique is to map the input variable(x) with the output variable(y).

- Some real-world applications of supervised learning are Risk Assessment, Fraud Detection, Spam filtering, etc.

Supervised Learning

- Categories of Supervised Machine Learning:

- Supervised machine learning can be classified into two types of problems, which are given below:

  1. Classification
  2. Regression

Thank you