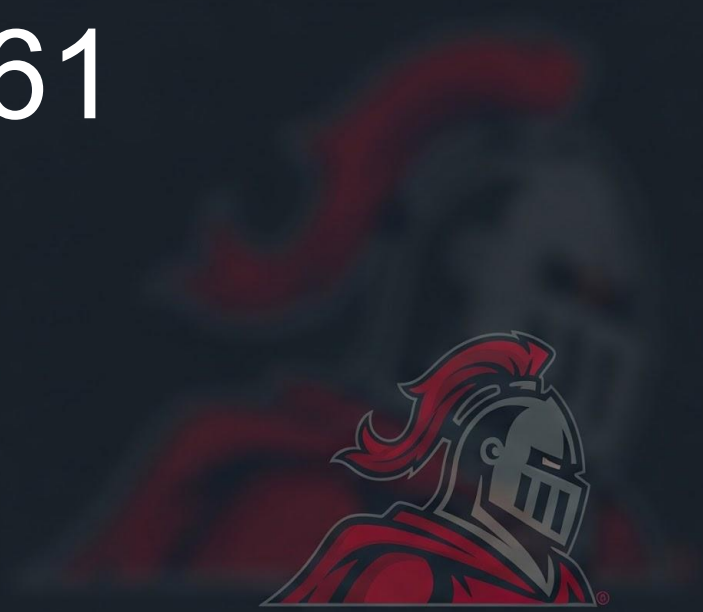
Recitation CS:461

You can find me @ :
a.khorramrouz@rutgers.edu
Hill 204, Mondays 1-2 PM



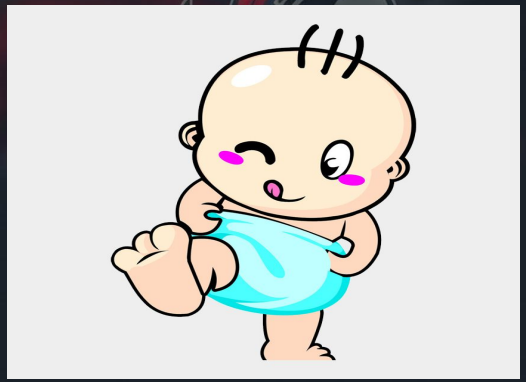
Outline:

- How do we learn ?
  - How computer understand things ?
- Different kinds of Programming
  - Machine learning concepts
- Types of machine learning.
  - What is machine learning?
- Main goals of machine learning
  - Machine learning famous algorithms

How do we learn??

- In school

- In real life



Different kinds of Programming

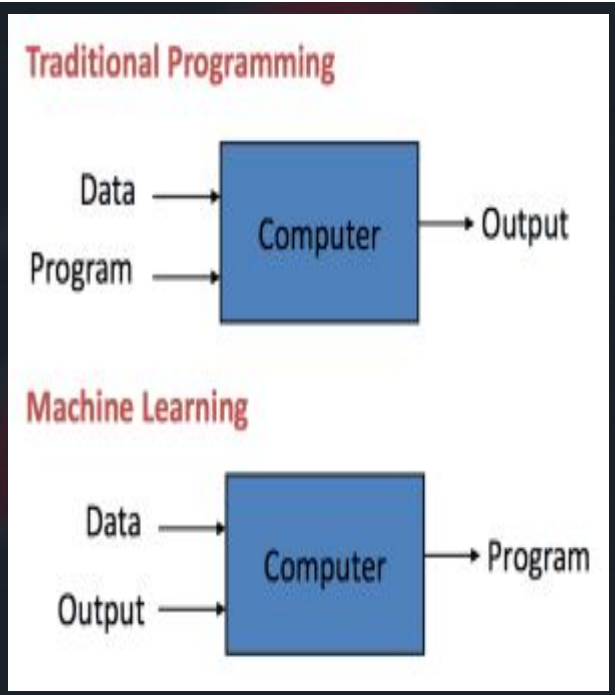
Classical programming

using structures as input

In some cases they can be intelligent

Machine learning or Data science

Using data as input



Machine learning concepts

- Training , Validation , Test Set

  Dividing our whole data set to three parts for different purpose

- Overfitting

  Just memorize the train set like the students who memorise math :)
- Underfitting

  Just understanding not enough to learn the patterns and …..

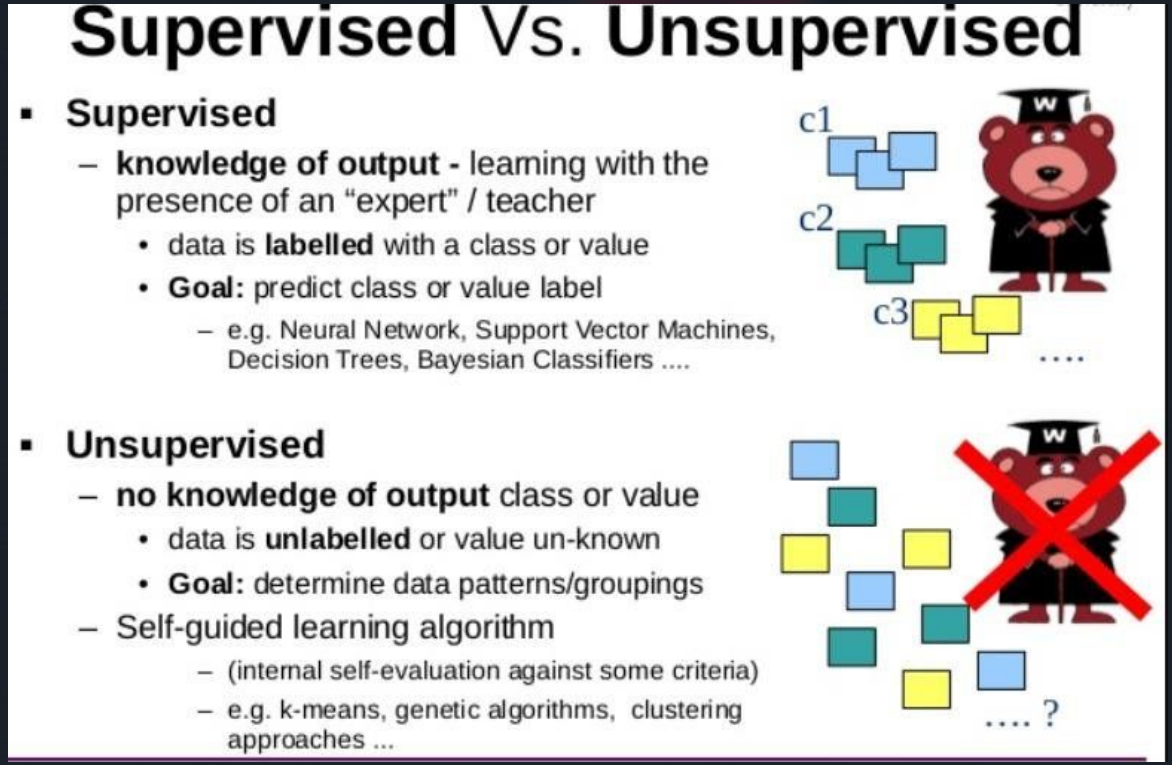
Types of Machine learning

a) Supervised learning

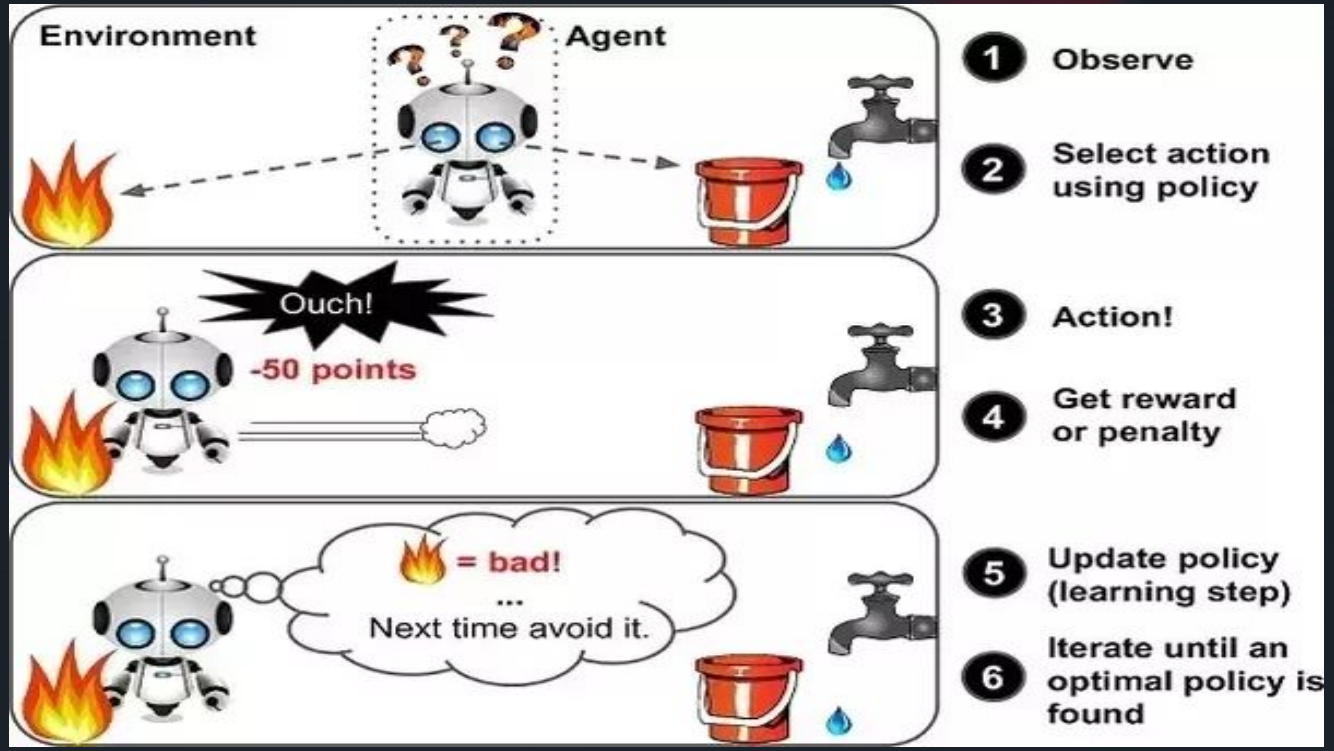
b) Unsupervised learning

c) Semi supervised learning

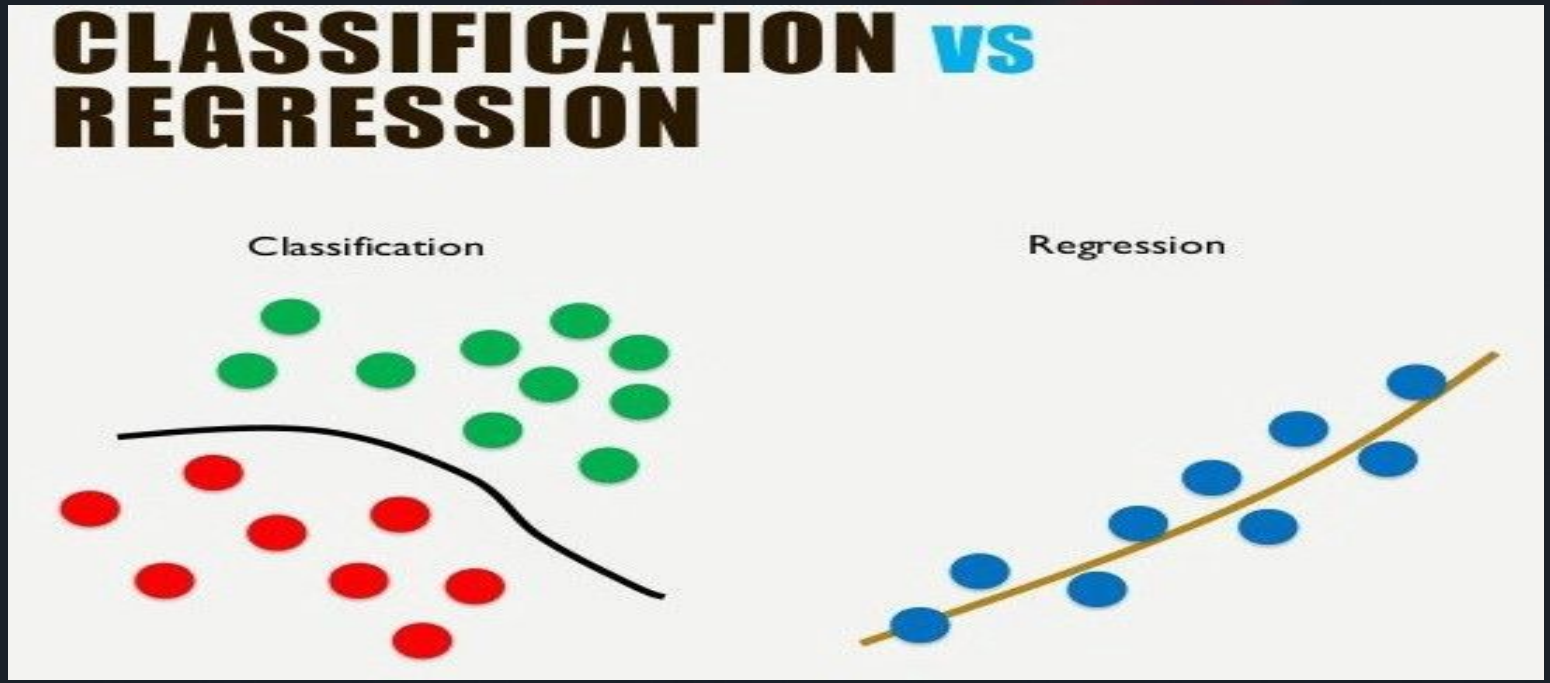
d) Reinforcement Learning



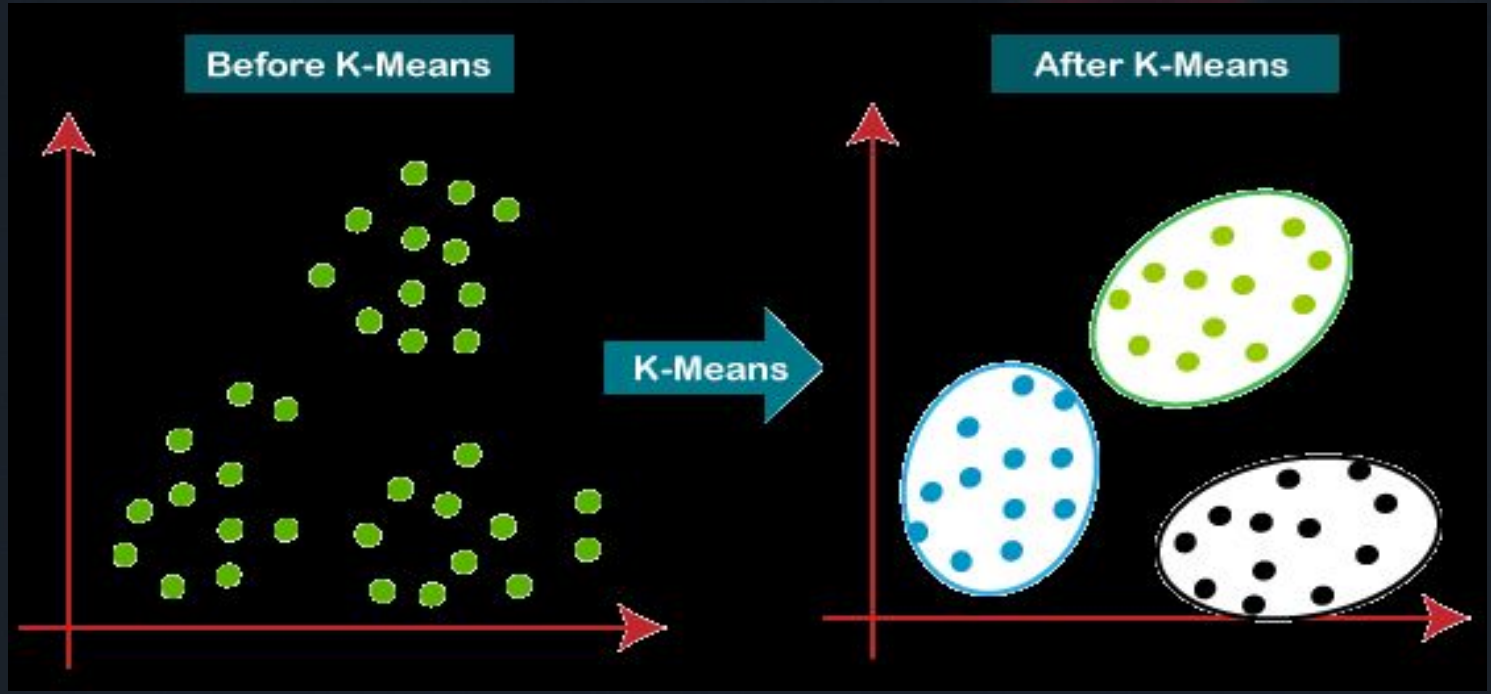
Reinforcement Learning



Main goals of supervised machine learning



Main goal of Unsupervised machine learning



Famous Machine learning Algorithms

➔ Supervised Learning

- Decision Tree
- Artificial Neural Networks
  - Dense
  - Deep learning
  - CNN
  - GAN
- SVM
- KNN

Famous Machine learning Algorithms

- ➔ Unsupervised Learning
  - ◆ K-mean

Decision Tree

- Most similar machine learning algorithm to Classical Programming

Different parts of Decision tree :

- Leaf
- branch
- Node
- Main node