

TYPES OF PROBLEMS

Classification

Classification is a type of supervised learning problem in which the goal is to predict the class or category of a given input data point.

The input data can consist of a set of features or attributes that describe the data point, and the output is a class label that corresponds to a specific category or group.

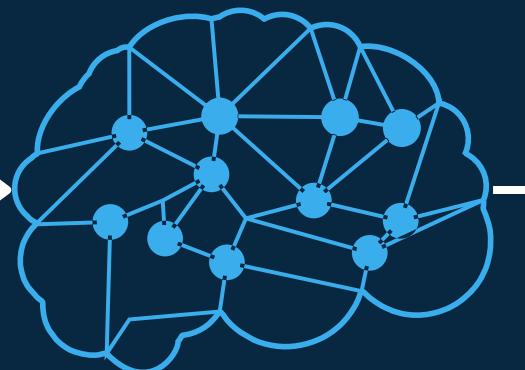
Classification

Input: Labelled data



dog

Train model



cat



Predicts



CAT

DOG

Regression

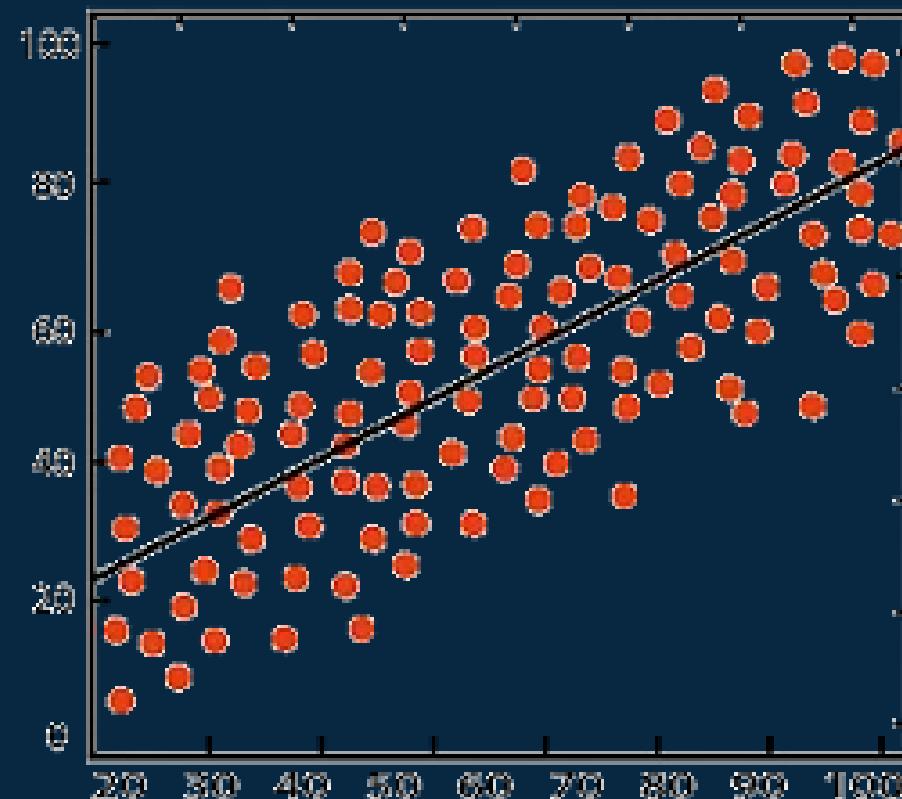
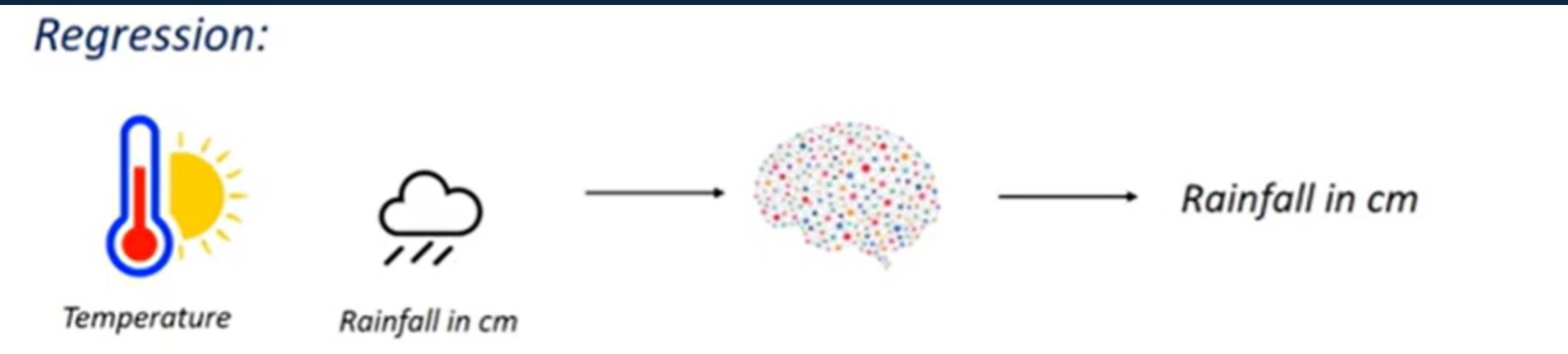
Regression is a type of supervised learning problem in machine learning where the goal is to predict a continuous target variable based on one or more input features

In regression, the target variable is usually a real-valued number

The main objective of regression is to learn the relationship between the input features and the target variable from a given set of training data, and then use that learned relationship to make predictions on new data

There are many different types of regression models that can be used for different types of problems. Some of the commonly used regression algorithms include linear regression, polynomial regression, logistic regression, etc.

Regression



cost functions are used to measure the error or deviation of predicted values from original values and is optimized to fit a line

Clustering

Clustering is a type of unsupervised learning problem in machine learning where the goal is to group similar objects together into clusters based on their features, without any prior knowledge of the number of clusters or their labels.

In clustering, the algorithm tries to find patterns and structures in the data, and group them into clusters based on the similarity between the objects that can provide insights into the underlying structure of the data.

This can help in data exploration, visualization, and analysis, and can also be used for anomaly detection and pattern recognition.

