

# Introduction to Machine Learning

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# About this Class

Date and Time	Topics
07 June 2020	Introduction to Machine Learning
14 June 2020	Introduction to Supervised Learning
21 June 2020	Study Case : Covid-19 Prediction
28 June 2020	Introduction to Unsupervised Learning and Reinforcement Learning

Example :



# What is machine learning?

**Machine learning (ML)** is the study of computer algorithms that improve automatically through experience. (wikipedia)



The diagram consists of three concentric circles. The outermost circle is dark blue and contains the text 'ARTIFICIAL INTELLIGENCE' and its definition. The middle circle is a medium blue and contains the text 'MACHINE LEARNING' and its definition. The innermost circle is a light blue and contains the text 'DEEP LEARNING' and its definition. This visual structure indicates that Deep Learning is a subset of Machine Learning, which is a subset of Artificial Intelligence.

## ARTIFICIAL INTELLIGENCE

A program that can sense, reason,  
act, and adapt

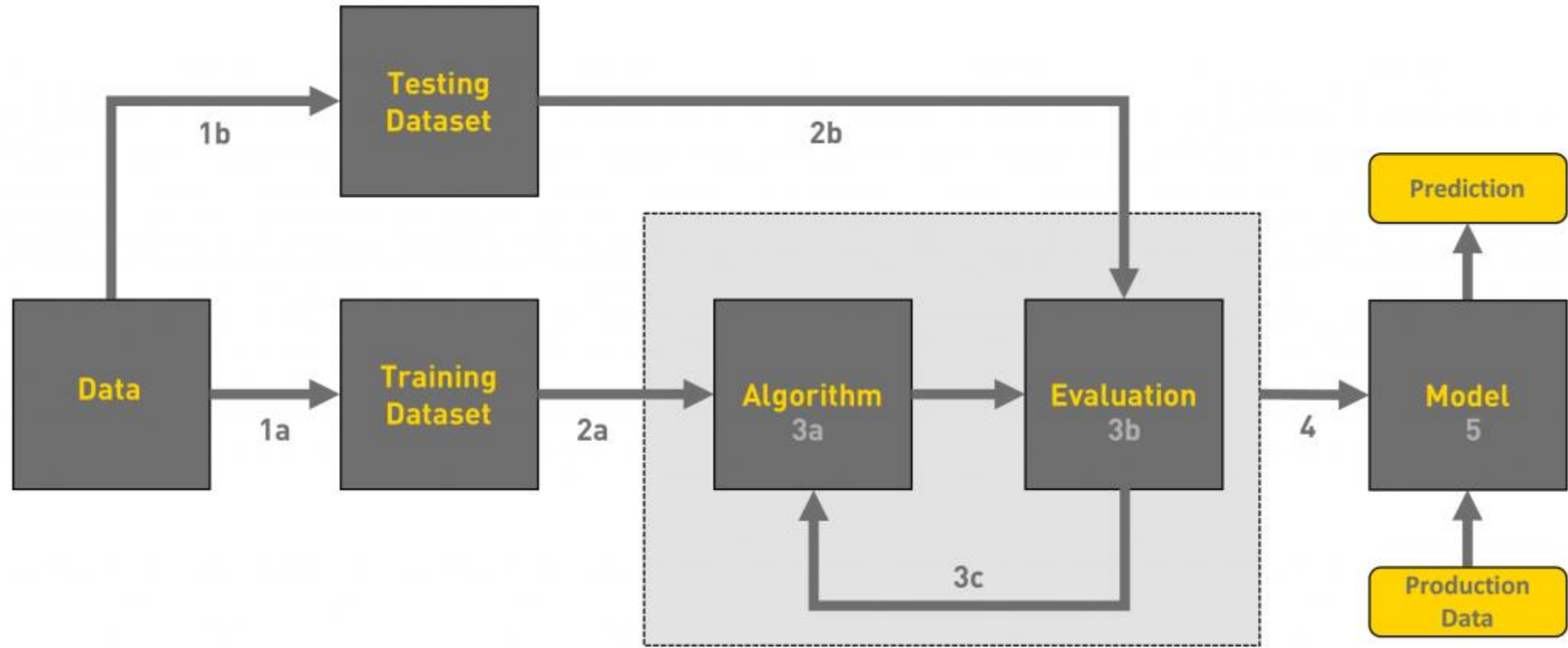
## MACHINE LEARNING

Algorithms whose performance improve  
as they are exposed to more data over time

## DEEP LEARNING

Subset of machine learning in  
which multilayered neural  
networks learn from  
vast amounts of data

# Machine Learning Diagram Model

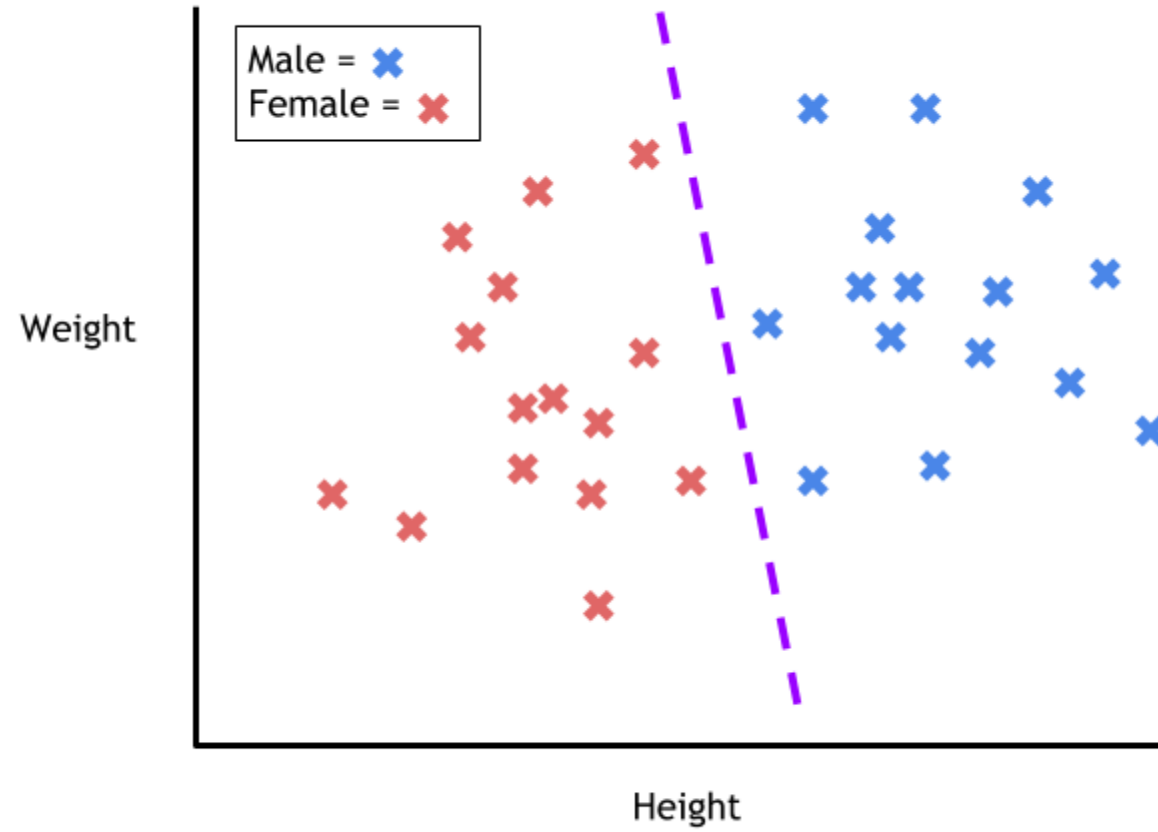


# Type of Machine Learning Algorithm

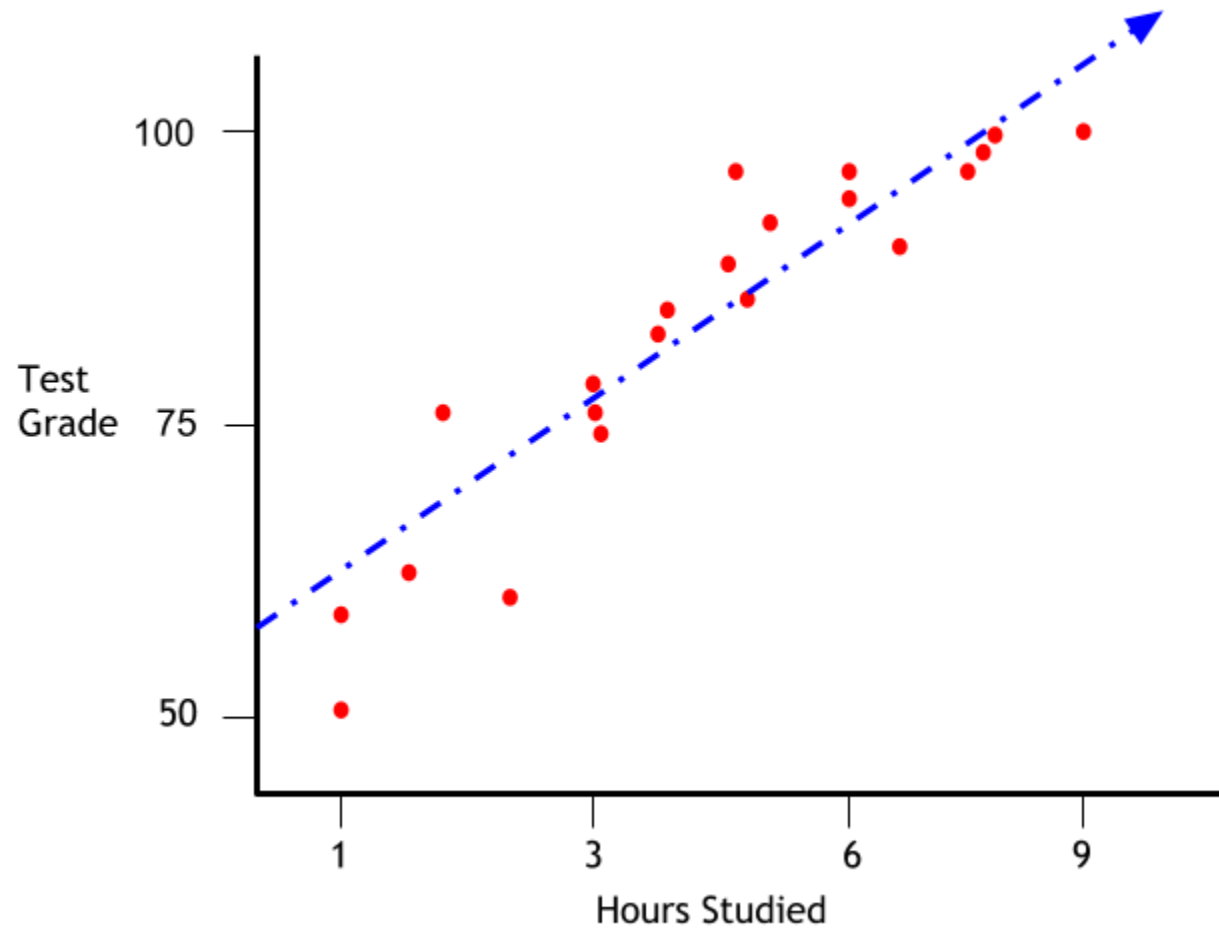


# Supervised Learning

# 1. Classification



## 2. Regression



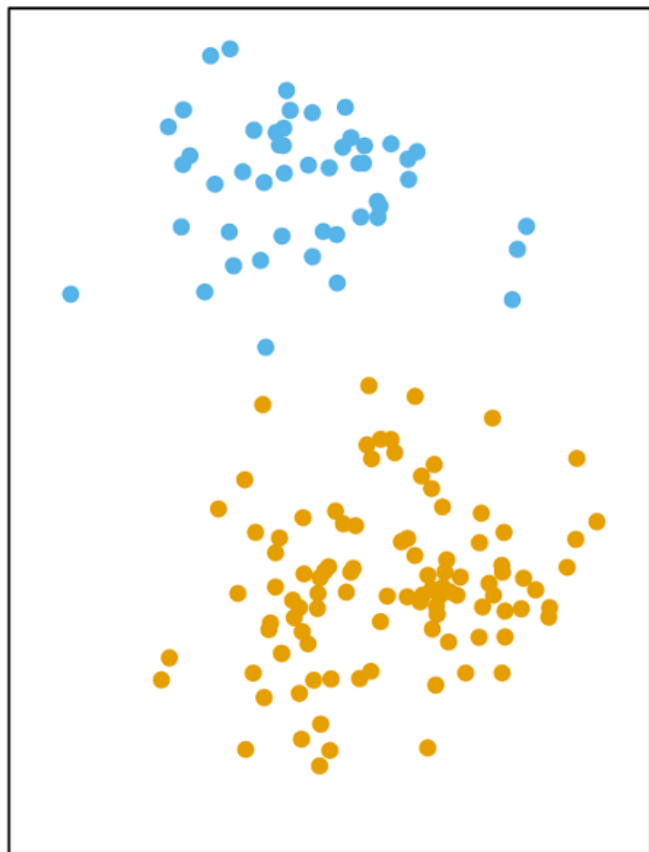
# Unsupervised Learning

# 1. Descriptive Learning

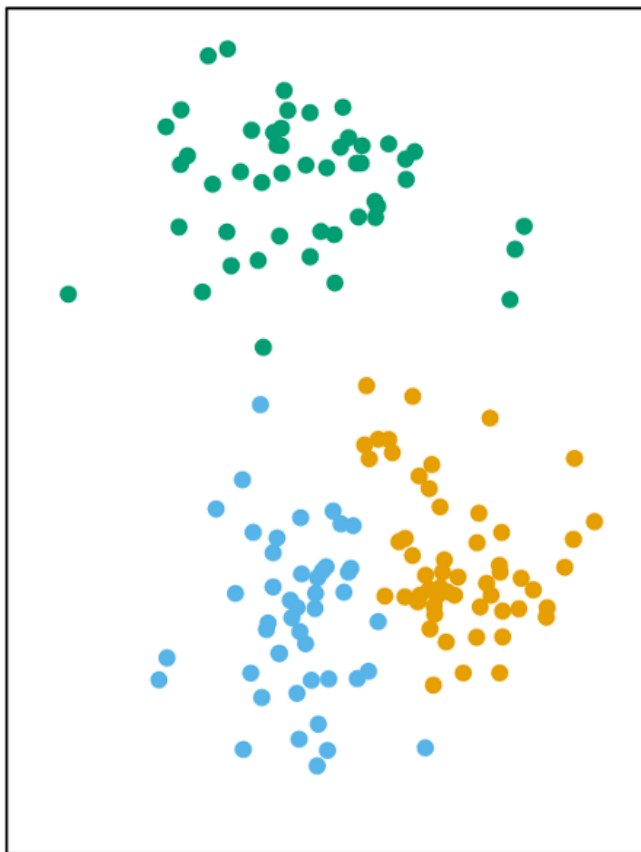
Come up the future ideas based on the dataset

## 2. Clustering

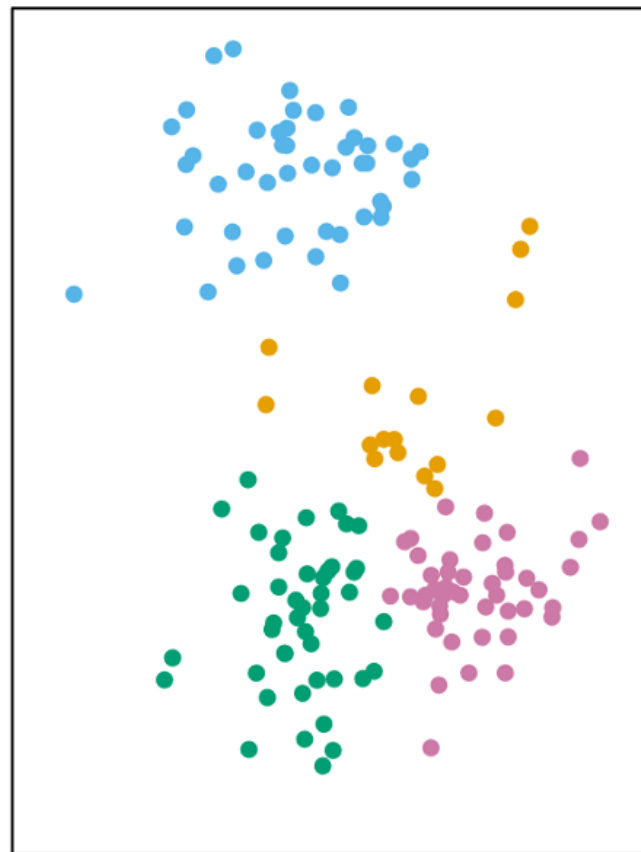
K=2



K=3

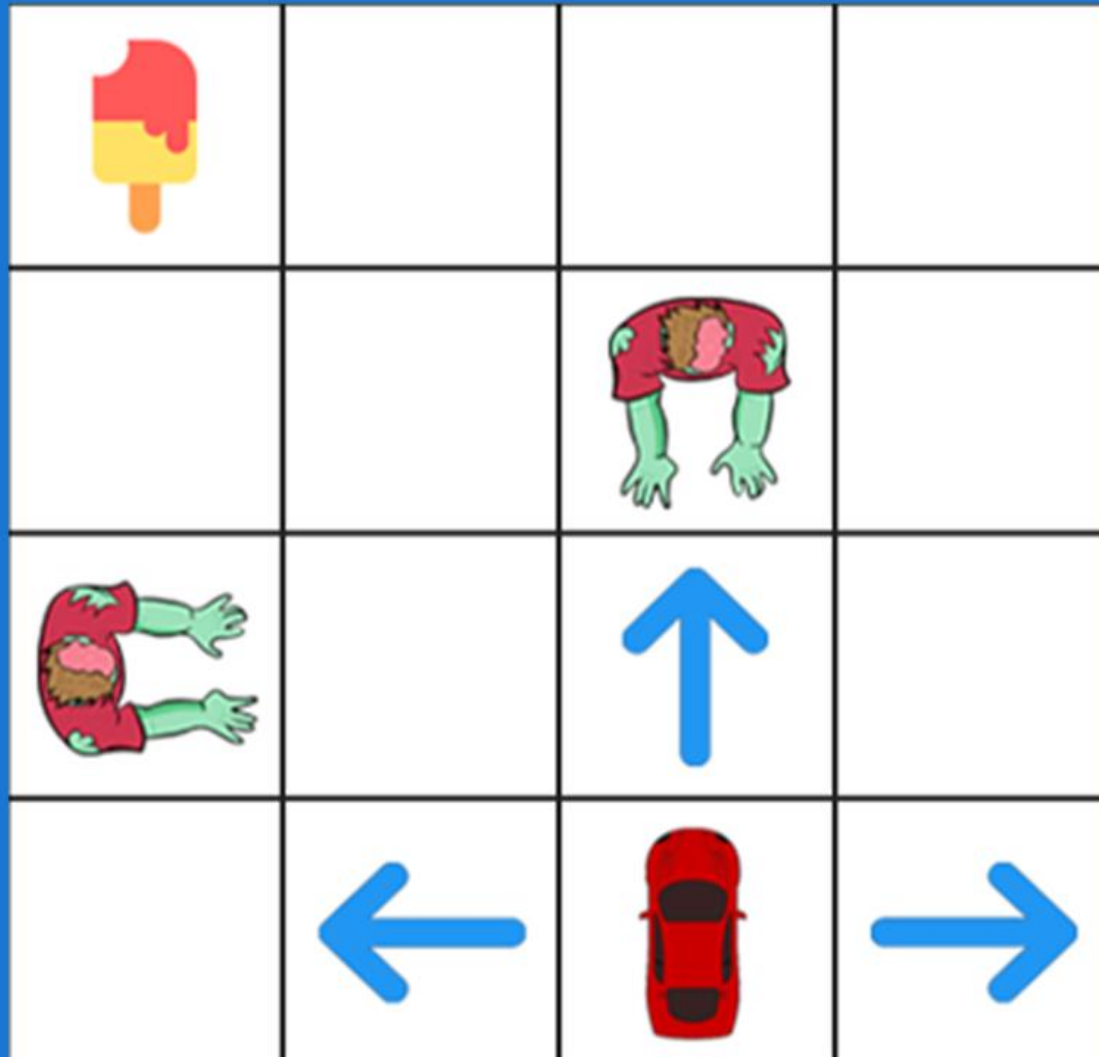


K=4



# Reinforcement Learning

# 1. Reinforcement Learning



STATE

start

REWARD

0



# Special Thanks to

Towards Data Science (<https://towardsdatascience.com/>)

Medium (<https://medium.com/>)

Quora (<https://www.quora.com/>)

Wikipedia (<https://www.wikipedia.org/>)

Insane (<https://www.facebook.com/TheInsaneApp/>)

# Assignment

1. Find the difference between data science and machine learning.
2. Learn one supervised learning algorithm.