MAKE SKILLED

MACHINE LEARNING

WHY IS MACHINE LEARNING IMPORTANT

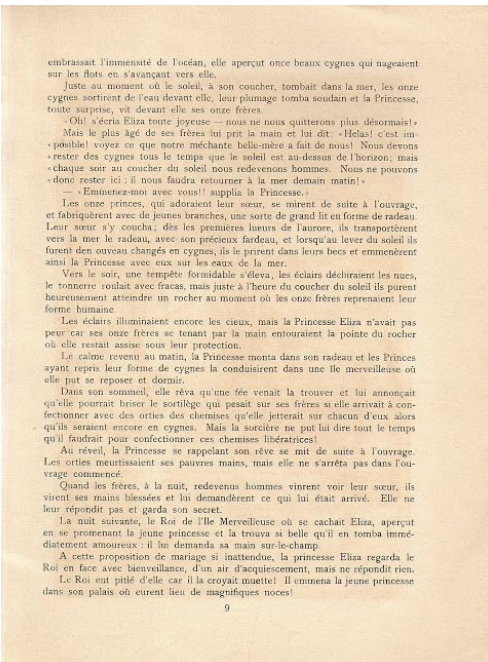
- It is all around us in this modern world.
- From Facebook Feeds to Google Maps for navigation, Machine Learning finds its application almost in every aspect of our lives.
- It is quite frightening and interesting to think of how our lives would have been without the use of Machine Learning.
- That is why it becomes quite important to understand what is Machine Learning, its applications and its importance.

ML IS THE FUTURE

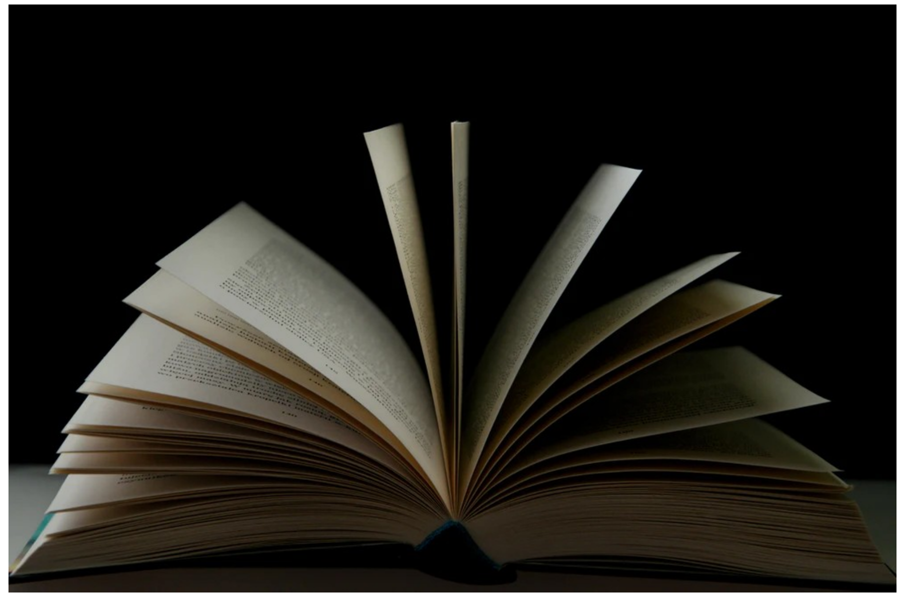
SINCE THE DAWN OF TIME …
UP UNTIL 2005 …
HUMANS HAD CREATED …
130 EXABYTES OF DATA

1 byte

1k byte



1M Byte



1G Byte

1T Byte

1 Petabyte

1 Exabyte

ML IS THE FUTURE

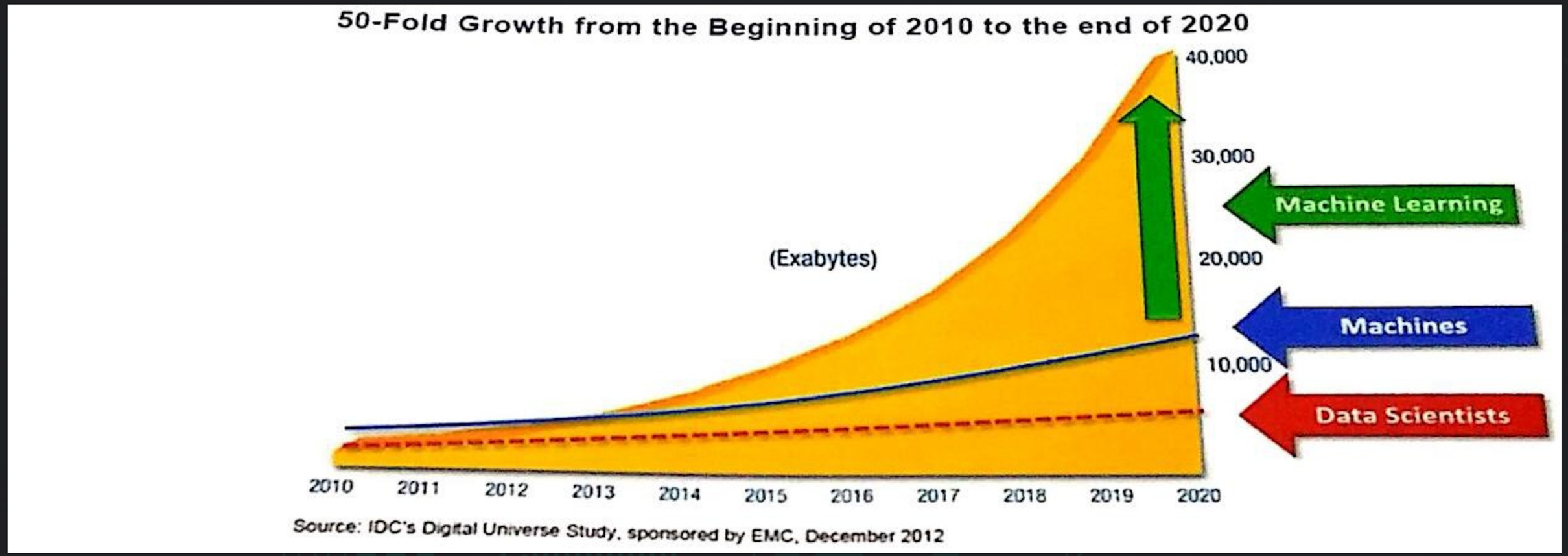
2005 - 130 EXABYTES

2010 - 1,200 EXABYTES

2015 - 7,900 EXABYTES

2020 - 40,900 EXABYTES

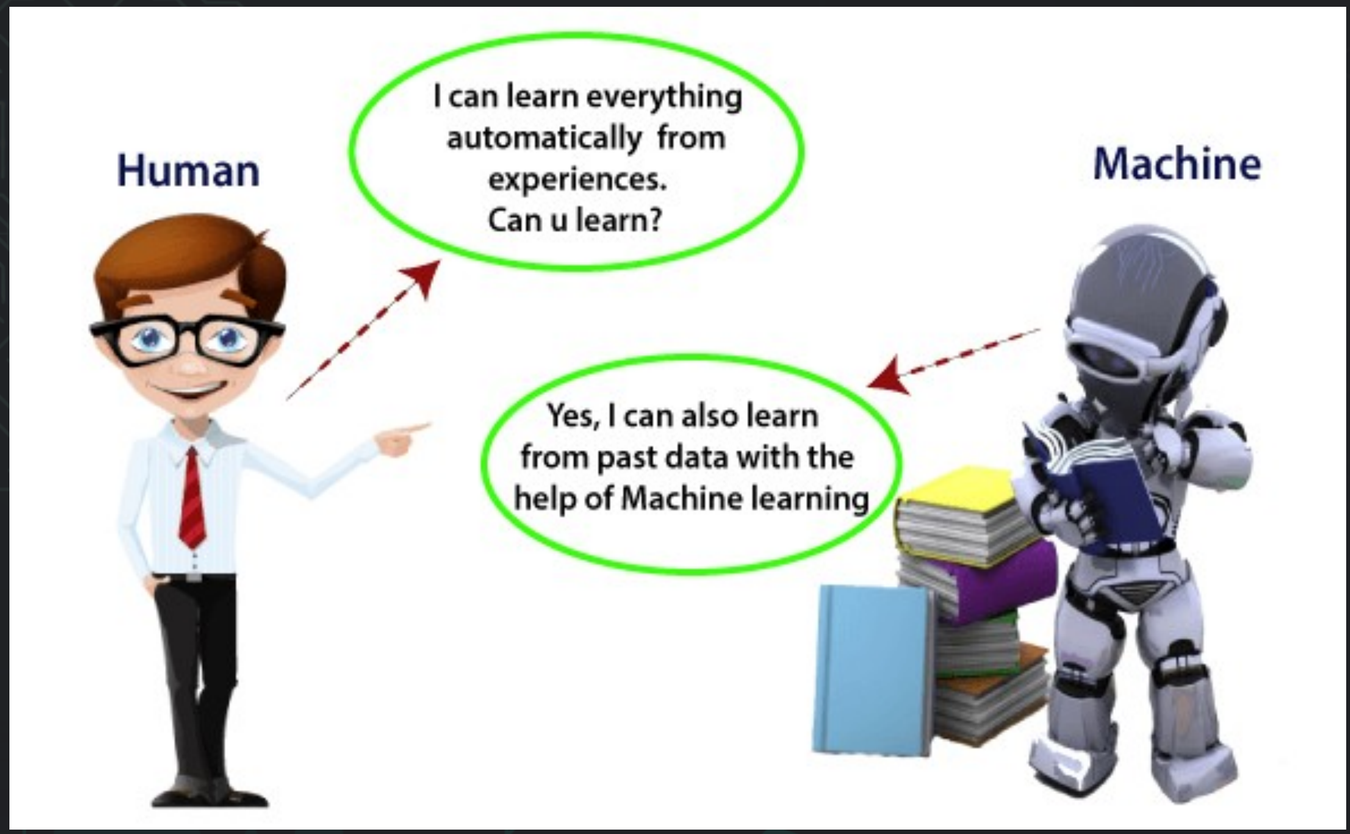
ML IS THE FUTURE



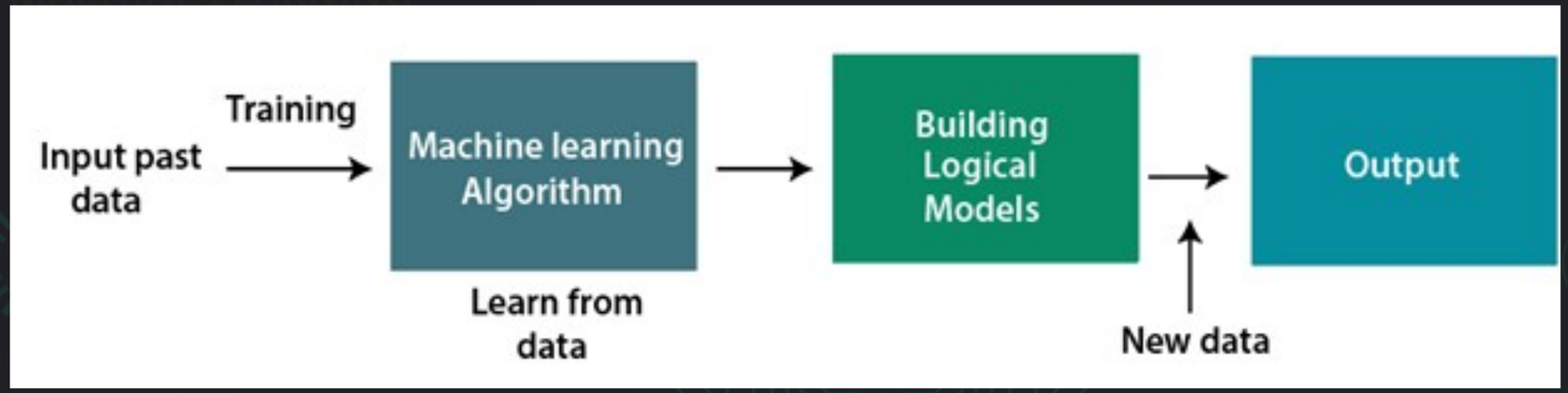
WHAT IS MACHINE LEARNING

- Machine Learning enables a machine to automatically learn from data, improve performance from experiences and predict things without being explicitly programmed.

- A machine has the ability to learn if it can improve its performance by gaining more data.



HOW DOES MACHINE LEARNING WORK



- A Machine Learning system learns from historical data, builds the prediction models, and whenever it receives new data, predicts the output for it.

- The accuracy of the predicted output depends upon the amount of data, as the huge of amount of data helps to build a better model which predicts the output more accurately.

FEATURES OF MACHINE LEARNING

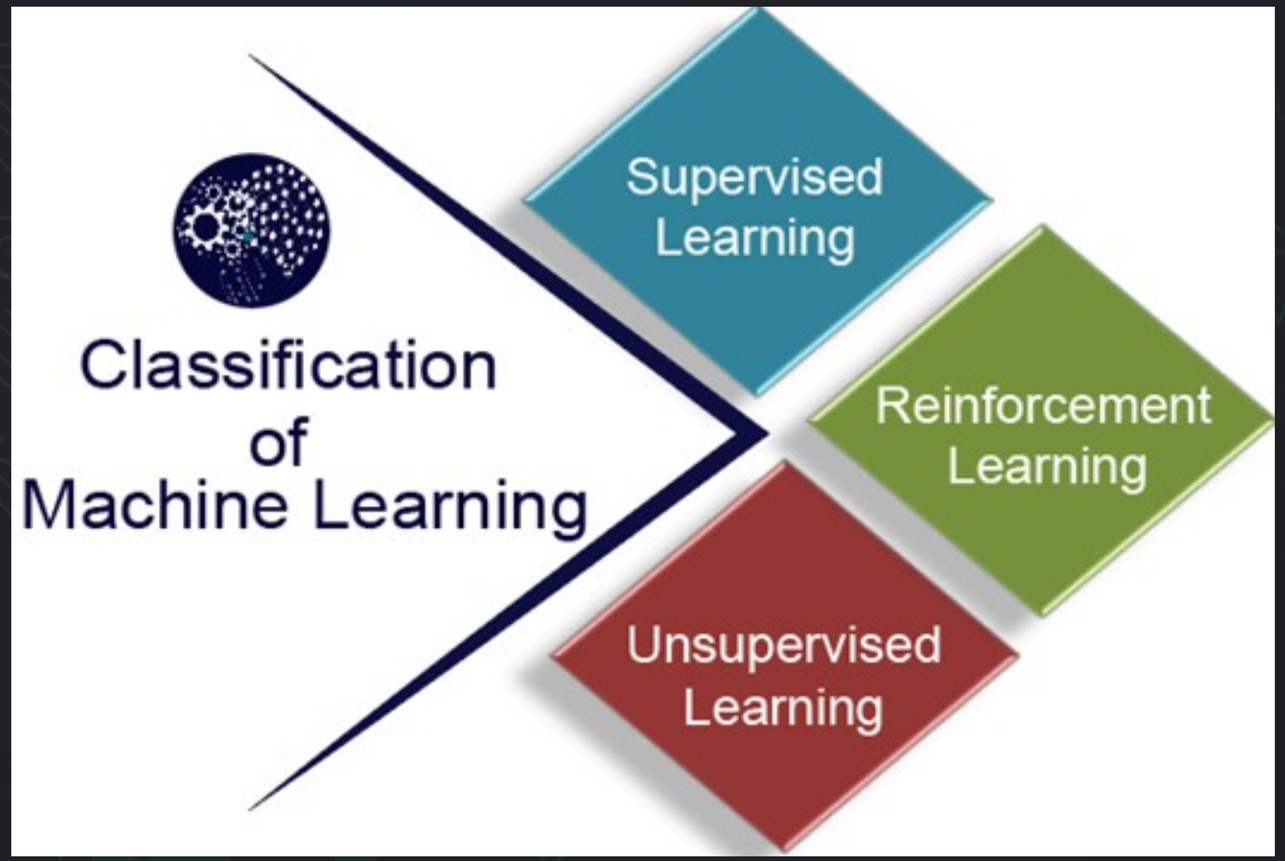
- Machine Learning uses data to detect various patters in a given dataset.
- It can learn from past data and improve automatically.
- It is a data-driven technology.
- Machine Learning is much similar to data mining as it also deals with the huge amount of the data

IMPORTANCE OF MACHINE LEARNING

- Rapid increment in the production of data
- Solving complex problems, which are difficult for a human
- Decision making in various sector including finance
- Finding hidden patterns and extracting useful information from data

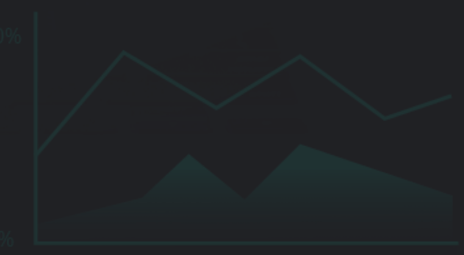
CLASSIFICATION OF MACHINE LEARNING

- Supervised Learning
- Unsupervised Learning
- Reinforcement Learning



SUPERVISED LEARNING

- It is a type of machine learning method in which we provide labeled data to the ML system in order to train it, and on that basis, it predicts the output.
  - Classification
  - Regression



UNSUPERVISED LEARNING

- Unsupervised learning is a learning method in which a machine learns without any supervision.

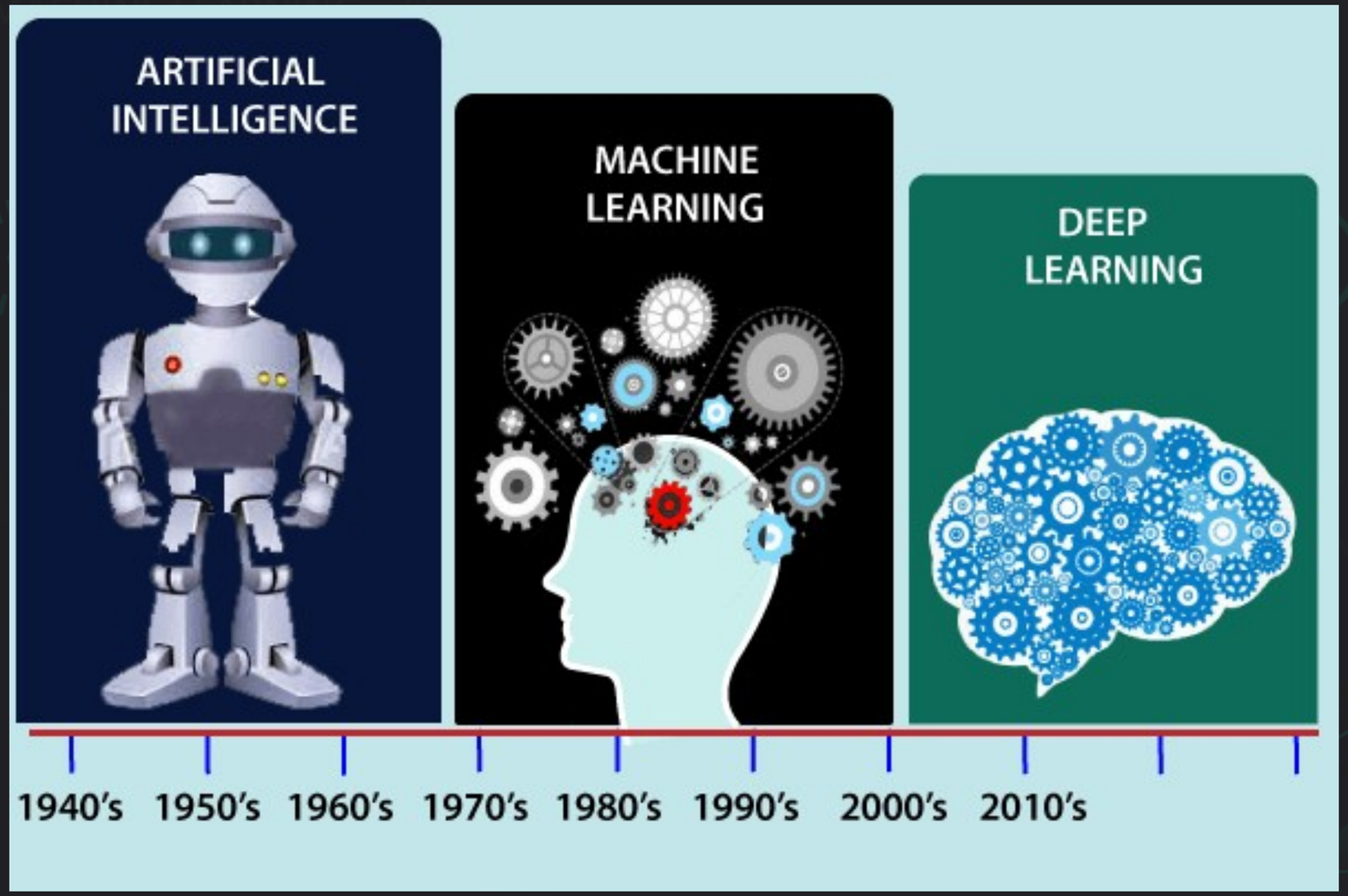
- In unsupervised learning, we don’t have a predetermined result. The machine tries to find useful insights from the huge amount of data

  - Clustering

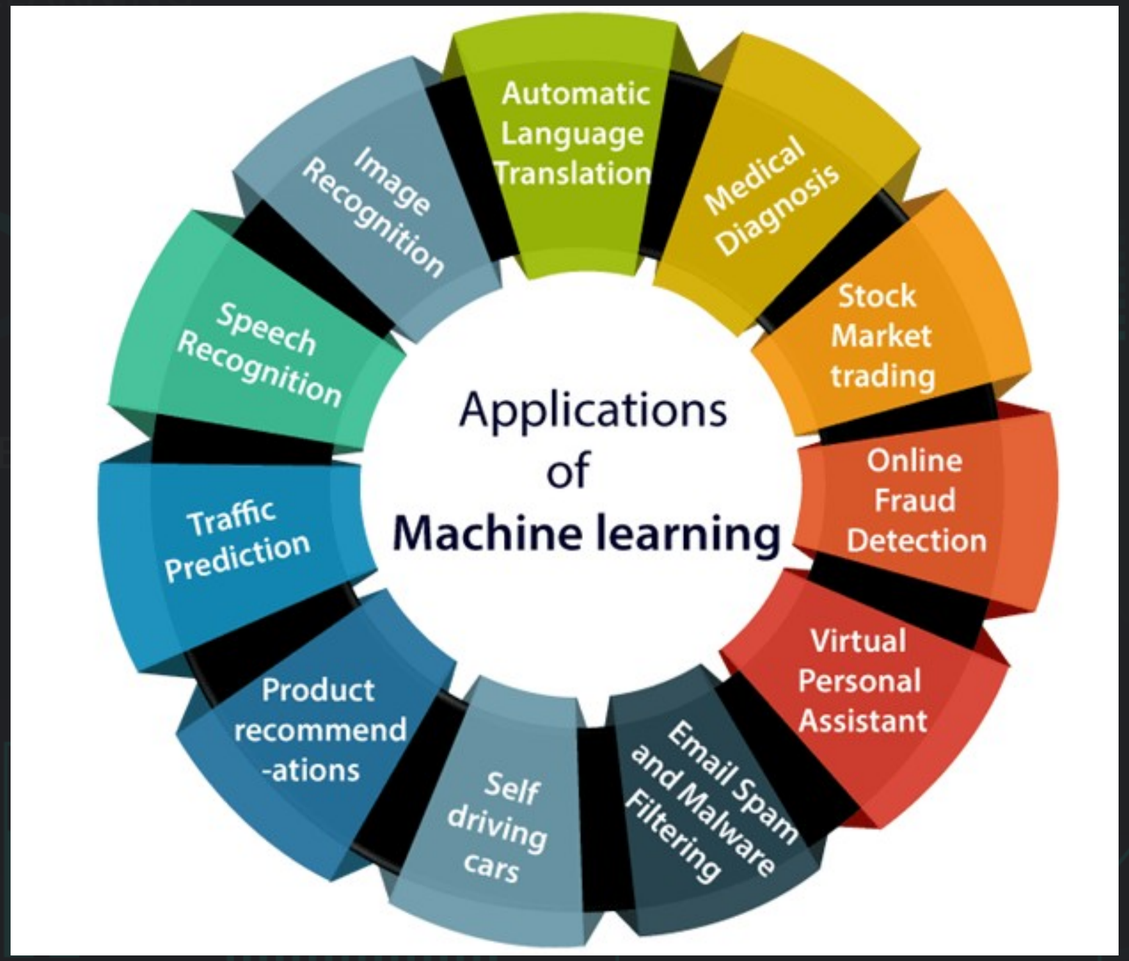
REINFORCEMENT LEARNING

- It is a feedback-based learning method, in which a learning agent gets a reward for each right action and gets a penalty for each wrong action.
- The agent learns automatically with these feedbacks and improves its performance.

HISTORY OF ML



APPLICATIONS OF ML



APPLICATIONS OF ML

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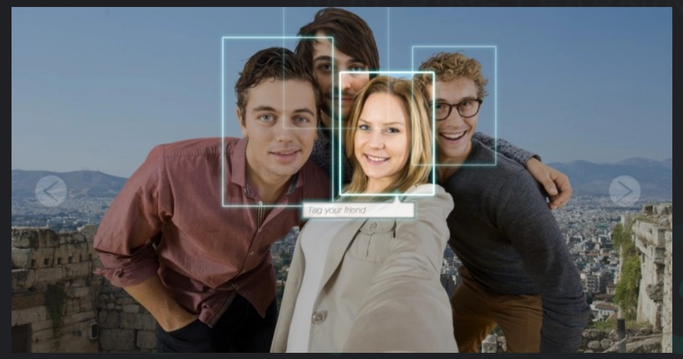

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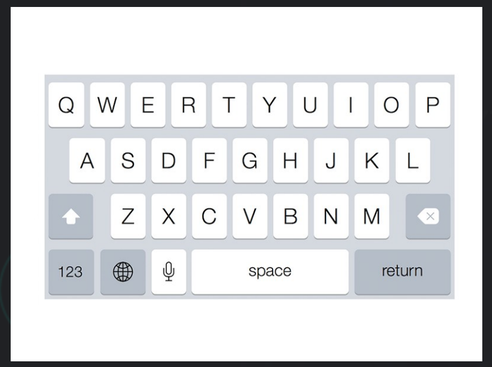

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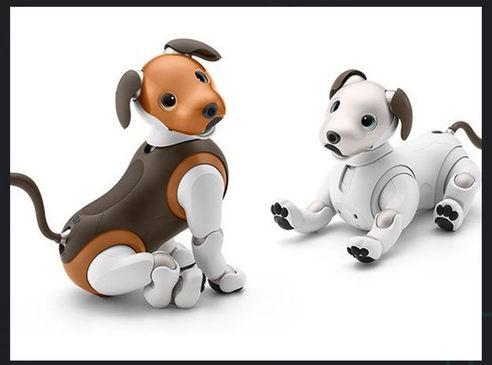

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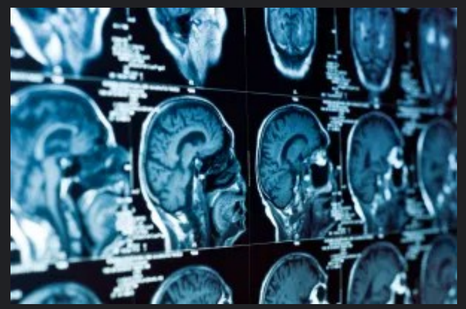

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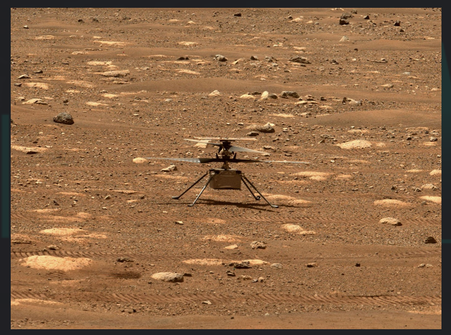
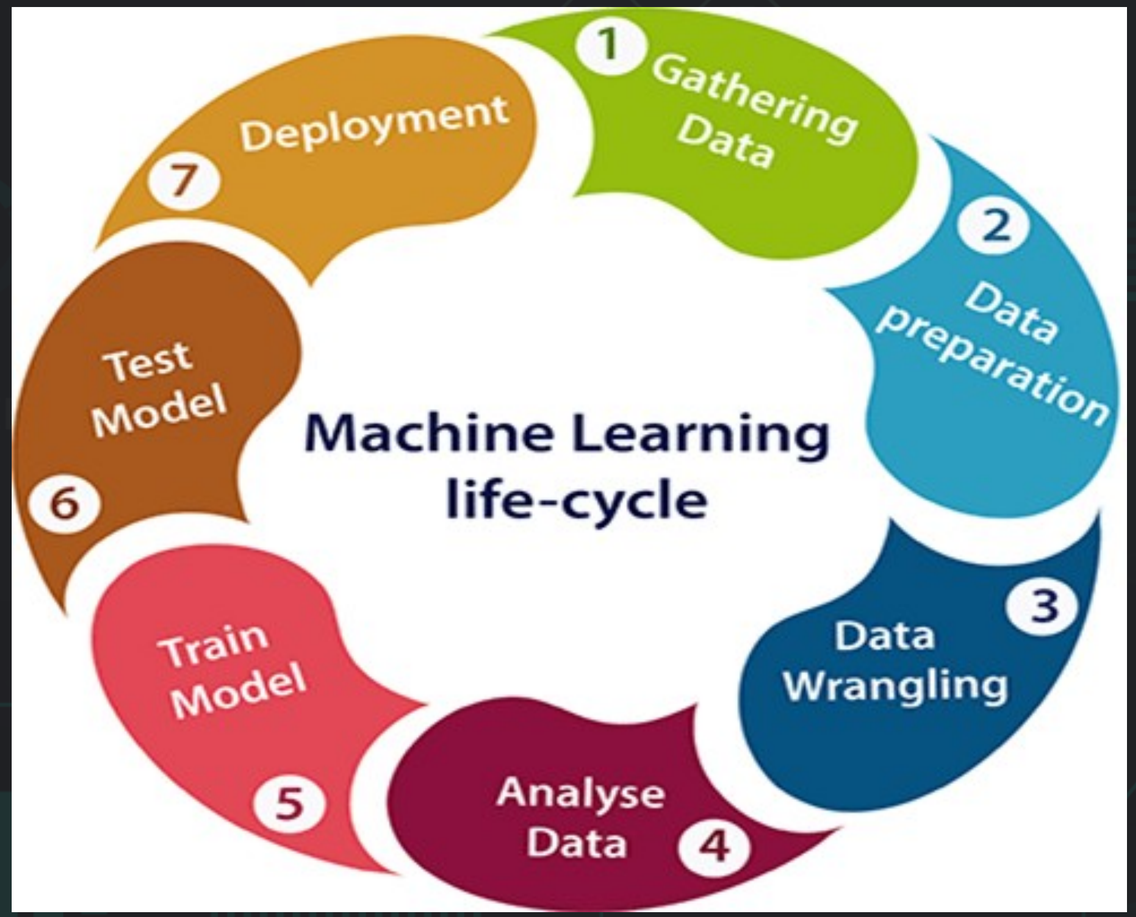


MACHINE LEARNING LIFE CYCLE



WHAT IS DATASET

- A dataset is a collection of data in which data is arranged in some order.

Country	Age	Salary	Purchased
India	38	48000	No
France	43	45000	Yes
Germany	30	54000	No
France	48	65000	No
Germany	40		Yes
India	35	58000	Yes

NEED OF DATASET

- During the development of the ML project, the developers completely rely on the datasets.
- In building ML applications, datasets are divided into two parts
  - Training dataset
  - Test Dataset