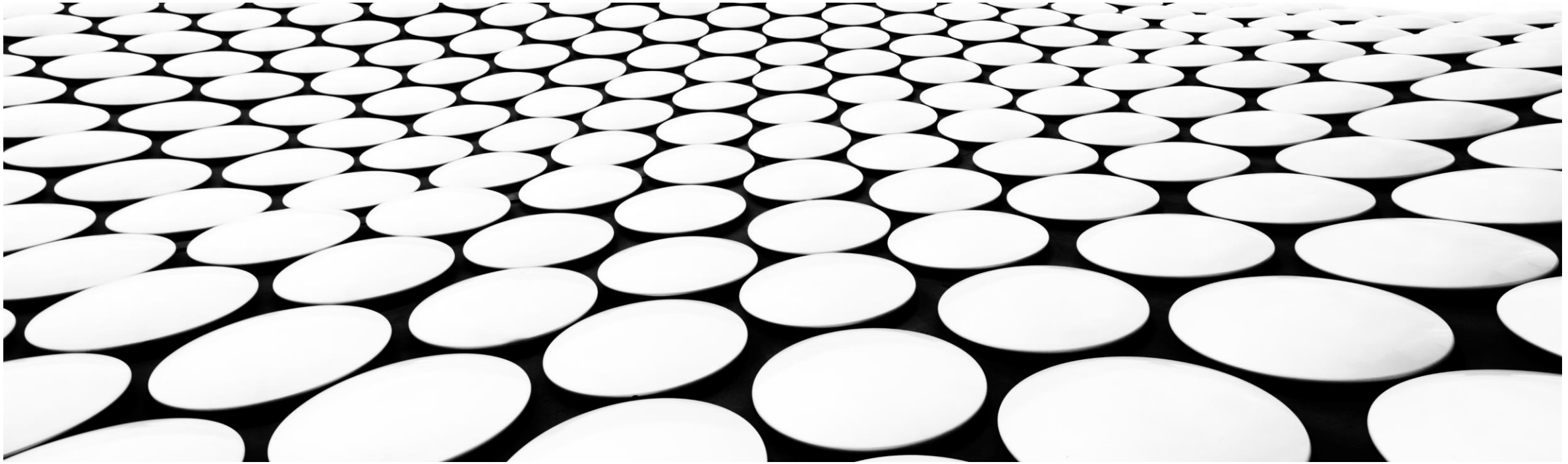
AI

SKILLS BUILD



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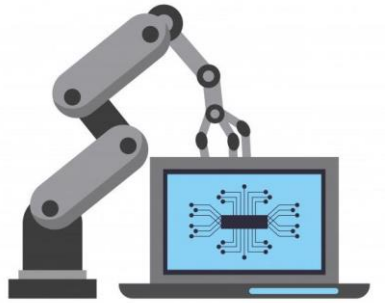


Intelligent Automation

Adding to labor and capital

Collaborative Innovation

Boosting the economy

New and exciting solutions

Uses in every sphere of life

WHAT IS ARTIFICIAL INTELLIGENCE?

artificial

/ɑːtɪˈfɪʃ(ə)l/

adjective

1. made or produced by human beings rather than occurring naturally, especially as a copy of something natural.

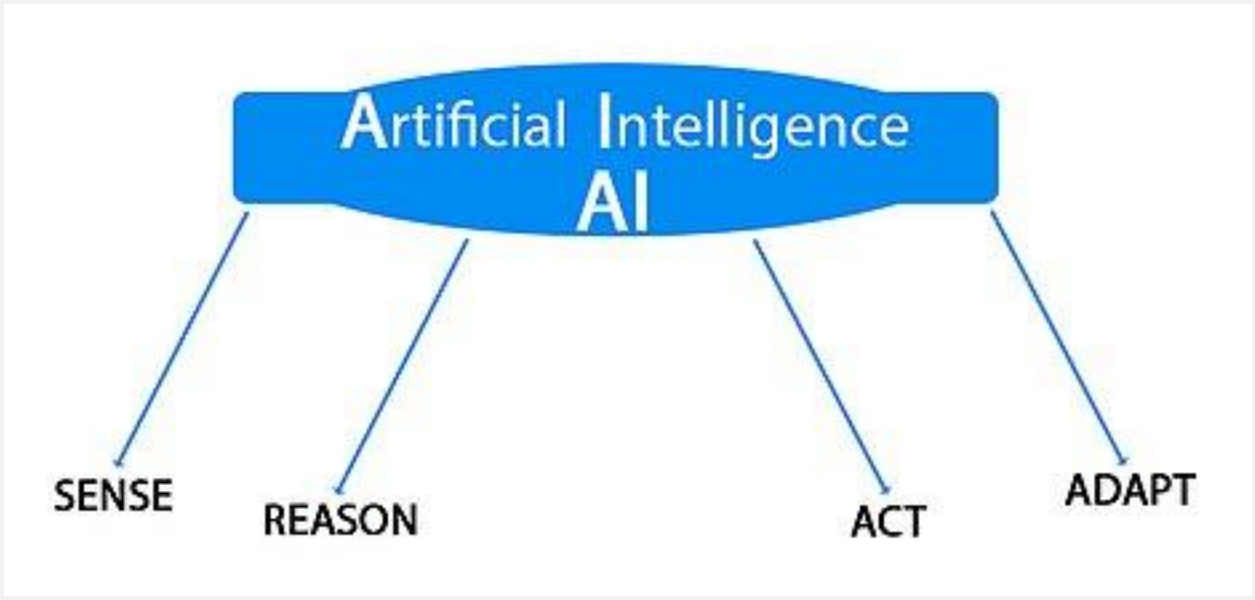
intelligence

/ɪnˈtɛlɪdʒ(ə)ns/

noun

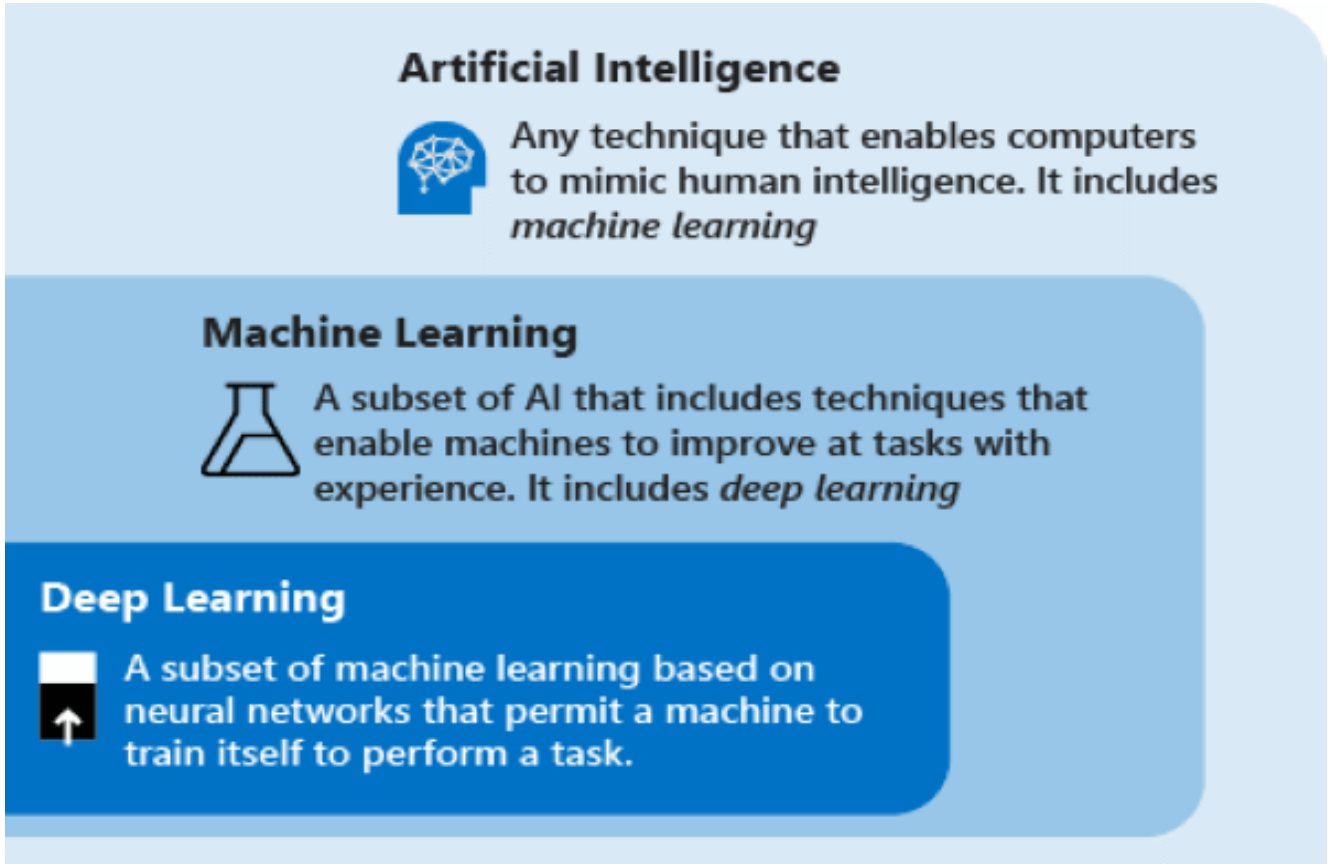
1. the ability to acquire and apply knowledge and skills.

WHAT IS ARTIFICIAL INTELLIGENCE?



Source - https://en.wikiversity.org/wiki/Artificial_intelligence/Introduction

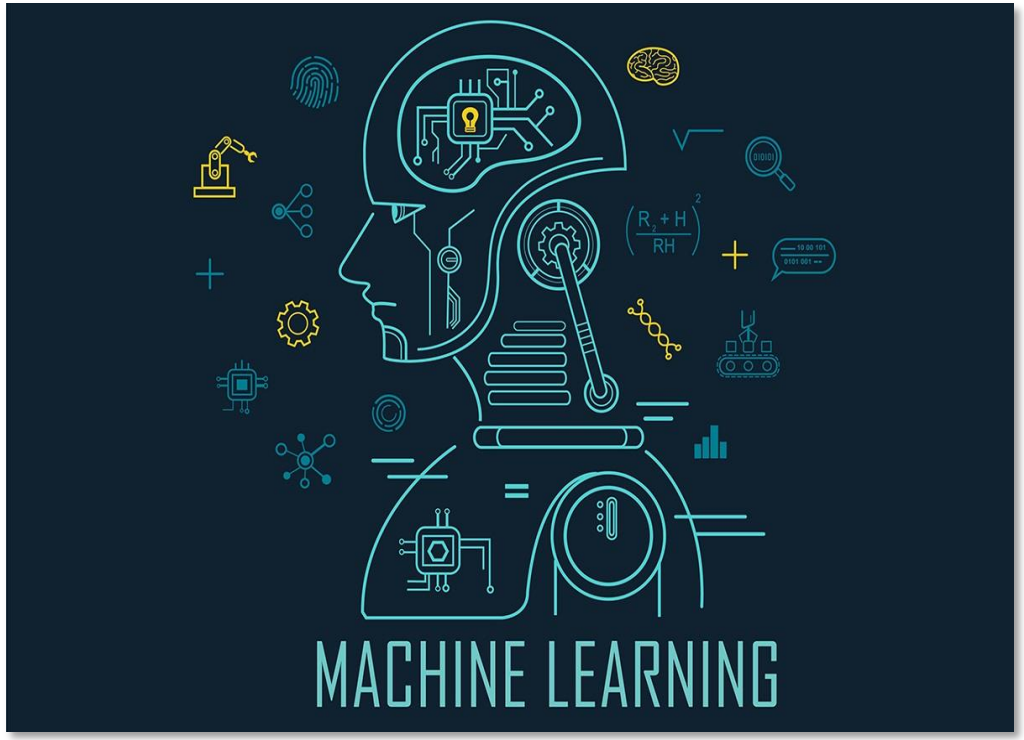
AI vs ML vs DL



Source - https://docs.microsoft.com/en-us/azure/architecture/data-guide/big-data/ai-overview

Machine Learning

- The name Machine Learning was first coined by **Arthur Lee Samuel** in **1959**.
- Samuel defined it as a “field of study that gives computers the ability to learn without being explicitly programmed”.
- It is a branch of artificial intelligence, which is concerned with the design and development of algorithms that allow computers to evolve behaviors based on empirical data.



Source - https://miro.medium.com/max/1400/1*c_fiB-YgbnMl6nntYGBMHQ.jpeg

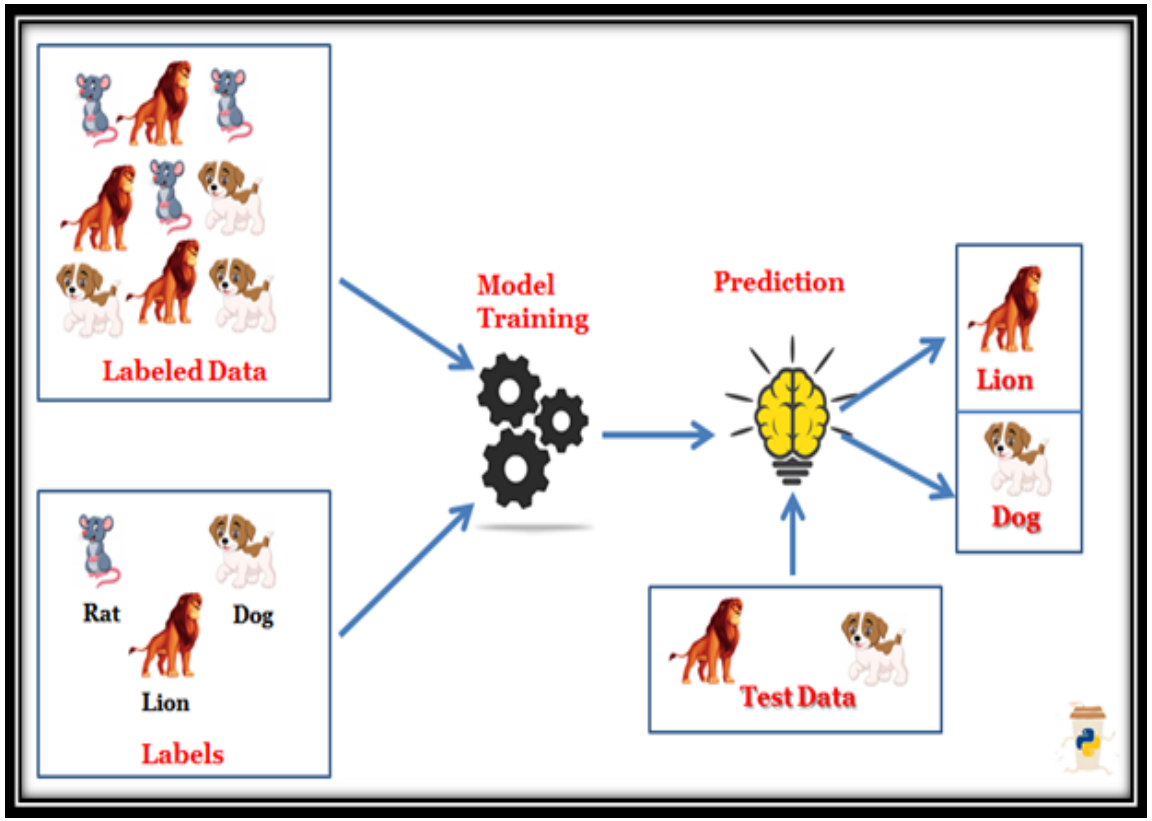
Deep Learning

- Deep learning is a subset of machine learning, which is essentially a neural network with three or more layers. These neural networks attempt to simulate the behaviour of the human brain. And allowing it to “learn” from large amounts of data.

Source - https://bdtechtalks.com/2019/02/15/what-is-deep-learning-neural-networks/

Supervised learning

- Supervised machine learning learns patterns and relationships between input and output data.
- It is defined by its use of labeled data.



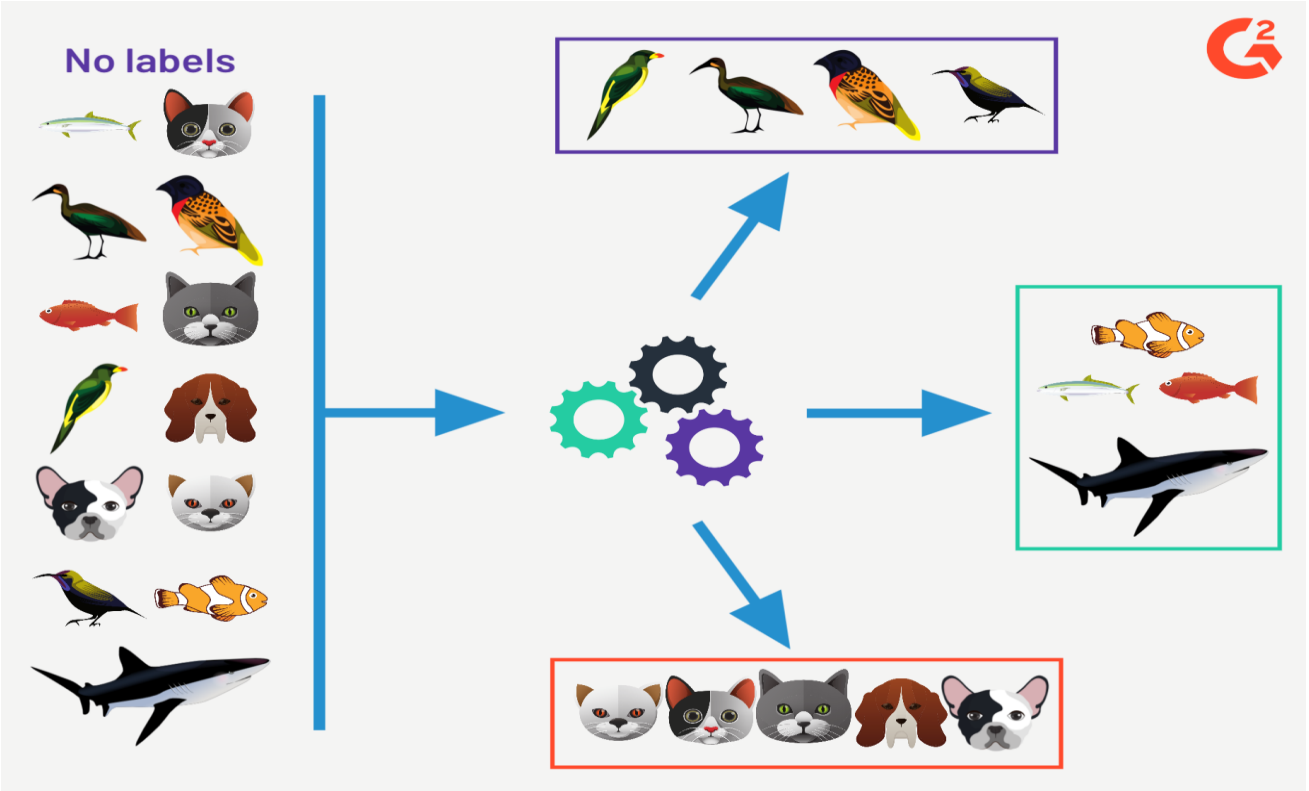
Source - https://laptrinhx.com/supervised-and-unsupervised-machine-learning-1391659628/

TEXT DATA

Height	Weight	size
5.2	72	xxl
6	72	xl
4	32	L
5	58	M

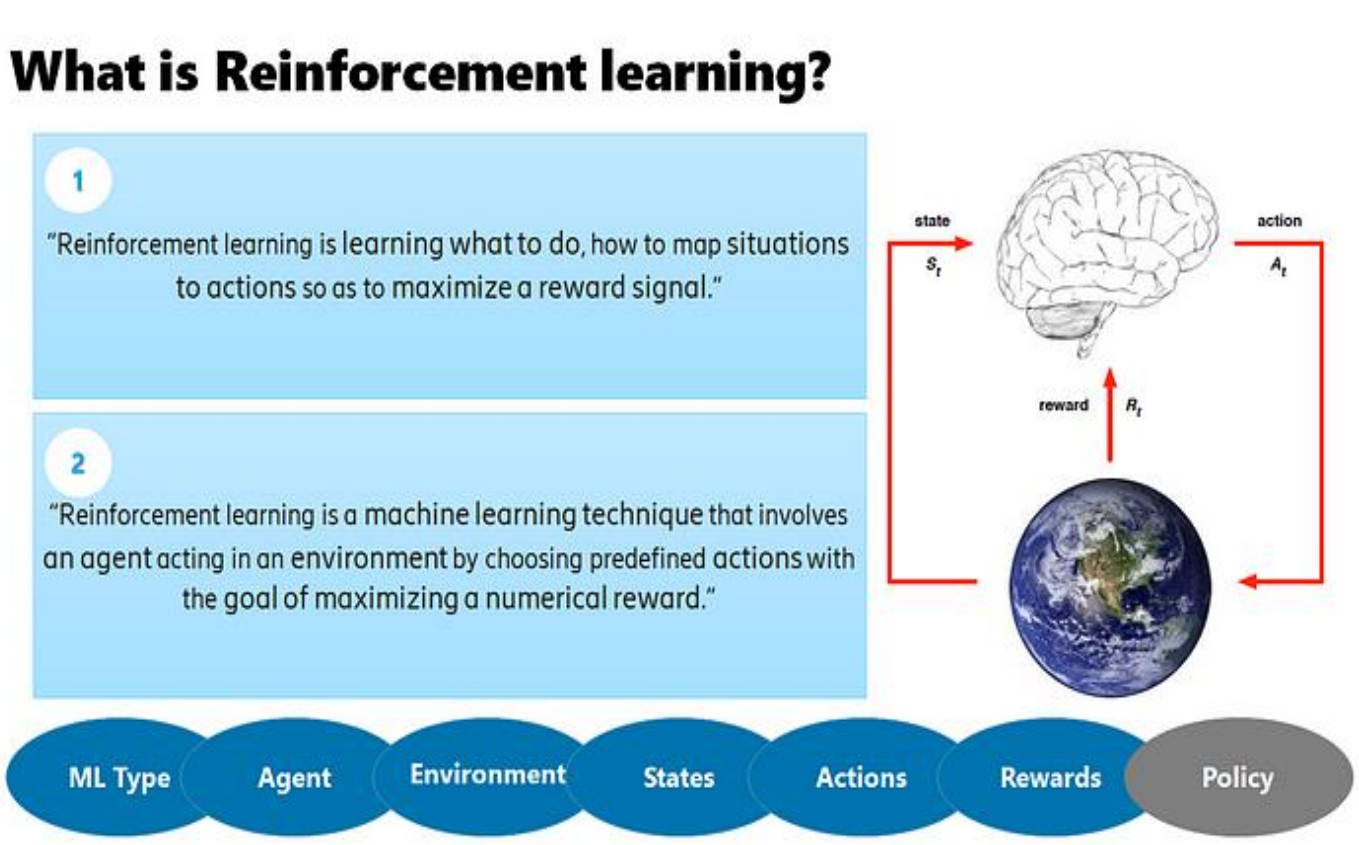
Unsupervised Learning

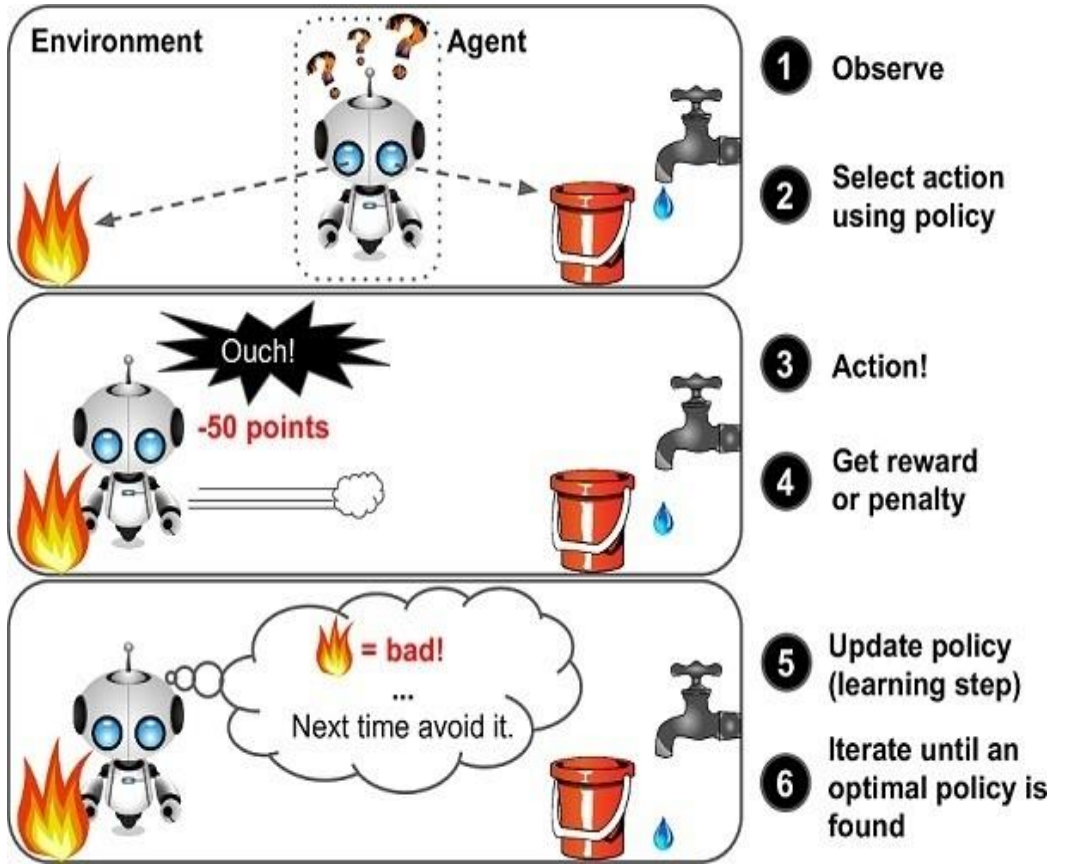
- Requires input data with no particular output.
- The goal of unsupervised learning is to reorganize the input data into a group of objects with similar patterns.



Source - https://www.g2.com/articles/supervised-vs-unsupervised-learning

Reinforcement Learning





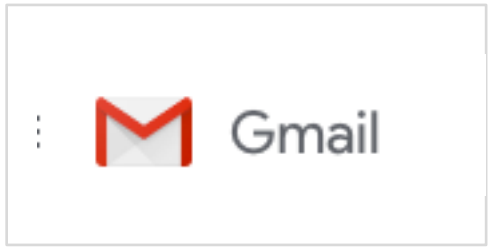
Source - https://medium.com/analytics-vidhya/reinforcement-learning-what-why-and-how-5b27fb0afc1b

Types of AI

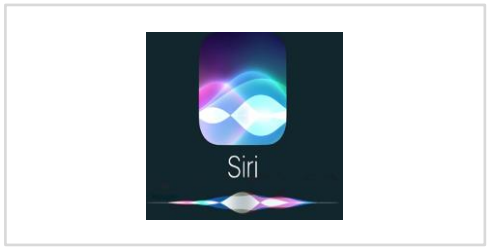
General Purpose Intelligence Operating Autonomously	Narrow Purpose Intelligence Operating Semi-Autonomously
	
“Strong” AI	“Weak” AI

Source - https://www.f5.com/company/blog/al-and-the-role-of-application-services

Where is AI?

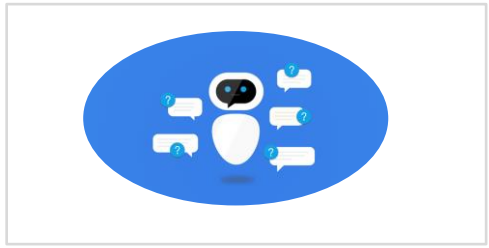

Gmail


Pinterest


Siri


make my trip

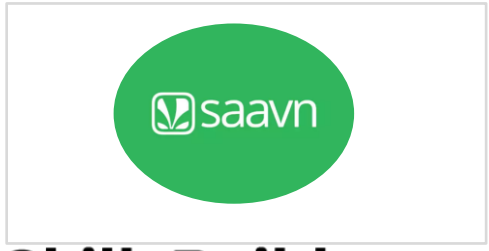

IBM Watson




Uber


amazon


ICICI Bank

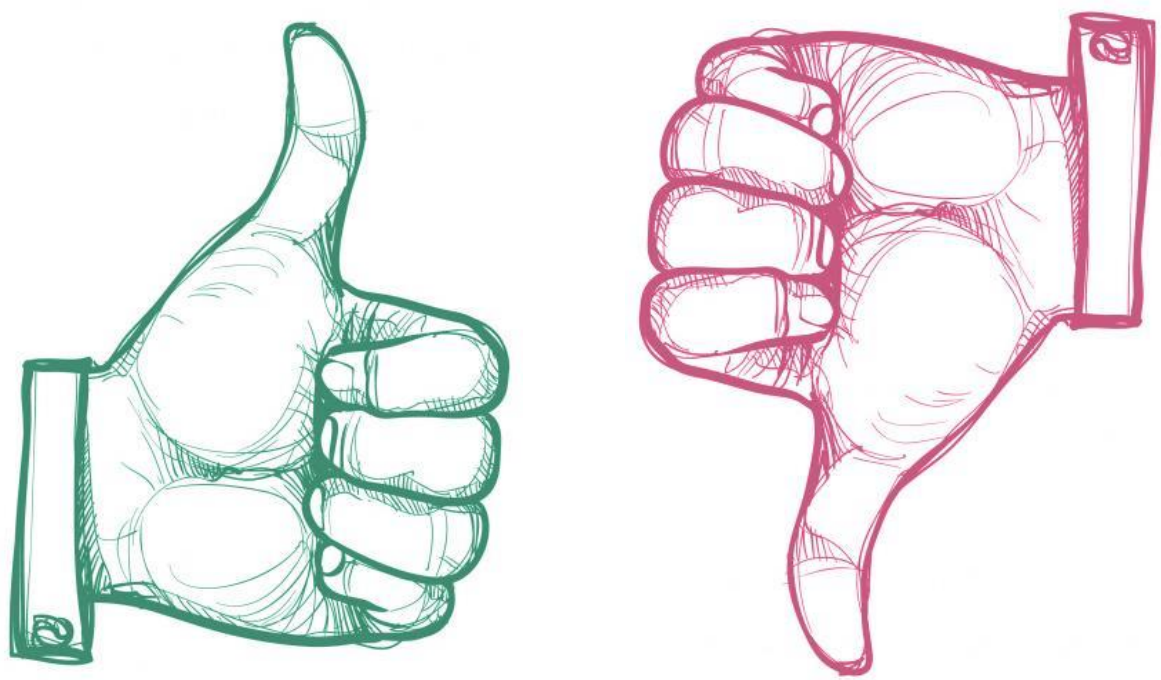

saavn


TESLA


Google


hotstar

What AI can and can not do?



What AI can and can not do?

- Decide if a bulb is working or not by looking at it
- Sympathise with humans
- Differentiate between drawings of circles and rectangles
- Manage a workshop with various different machines
- Compare output value of electronic system to a target value
- Get a job in a multinational company
- Identify compatibility with a familiar machine among various parts
- Identify defective products coming out of an assembly line
- Run a social media account of its own

Some examples of things AI can not do:

Some examples of things AI can do:

Experiencing AI

Real life AI Projects

An **intelligent virtual assistant** (**IVA**) or **intelligent personal assistant** (**IPA**) is a software agent that can perform tasks or services for an individual based on commands or questions.

Cortana was demonstrated for the first time at the Microsoft BUILD Developer Conference in San Francisco in April 2014.

Real life ML Projects - Cleaning ROBOTS

A robotic vacuum cleaner, often called a Roomba as a generic trademark, is an autonomous robotic vacuum cleaner which has intelligent programming and a limited vacuum floor cleaning system.

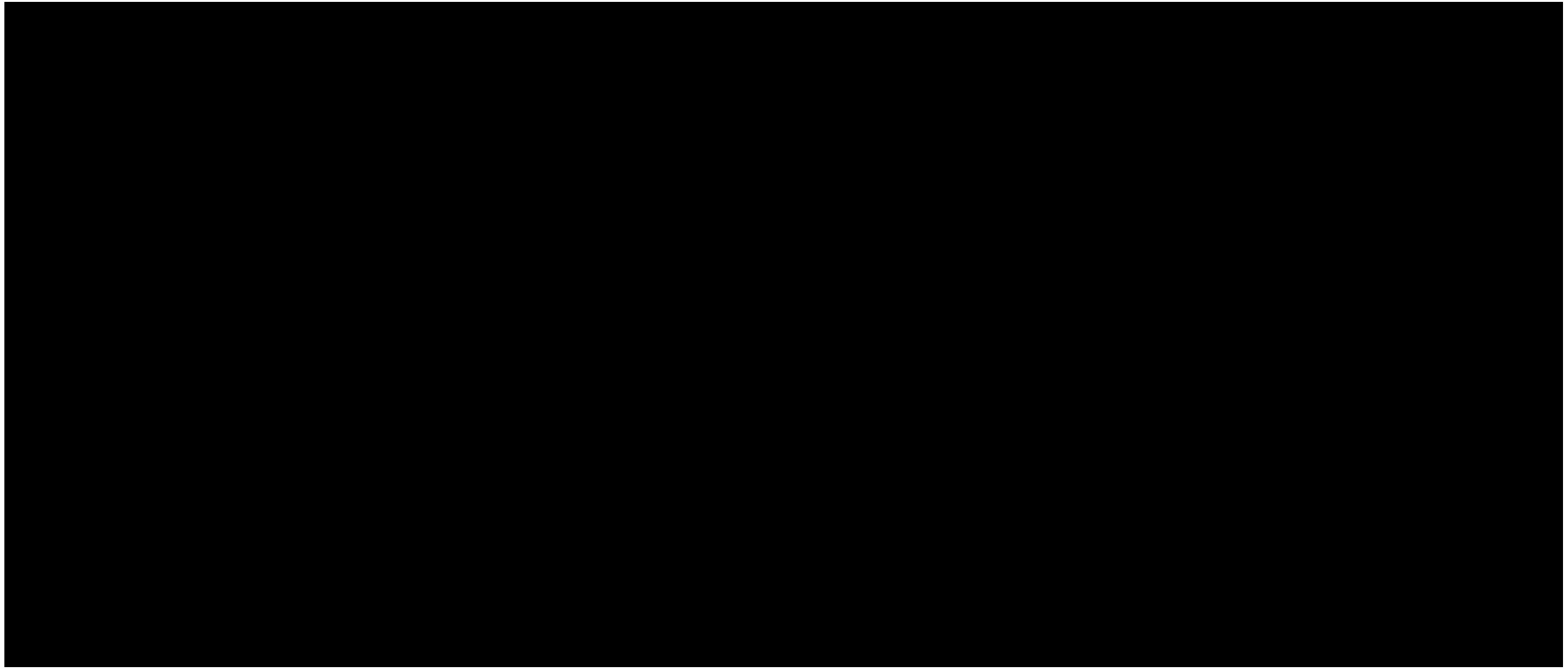
In 2002 iRobot launches the Roomba floor vacuuming robot.

Real life AI Projects- Cleaning ROBOTS

Real life AI Projects

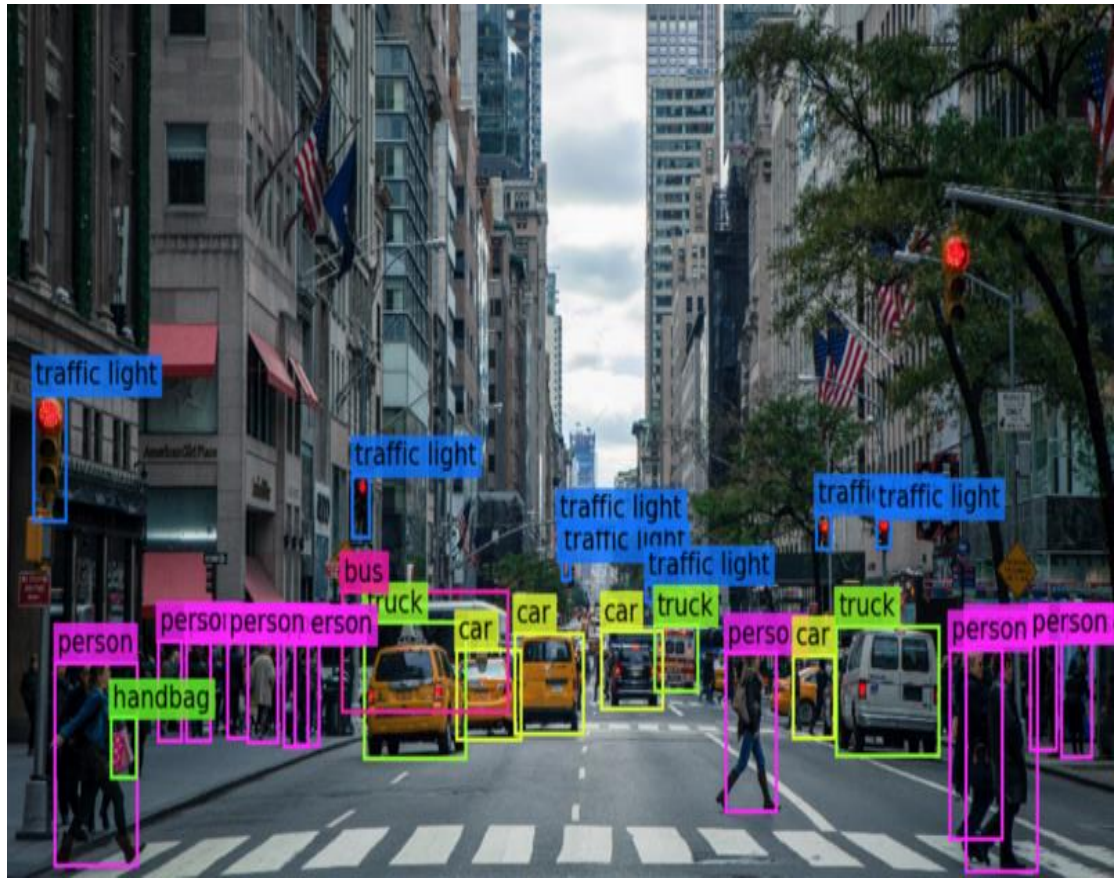
Artificial intelligence in healthcare is an overarching term used to describe the use of machine-learning algorithms and software, or artificial intelligence (AI), to mimic human cognition in the analysis, presentation, and comprehension of complex medical and health care data.

Real life AI Projects – Health Care



Real life AI The AI Computer Vision

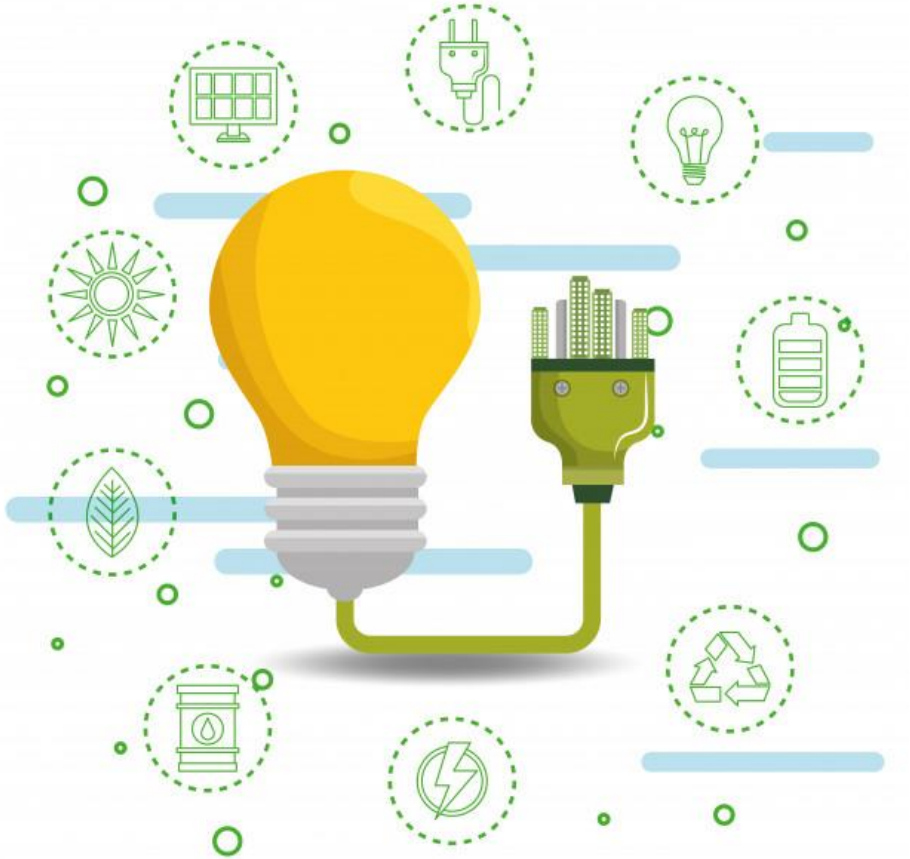
- Computer Vision is a field of AI, that includes methods for acquiring, processing, analyzing, and understanding images.
- It duplicates the abilities of human vision, by training machines to tell objects apart, how far away they are, or whether they are moving.
- Computer Vision includes within itself Image Feature Extraction, Image Captioning, Image Recognition, Image Classification, and Image Processing etc.

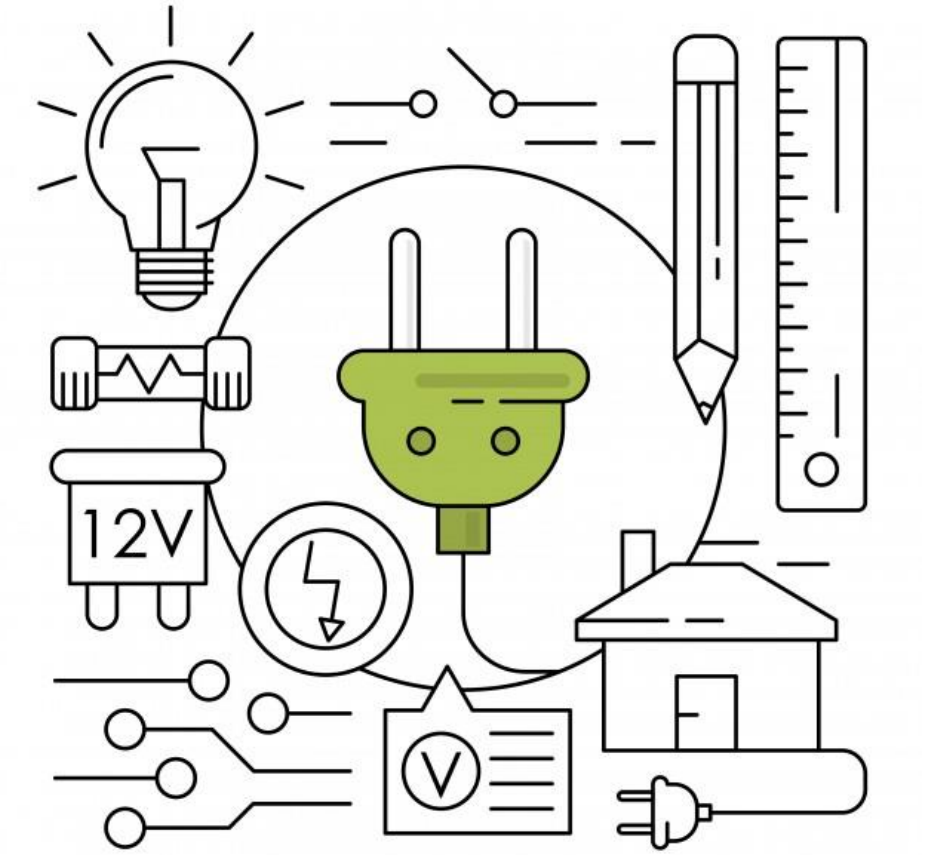


Real life AI Projects

Market opportunities and career in AI

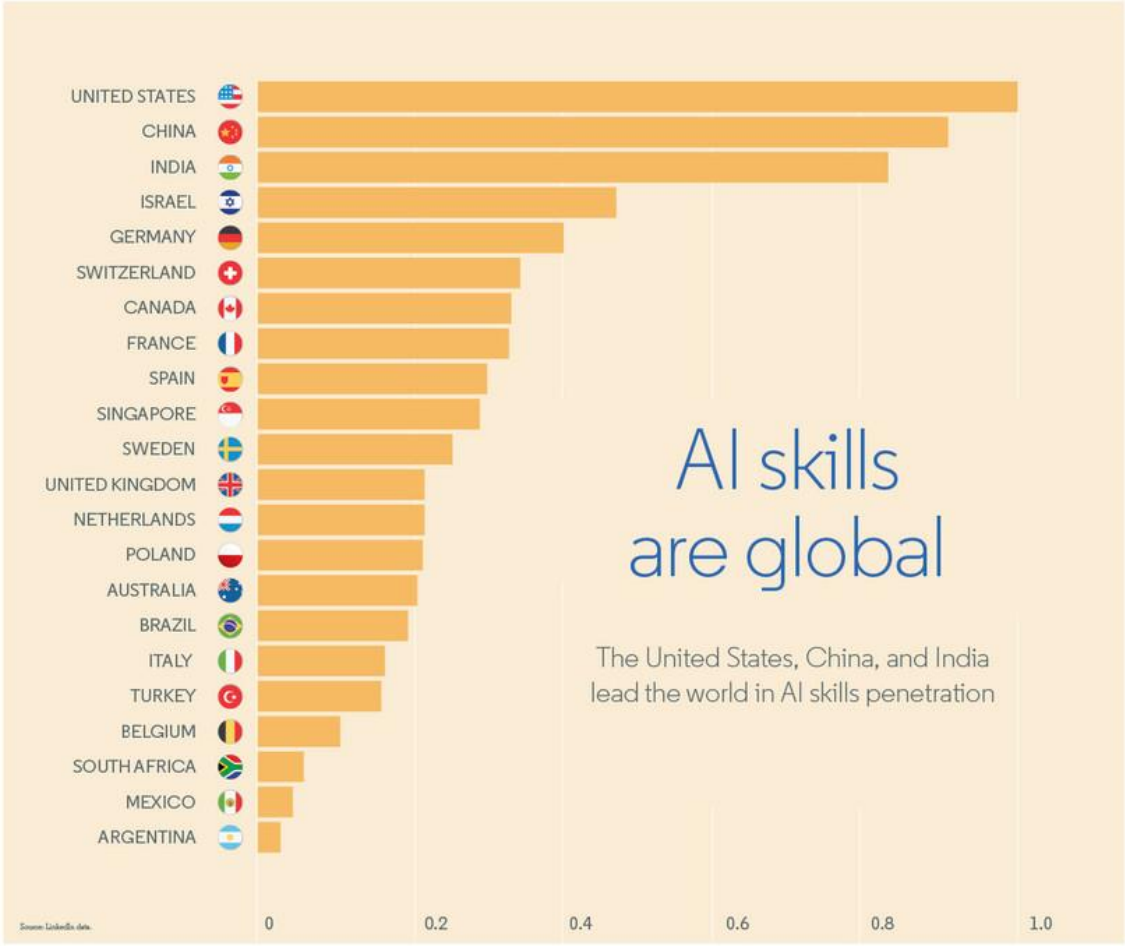
- AI Is The New Electricity





Market opportunities and career in AI

- Future skills are global, and the countries with the highest penetration of such skills are the United States, China, **India**, Israel and Germany.



Source -https://www.weforum.org/agenda/2018/09/artificial-intelligence-shaking-up-job-market/

Job Landscape in AI

According to World Economic Forum, by 2025, new jobs will emerge, and others will be displaced by a shift in the division of labor between humans and machines.

Growing job demand:

1. Data Analysts and Scientists
2. AI and Machine Learning Specialists
3. Big Data Specialists
4. Digital Marketing and Strategy Specialists
5. Process Automation Specialists
6. Business Development Professionals
7. Digital Transformation Specialists
8. Information Security Analysts
9. Software and Applications Developers
10. Internet of Things Specialists

Decreasing job demand:

1. Data Entry Clerks
2. Administrative and Executive Secretaries
3. Accounting, Bookkeeping and Payroll Clerks
4. Accountants and Auditors
5. Assembly and Factory Workers
6. Business Services and Administration Managers
7. Client Information and Customer Service Workers
8. General and Operations Managers
9. Mechanics and Machinery Repairers
10. Material-Recording and Stock-Keeping Clerks

Source: Future of Jobs Report 2020, World Economic Forum.

Thank you...!