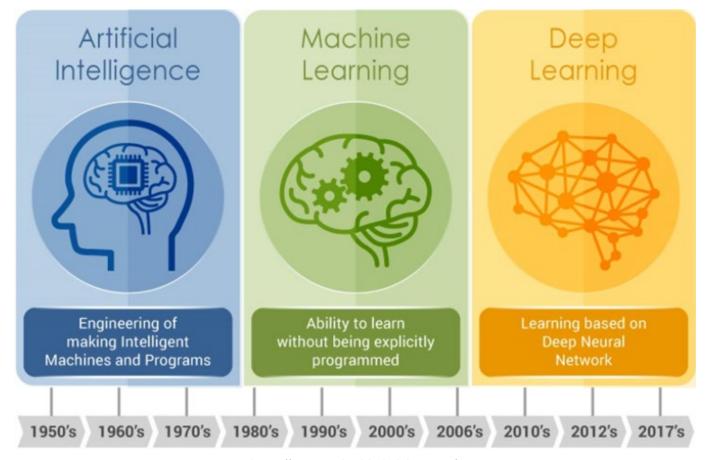
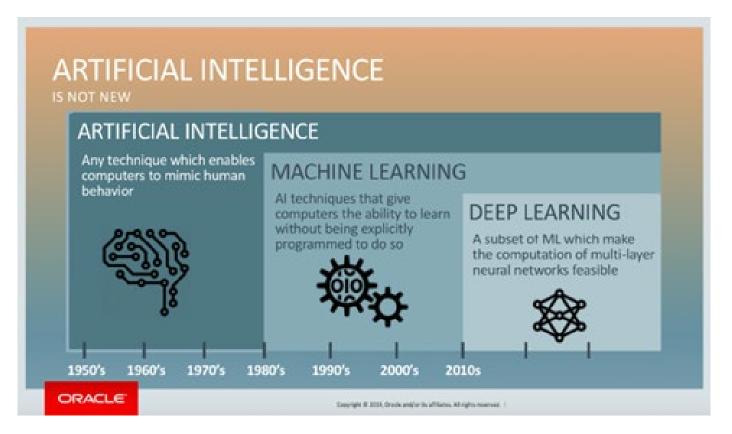
Evolution of Al

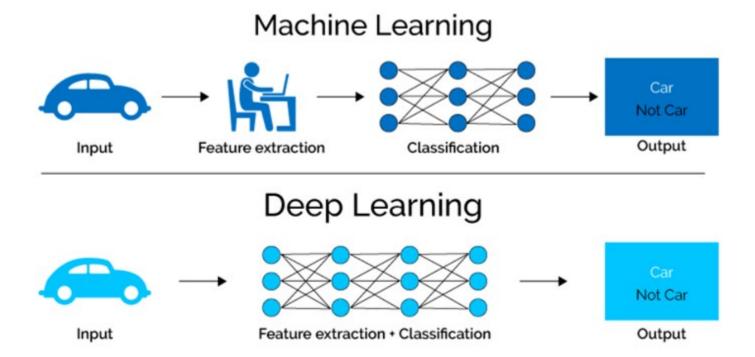


https://www.embedded-vision.com/

Difference between AI, ML, and DL

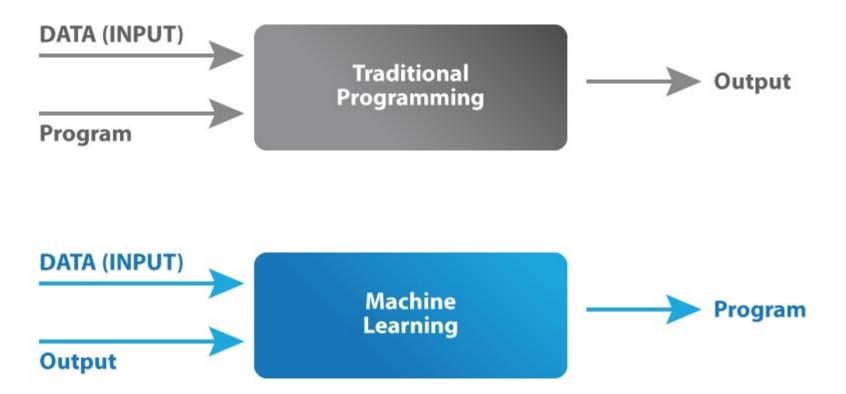


ML vs. DL



Introduction to ML

Recall ML



Source: https://d1m75 rqqgidzqn.cloudfront.net/2019/10/What-is-Machine-Learning-Machine-learning-model-vs-traditional-model.jpg

Machine Learning ≈ Looking for a Function

• Speech Recognition

$$f($$
 $)=$ "How are you"

• Image Recognition

- Playing Go f(
- Dialogue System

Image Recognition:

Framework

$$f(\bigcap)=$$
 "cat"



$$f_1($$

)= "cat"
$$f_2$$

$$f_1$$

)= "dog"
$$f_2$$



$$) =$$
 "snake"

Framework

Image Recognition:

$$f(\bigcap)=$$
 "cat"

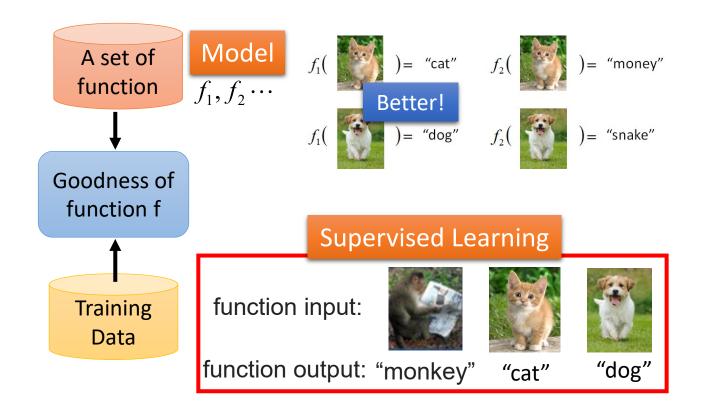
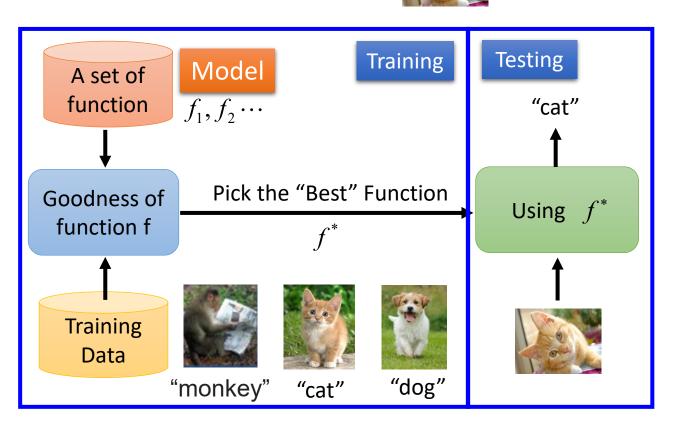
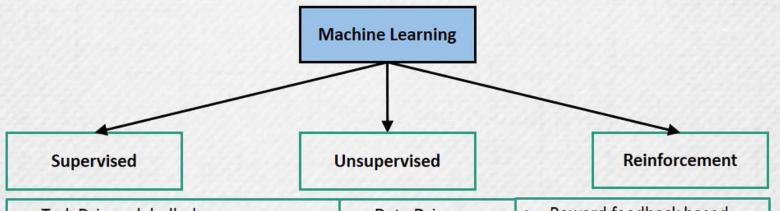


Image Recognition:

Framework

$$f(\bigcap)=$$
 "cat"





- Task Driven, labelled (Regression/Classification).
- Input variables X and output variable
 Y. Y = f(X).
- Algorithm learns from training data set. Iteratively make predictions which are corrected (teaching).
- Learning stops when performance reaches acceptable level.

- Data Driven, unlabeled (Clustering)
- No correct answers, no teacher, no labelling
- Algorithm looks for patterns in data.

- Reward feedback based
- Algorithm learns to react to an environment.
 Automatically determine ideal behavior within a context.