ML lec 01 - 기본적인 Machine Learning의 용어와 개념 설명

Machine Learning

· Limitations of explicit programming

- Spam filter : many rules

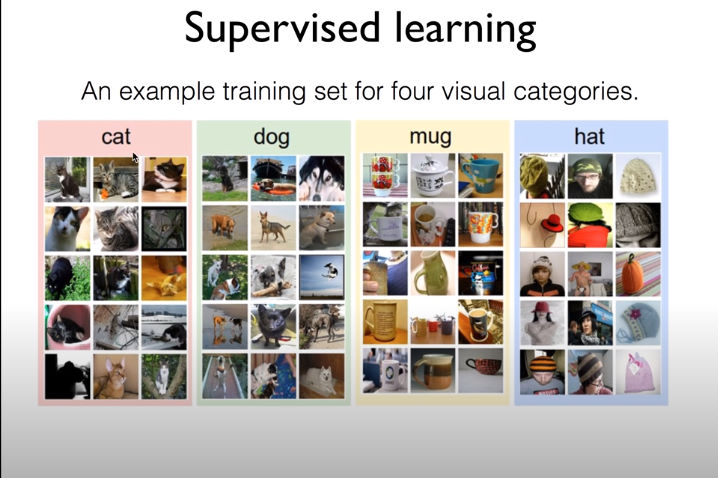
- Automatic driving : too many rules

· Machine learning : “ Field of study that gives computers the ability to learn

Without being explicitly programmed “ Arthur Samuel (1959)

Supervied / Unsupervised Learning

· Supervised Learning : Learning with labeled examples - training data



Ex) 이미지를 주면 cat 인지, dog 인지 분류해주는 것

· Unsupervised Learning : un-labeled data

- Google news grouping

- Word clustering

Supervised Learning

· Most common problem type in ML

- Image labeling : learning from tagged images

- Email spam filter : learning from labeled (spam or ham) email

- predicting exam score : learning from previous exam score and time spent

Types of supervised learning

· Predicting final exam score based on time spent

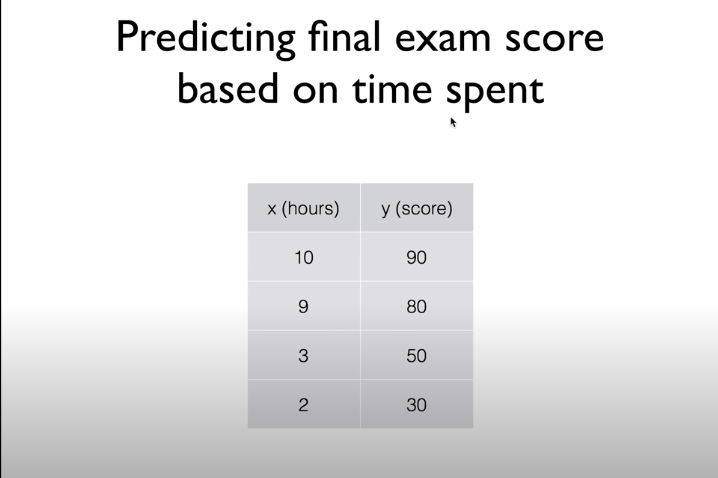
- regression

· Pass / non-pass based on time spent

- binary classification

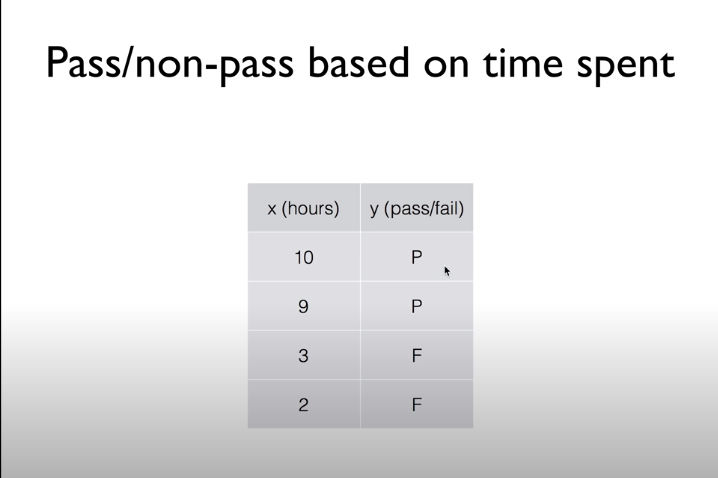
· Letter grade (A , B , C , E and F) based on time spent

- multi-label classification



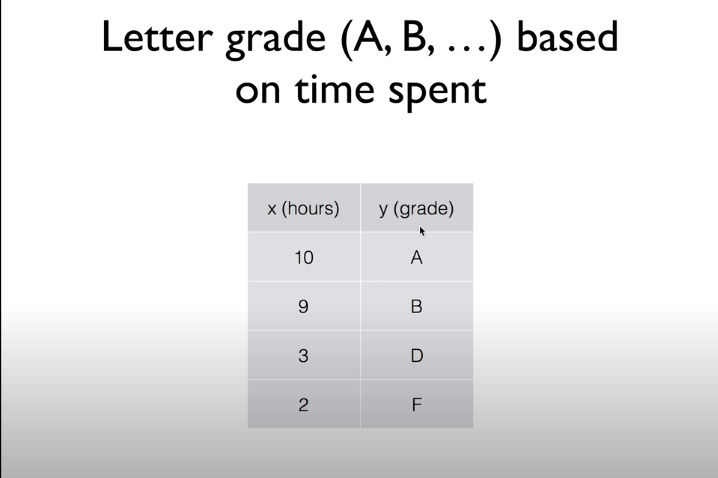
- 위 데이터들을 가지고 training 시켜, 다른 데이터를 입력했을 때 y, 즉, score를 예측하는 것

=> regression ( ex. x = 7일 때, y = ? -> 학습을 기반으로 y = 75로 예측 )



- Pass인지 non-pass인지 두 개의 label을 가지고 예측을 하기 때문에

binary-classification이라고 말할 수 있음.



- classification(분류)이지만 label이 두 개 이상이므로 multi-label classification이라고 말할 수 있음