

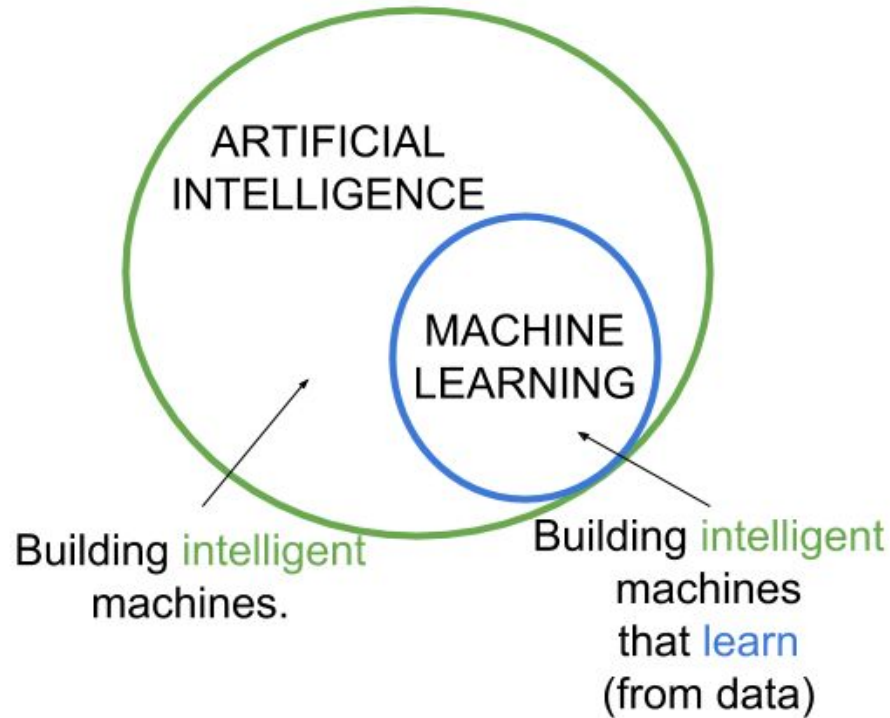
Fuse ML Workshop

Day 5 - Machine Learning Processes with scikit-learn II

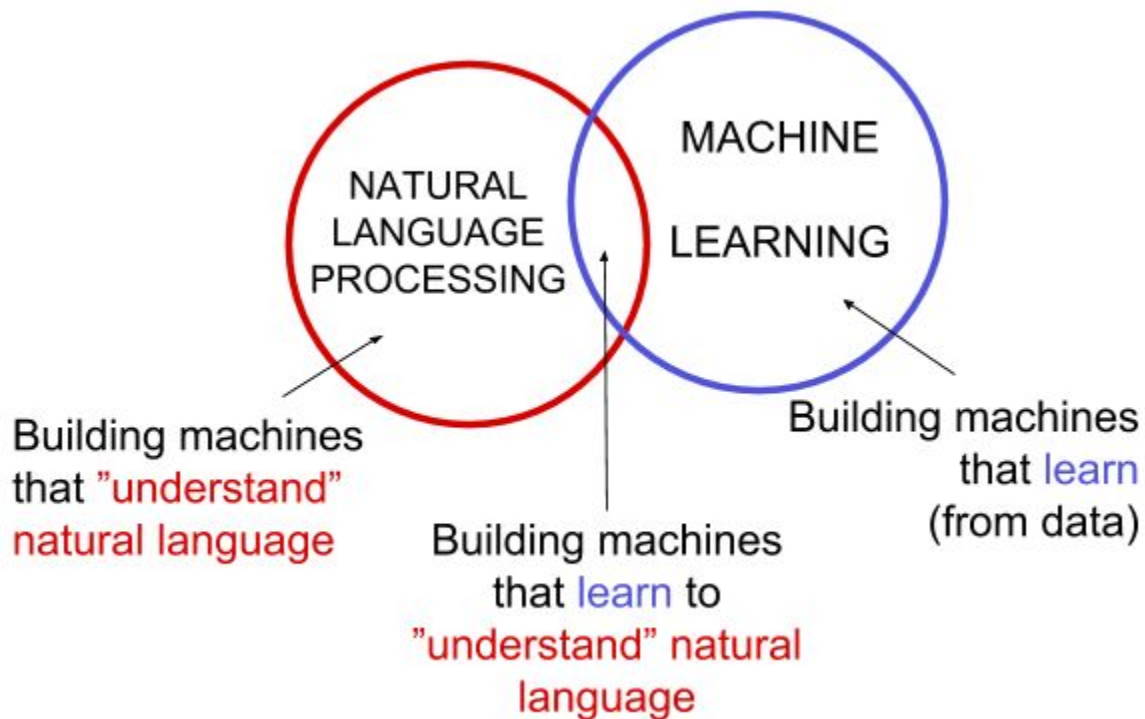
Things learned so far...

1. Python
2. Numpy
3. Pandas
4. Scikit-Learn
 - a. Classification: KNN Classifier, Iris Flower dataset.
 - b. Regression: Linear Regression, Diabetes dataset.
 - c. What next?

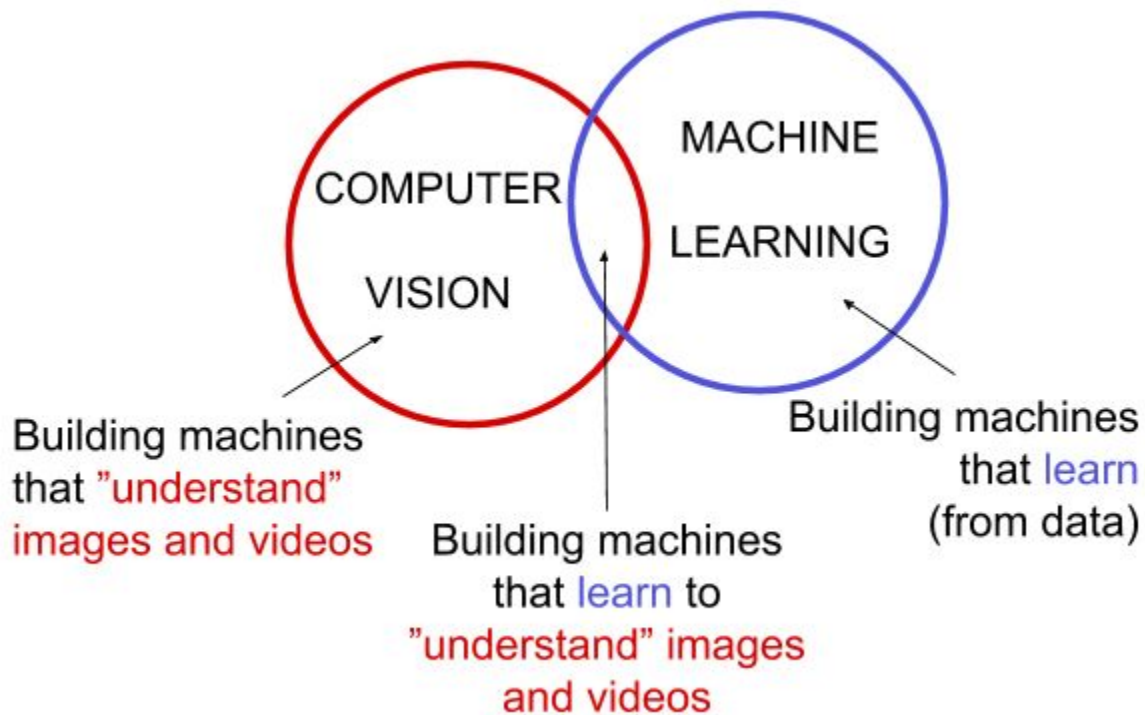
How ML relates to AI



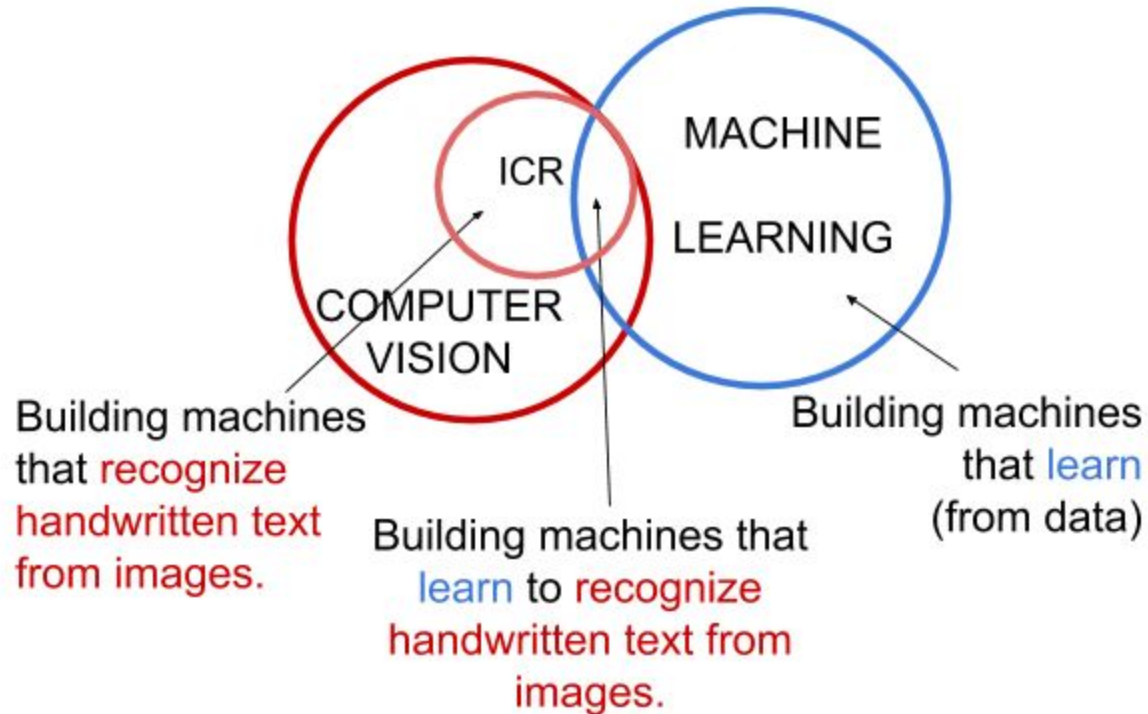
ML as a tool



ML as a tool



Intelligent Character Recognition



Machine Learning

Where computer beats you

Where computer beats you

What is 4×2 ?

Where computer beats you

What is 4×2 ?

What is 32424×24423 ?

Where Humans beat Computers

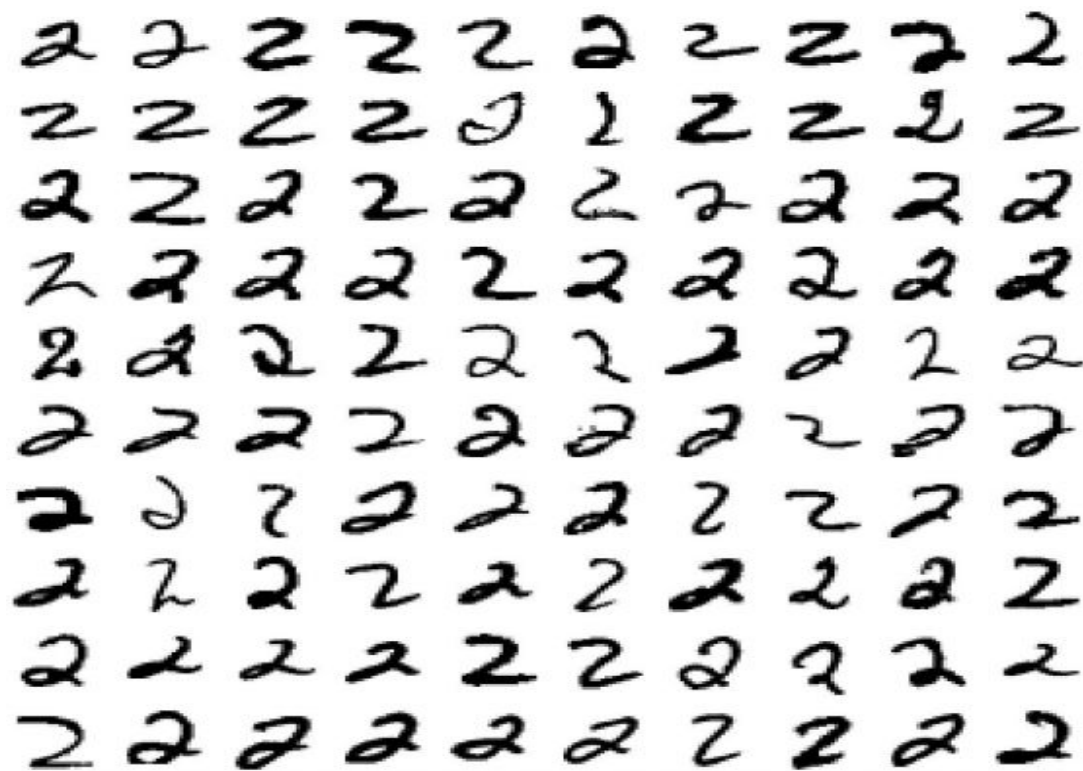


Where Humans beat Computers

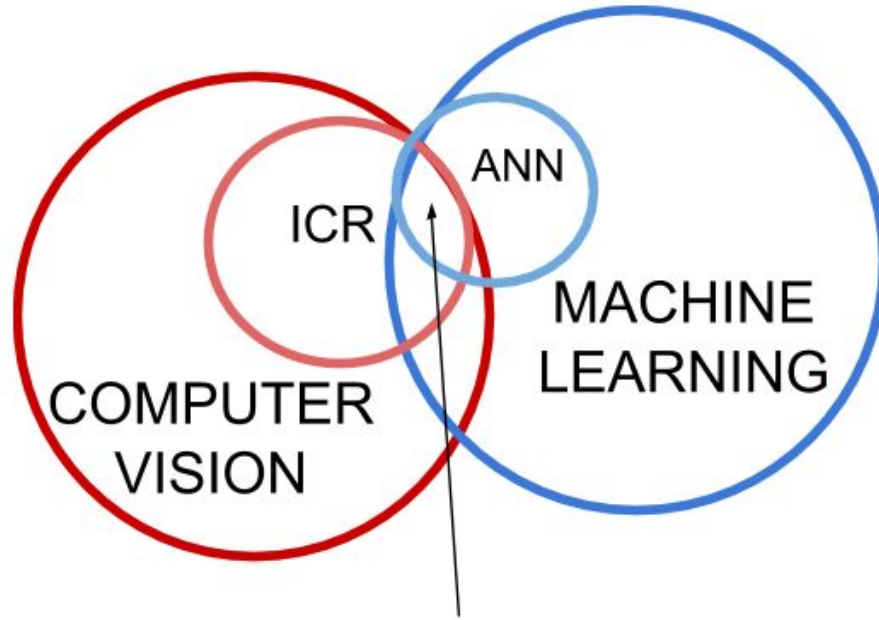
2

How would code a program to recognize “2”?

Can it handle all these variations?

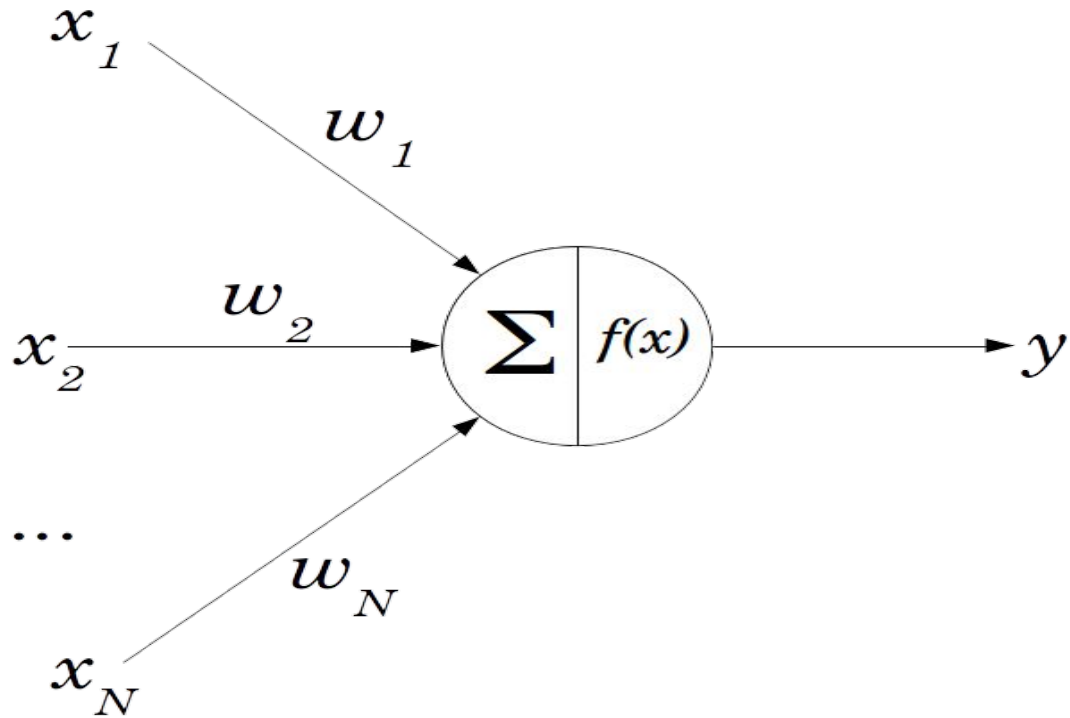


What we are doing today

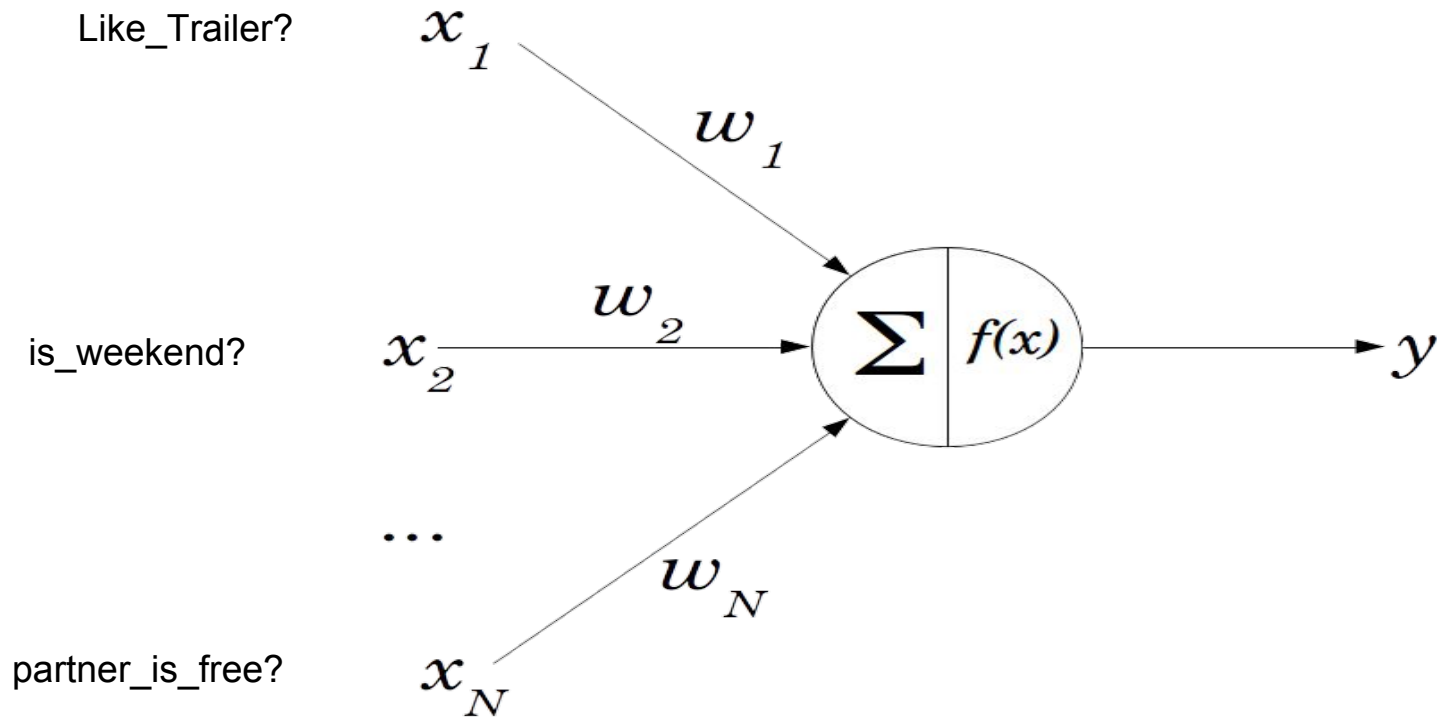


Using ANN (a ML algorithm)
for ICR (a CV task).

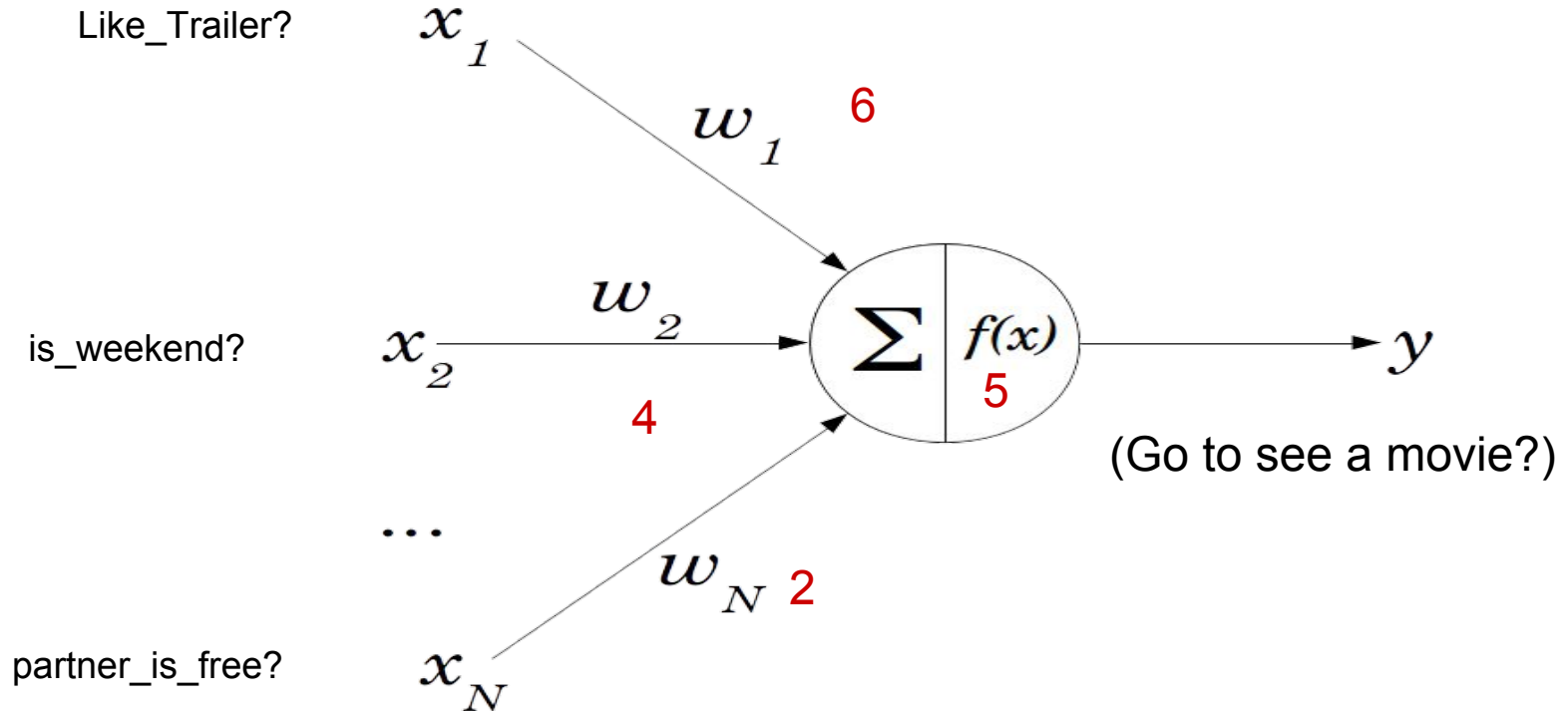
Artificial Neural Network



Artificial Neural Network (Go to see a movie?)

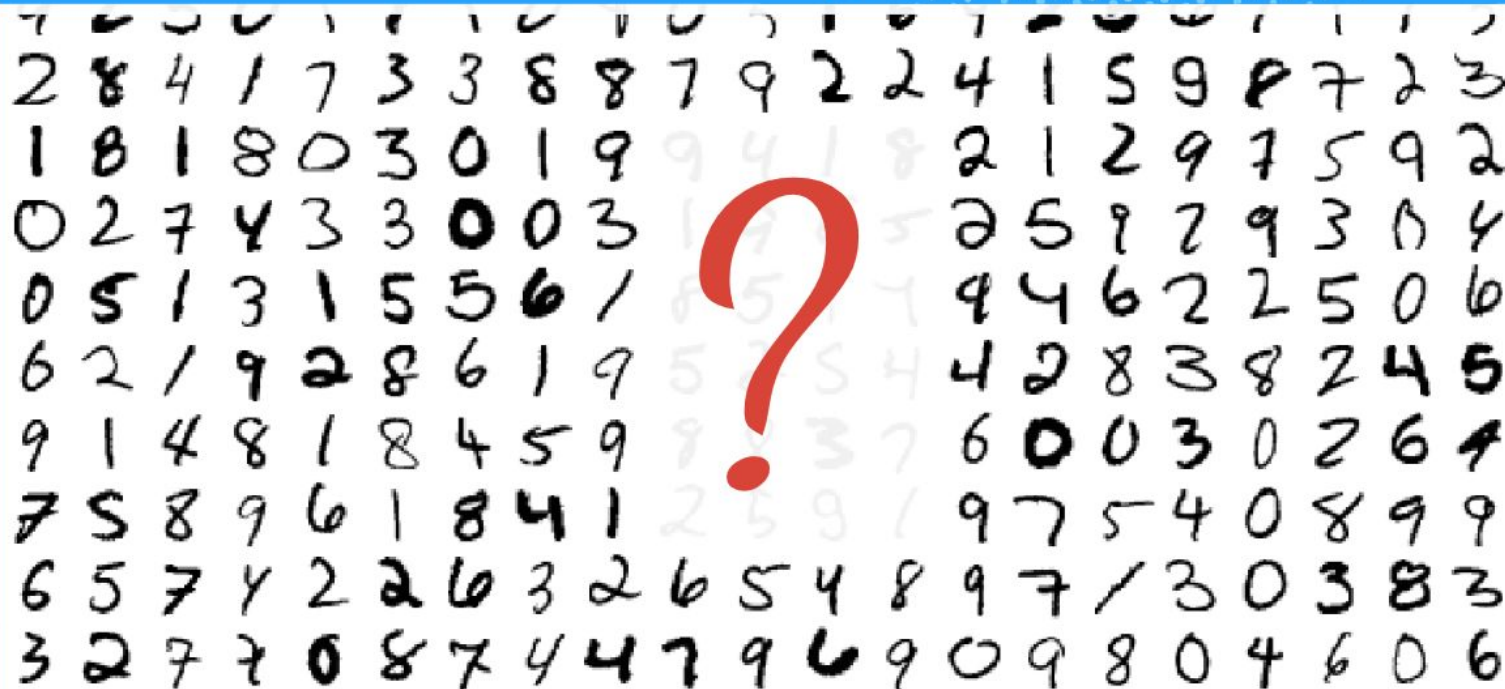


Artificial Neural Network (Basic Explanation)



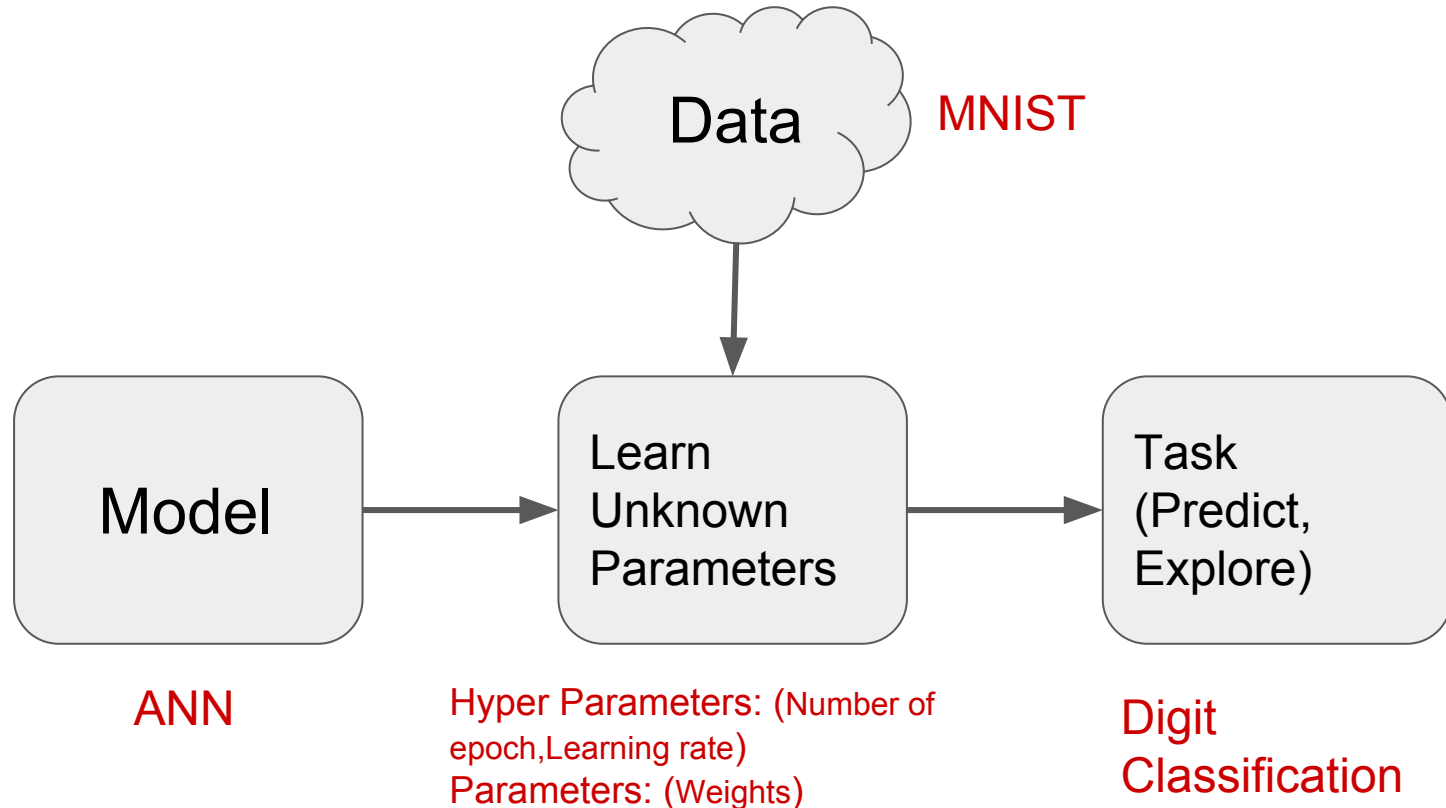
MNIST Dataset

Hello World: handwritten digits classification - MNIST



MNIST = Mixed National Institute of Standards and Technology - Download the dataset at <http://yann.lecun.com/exdb/mnist/>

Machine Learning Process for ICR using ANN



Coding Time...

Example Tasks

Domain	Tasks	Data
Computer Vision	ICR	Image and their labels
Audio Processing	Sound recognition	Audio and their corresponding label
NLP	Sentiment Analysis	Text and its corresponding label
Audio Processing, NLP	Speech Recognition	Audio and their corresponding text
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