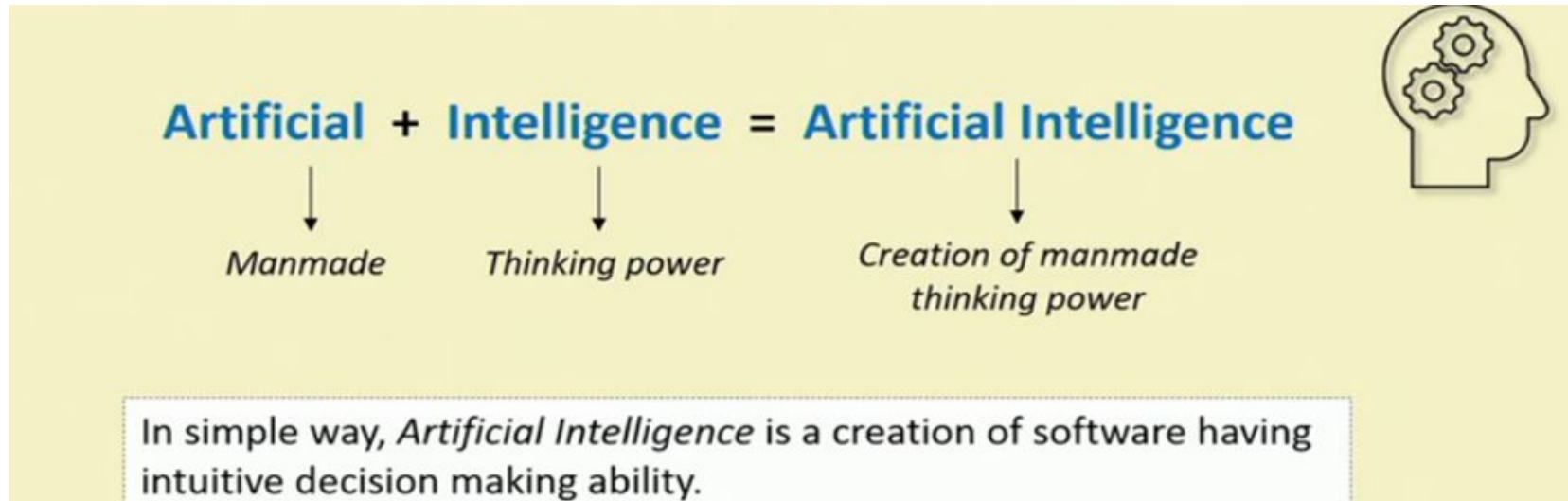


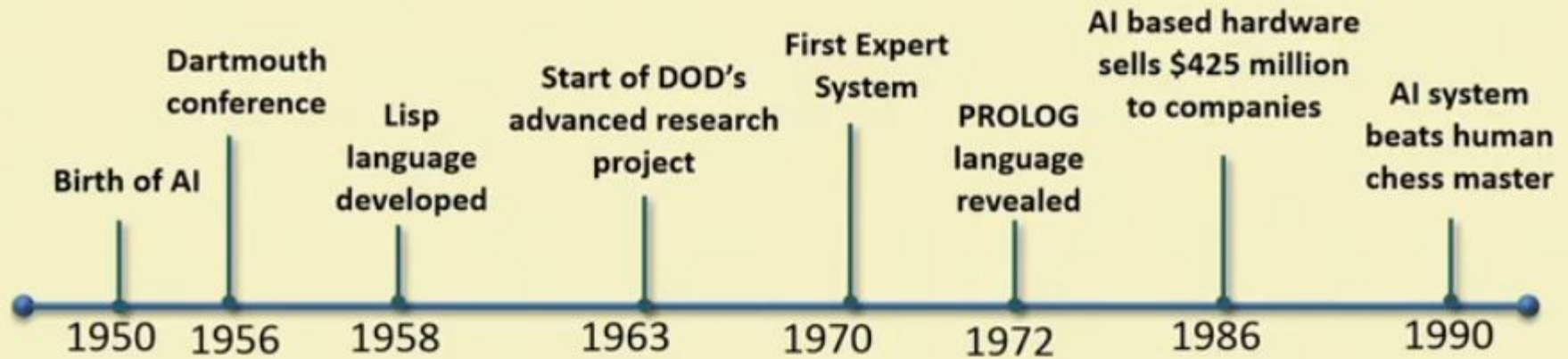
Role of AI

What is AI

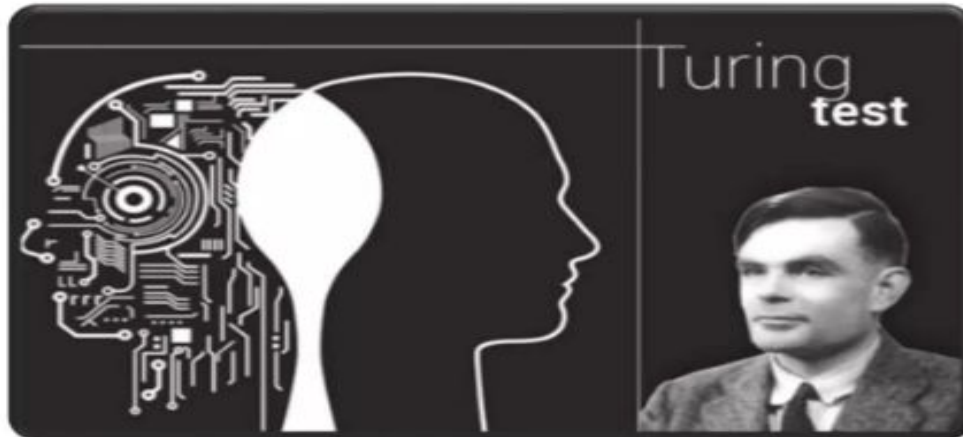


- It is the study of computer systems that attempts to model and apply the intelligence of human mind.
- It simulates the intelligent behaviour in computers
- It is the capability of a machine to immitate intelligent human behaviour.
- <https://youtu.be/uMzUB89uSxU>

The History of AI



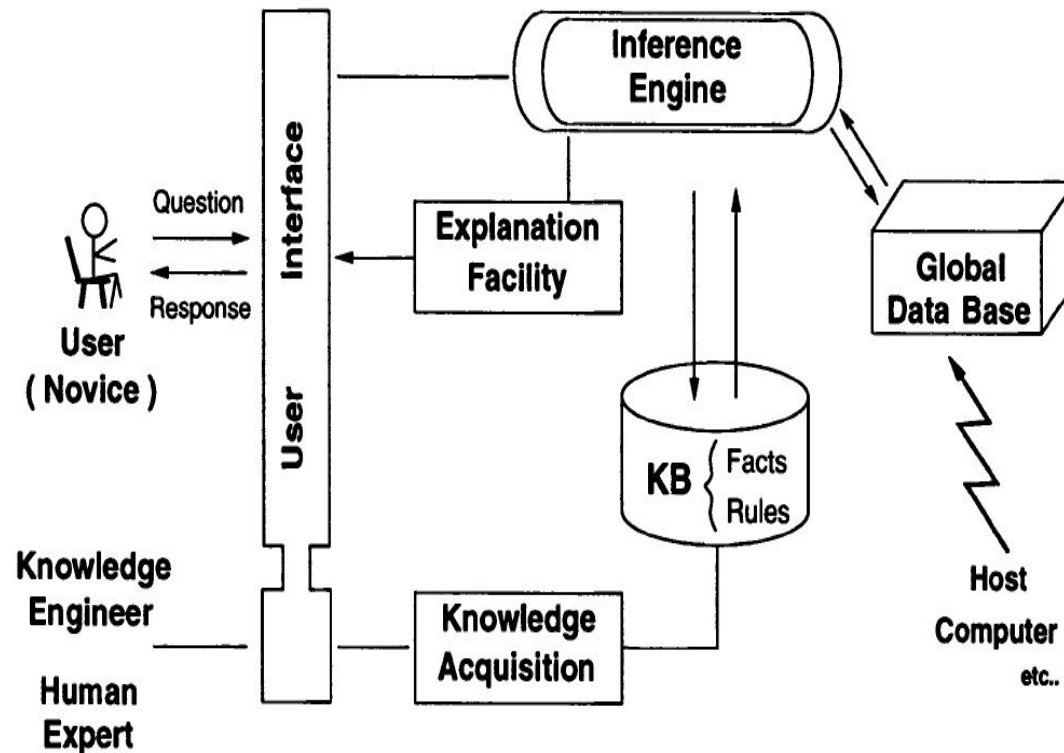
The first use of phrase Artificial Intelligence was proposed by **John McCarthy** in 1956 in the article *A Proposal for Dartmouth Summer Research Project on Artificial Intelligence*



- In 1950 English mathematician Alan Turing wrote a landmark paper titled "Computing Machinery and Intelligence" that asked the question: "Can machines think?"
- Further work came out of a 1956 workshop at Dartmouth sponsored by John McCarthy. In the proposal for that workshop, he coined the phrase a "study of Artificial Intelligence"

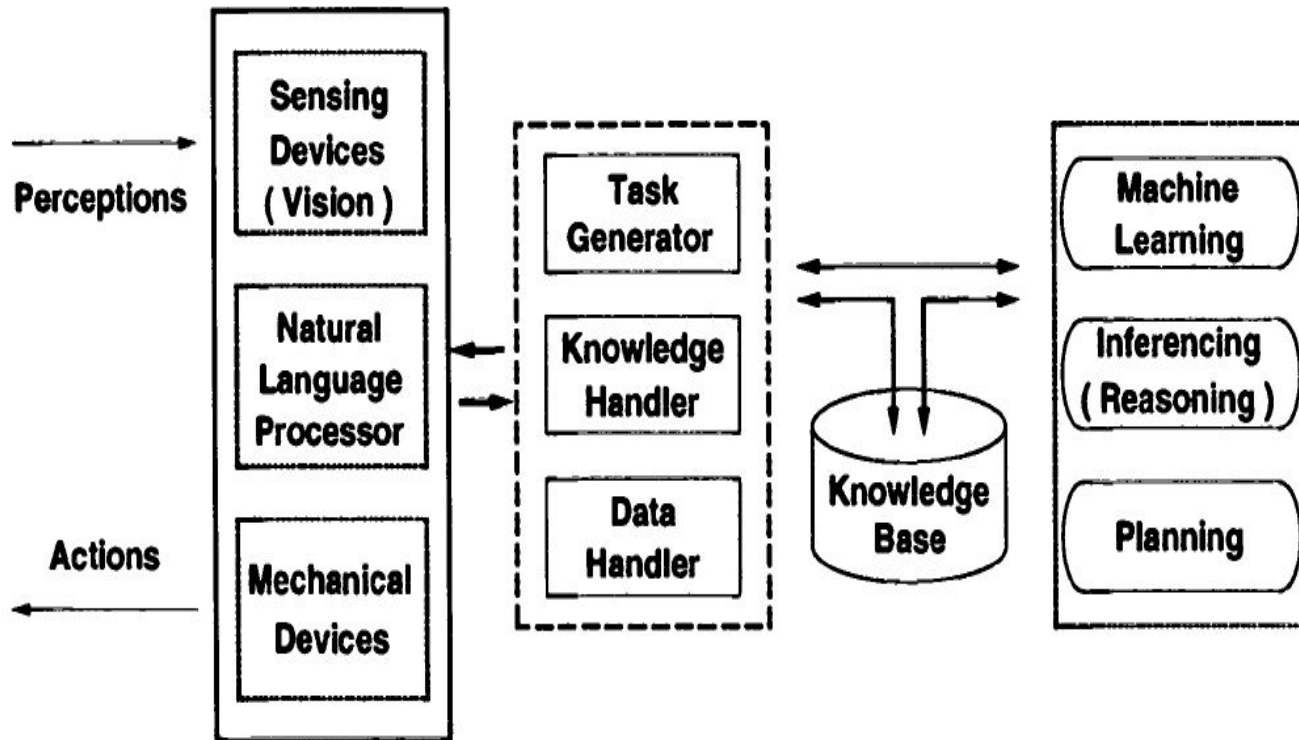
Artificial Intelligence

- An Expert System: One of Conventional AI Products

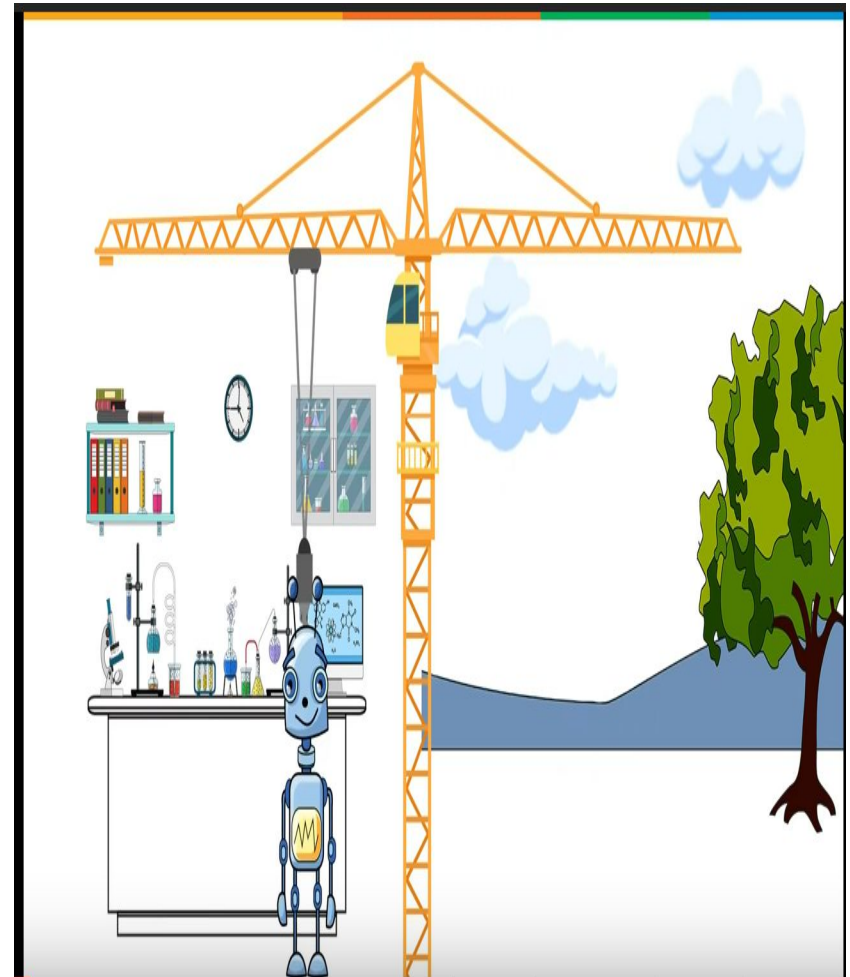
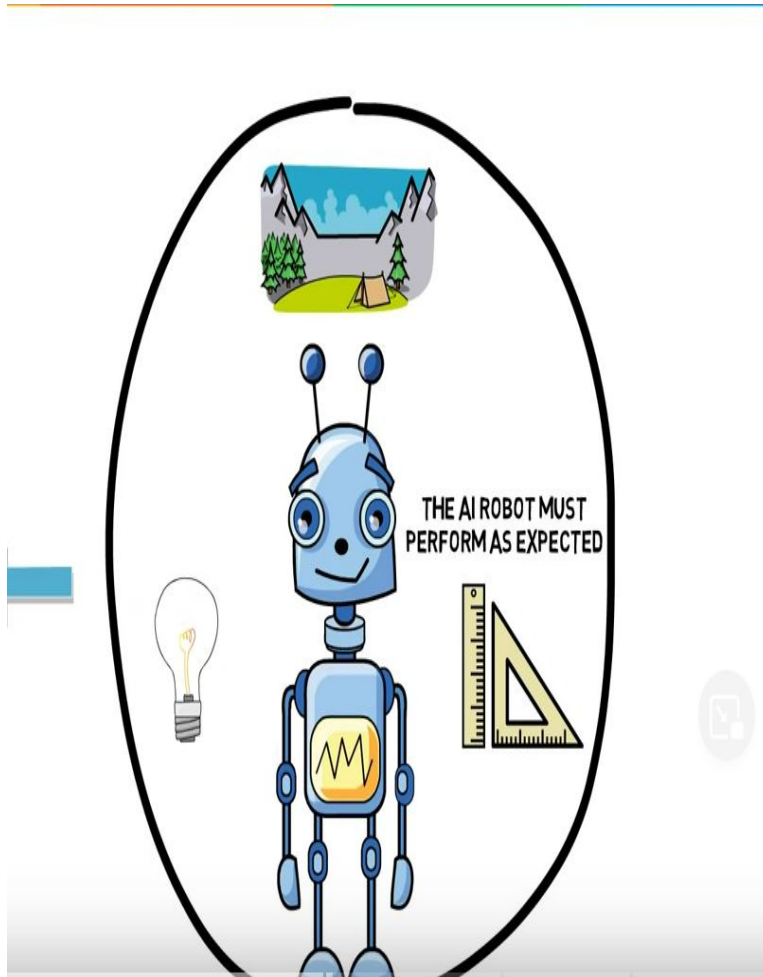


Artificial Intelligence

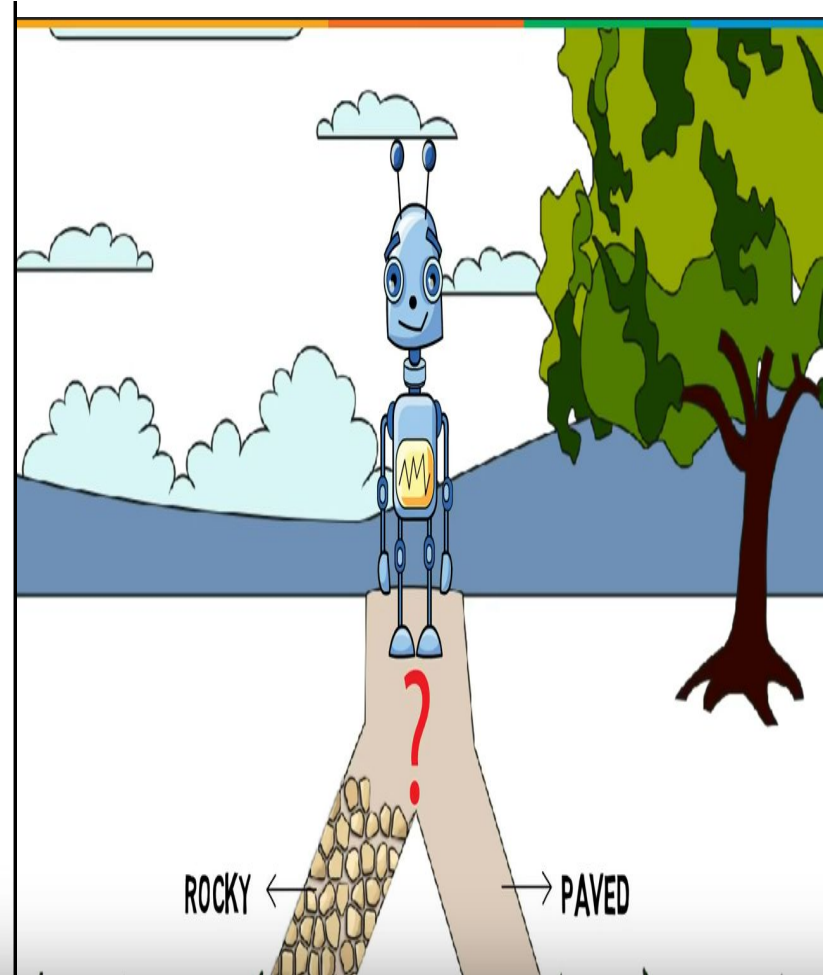
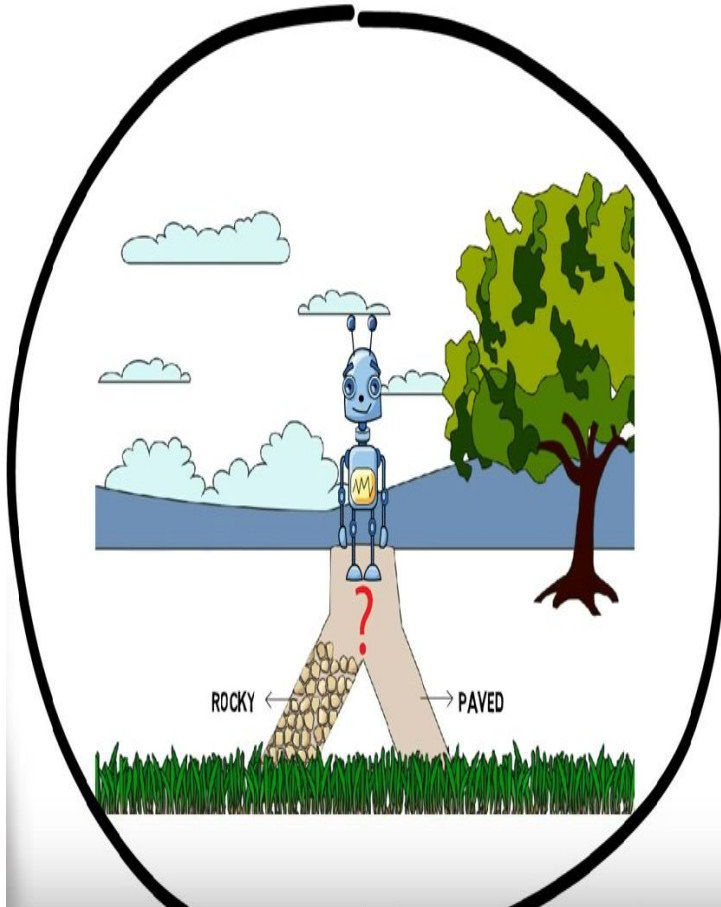
- An Intelligent System



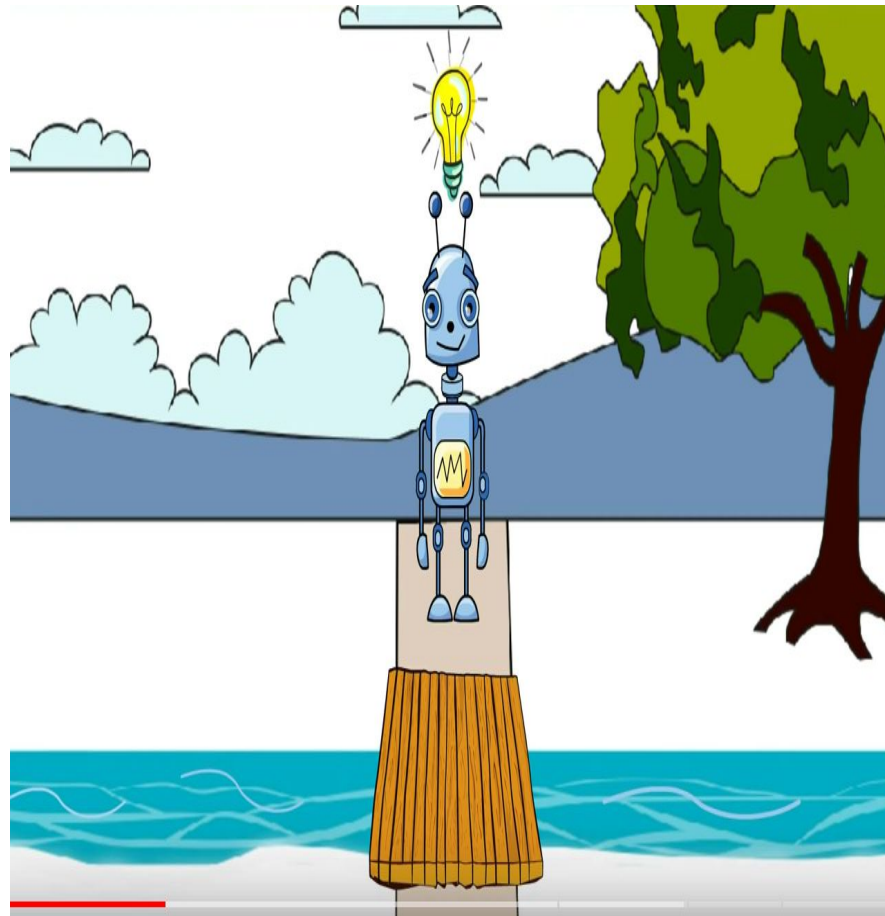
Generalized learning(Example of AI)



Reasoning(Example of AI)



Problem Solving(Example of AI)



Types of Artificial Intelligence

Three Different Types of Artificial Intelligence

Artificial Intelligence Type	Characteristics
Weak artificial intelligence	Machines can learn and judge for clearly defined tasks.
Strong artificial intelligence	Machines think and solve problems independently.
Super artificial intelligence	Machines have intelligence far beyond the human.

- **Weak AI** - Focuses on one task and cannot perform beyond its limitations (common in our daily lives)
- **Strong AI** - Can understand and learn any intellectual task that a human being can (researchers are striving to reach strong AI)
- **Super AI** - Surpasses human intelligence and can perform any task better than a human (still a concept)

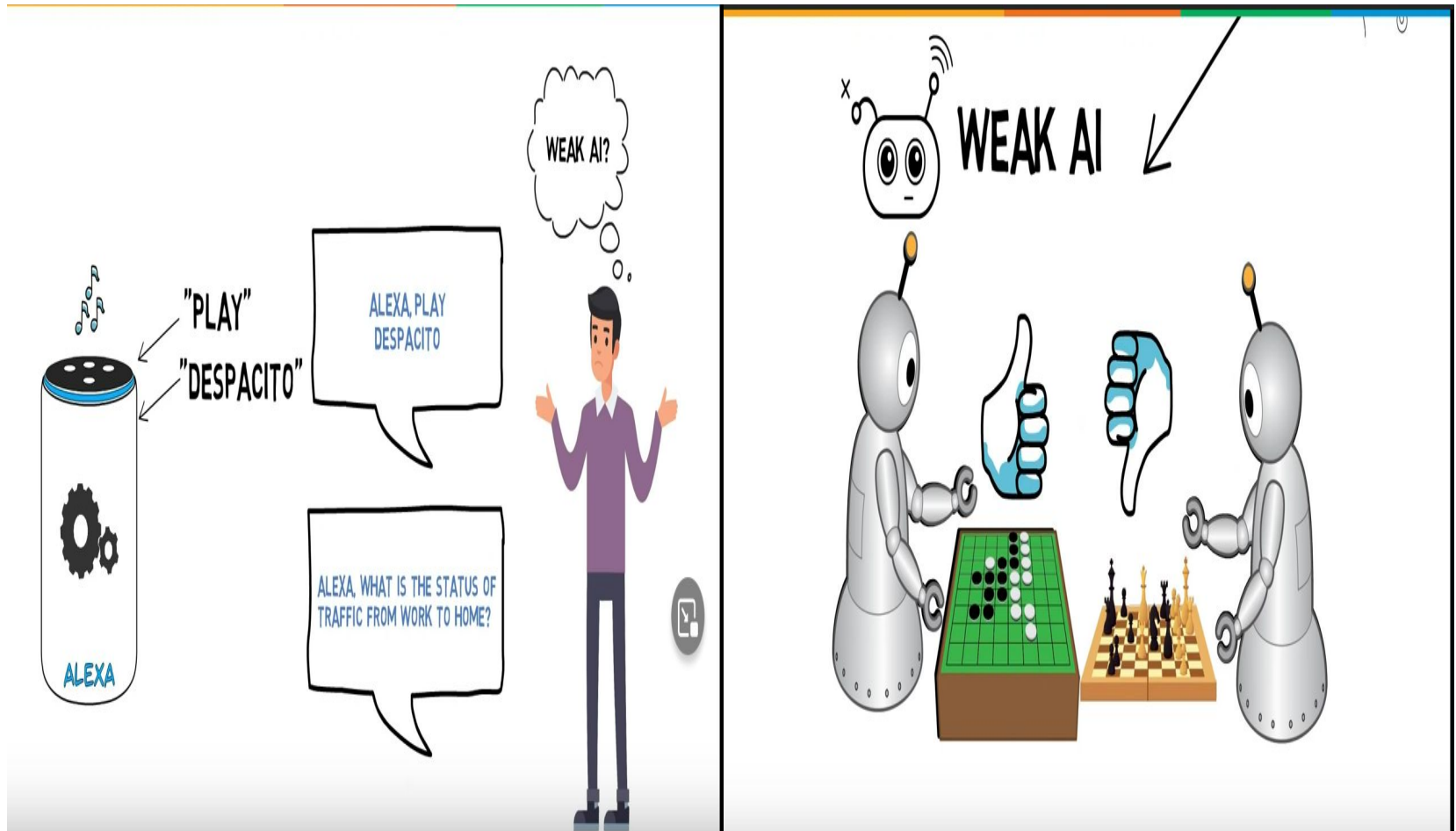
- **Examples of Weak AI**

- Virtual assistants such as Siri and Alexa
- Recommendation engines used by Netflix and Amazon
- Fraud detection software used by financial institutions

Examples of Strong AI

- Self-driving cars
- Pattern and image recognition
- Contextual recommendations

Example of Weak AI

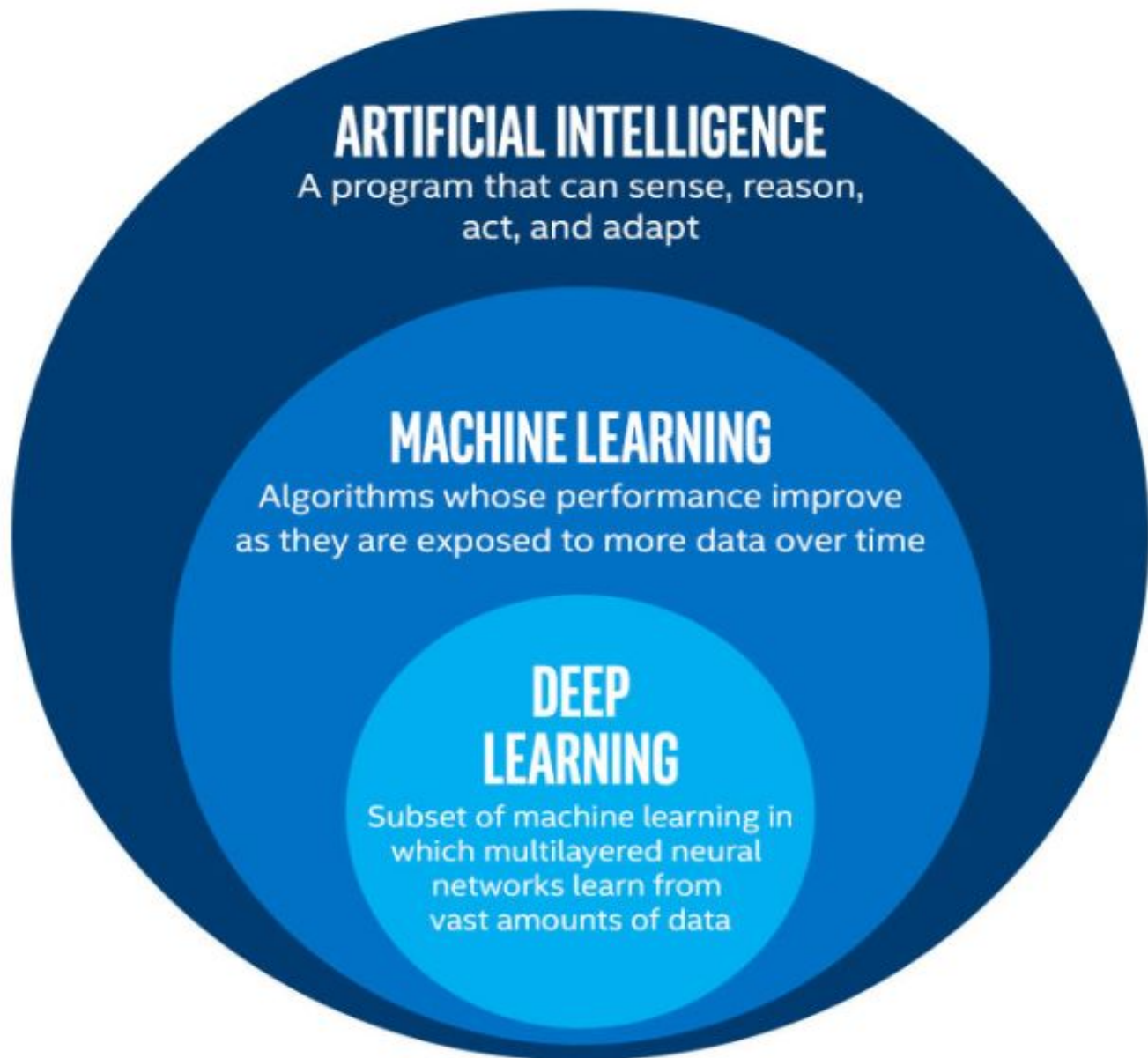


Artificial Intelligence, Machine Learning, Deep Learning



What is the relationship between machine learning and deep learning and artificial intelligence?

AI, machine learning, and deep learning are interchangeable and easily confusing



Artificial Intelligence, Machine Learning, Deep Learning

- **Artificial Intelligence:** Artificial intelligence, also called machine intelligence, can be understood by an intelligence, unlike the natural intelligence shown by humans and animals, which is demonstrated by machines. It looks at ways of designing intelligent devices and systems that can address problems creatively that are often treated as a human prerogative. Thus, AI means that a machine somehow imitates human behavior.
- **Machine Learning:** Machine learning is an AI subset and consists of techniques that enable computers to recognize data and supply AI applications. Different algorithms (e.g., neural networks) contribute to problem resolution in ML.
- **Deep Learning:** Deep learning, often called deep neural learning or deep neural network, is a subset of machine learning that uses neural networks to evaluate various factors with a similar framework to a human neural system. It has networks that can learn from unstructured or unlabeled data without supervision.

Relationship between machine learning and Deep learning and Artificial intelligence

- Machine learning and deep learning can be seen as sub-concepts of artificial intelligence. More precisely, the sub-concept of artificial intelligence is machine learning, and the sub-concept .
- Machine learning is a sub-concept of artificial intelligence and one of the concrete approaches for realizing artificial intelligence of machine learning is deep learning.
- The major aim of ML is to allow the systems to learn by themselves through experience without any kind of human intervention or assistance.

Relationship between machine learning and Deep learning and Artificial intelligence

- Deep learning is a sub-concept of machine learning and can be said to be a system that learns through numerous simulations and trial and error.
- Deep Learning is basically a sub-part of the broader family of Machine Learning which makes use of **Neural Networks**(similar to the neurons working in our brain) to mimic human brain-like behavior.
- DL algorithms focus on **information processing patterns** mechanism to possibly identify the patterns just like our human brain does and classifies the information accordingly.
- DL works on larger sets of data when compared to ML and the **prediction mechanism is self-administered by machines.**

Comparison among AI, ML and DL

Artificial Intelligence	Machine Learning	Deep Learning
AI stands for Artificial Intelligence, and is basically the study/process which enables machines to mimic human behaviour through particular algorithm.	ML stands for Machine Learning, and is the study that uses statistical methods enabling machines to improve with experience.	DL stands for Deep Learning, and is the study that makes use of Neural Networks(similar to neurons present in human brain) to imitate functionality just like a human brain.
AI is the broader family consisting of ML and DL as it's components.	ML is the subset of AI.	DL is the subset of ML.
AI is a computer algorithm which exhibits intelligence through decision making.	ML is an AI algorithm which allows system to learn from data.	DL is a ML algorithm that uses deep(more than one layer) neural networks to analyze data and provide output accordingly.

Source:

<https://www.geeksforgeeks.org/difference-between-artificial-intelligence-vs-machine-learning-vs-deep-learning/>

Comparison among AI, ML and DL Cont...

Artificial Intelligence	Machine Learning	Deep Learning
Search Trees and much complex math is involved in AI.	If you have a clear idea about the logic(math) involved in behind and you can visualize the complex functionalities like K-Mean, Support Vector Machines, etc., then it defines the ML aspect.	If you are clear about the math involved in it but don't have idea about the features, so you break the complex functionalities into linear/lower dimension features by adding more layers, then it defines the DL aspect.
The aim is to basically increase chances of success and not accuracy.	The aim is to increase accuracy not caring much about the success ratio.	It attains the highest rank in terms of accuracy when it is trained with large amount of data.
Three broad categories/types Of AI are: Artificial Narrow Intelligence (ANI), Artificial General Intelligence (AGI) and Artificial Super Intelligence (ASI)	Three broad categories/types Of ML are: Supervised Learning, Unsupervised Learning and Reinforcement Learning	DL can be considered as neural networks with a large number of parameters layers lying in one of the four fundamental network architectures: Unsupervised Pre-trained Networks, Convolutional Neural Networks, Recurrent Neural Networks and Recursive Neural Networks

Source:

<https://www.geeksforgeeks.org/difference-between-artificial-intelligence-vs-machine-learning-vs-deep-learning/>

Comparison among AI, ML and DL Cont...

Artificial Intelligence	Machine Learning	Deep Learning
The efficiency Of AI is basically the efficiency provided by ML and DL respectively.	Less efficient than DL as it can't work for longer dimensions or higher amount of data.	More powerful than ML as it can easily work for larger sets of data.
Examples of AI applications include: Google's AI-Powered Predictions, Ridesharing Apps Like Uber and Lyft, Commercial Flights Use an AI Autopilot, etc.	Examples of ML applications include: Virtual Personal Assistants: Siri, Alexa, Google, etc., Email Spam and Malware Filtering.	Examples of DL applications include: Sentiment based news aggregation, Image analysis and caption generation, etc.
AI refers to the broad field of computer science that focuses on creating intelligent machines that can perform tasks that would normally require human intelligence, such as reasoning, perception, and decision-making.	ML is a subset of AI that focuses on developing algorithms that can learn from data and improve their performance over time without being explicitly programmed.	DL is a subset of ML that focuses on developing deep neural networks that can automatically learn and extract features from data.

Source:

<https://www.geeksforgeeks.org/difference-between-artificial-intelligence-vs-machine-learning-vs-deep-learning/>

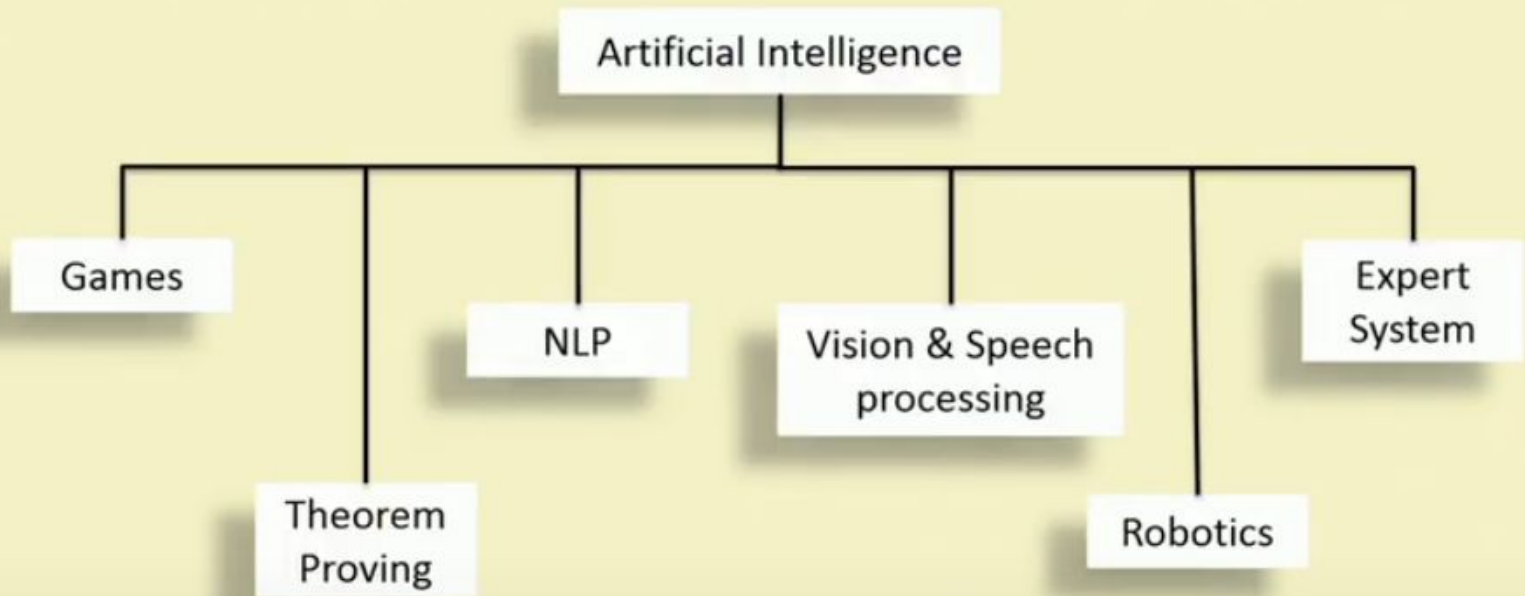
Comparison among AI, ML and DL Cont...

Artificial Intelligence	Machine Learning	Deep Learning
AI can be further broken down into various subfields such as robotics, natural language processing, computer vision, expert systems, and more.	ML algorithms can be categorized as supervised, unsupervised, or reinforcement learning. In supervised learning, the algorithm is trained on labeled data, where the desired output is known. In unsupervised learning, the algorithm is trained on unlabeled data, where the desired output is unknown.	DL algorithms are inspired by the structure and function of the human brain, and they are particularly well-suited to tasks such as image and speech recognition.
AI systems can be rule-based, knowledge-based, or data-driven.	In reinforcement learning, the algorithm learns by trial and error, receiving feedback in the form of rewards or punishments.	DL networks consist of multiple layers of interconnected neurons that process data in a hierarchical manner, allowing them to learn increasingly complex representations of the data.

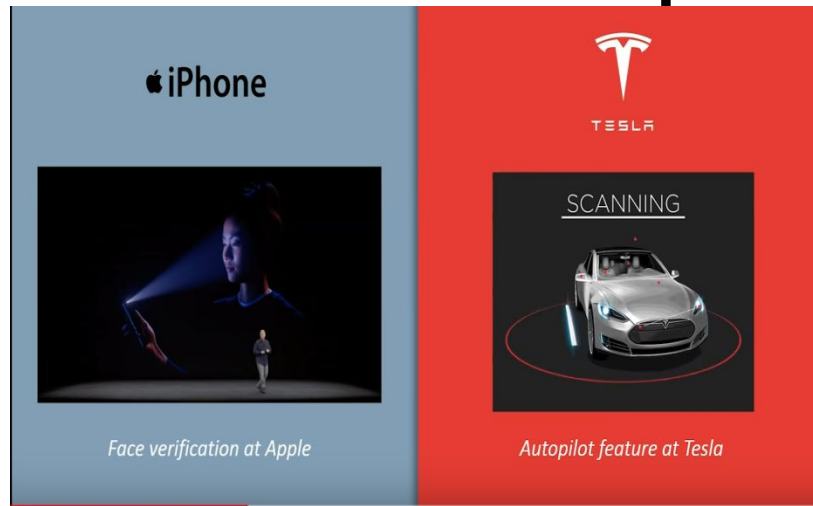
[Source:](https://www.geeksforgeeks.org/difference-between-artificial-intelligence-vs-machine-learning-vs-deep-learning/)
<https://www.geeksforgeeks.org/difference-between-artificial-intelligence-vs-machine-learning-vs-deep-learning/>

Scope of AI

Scopes of AI



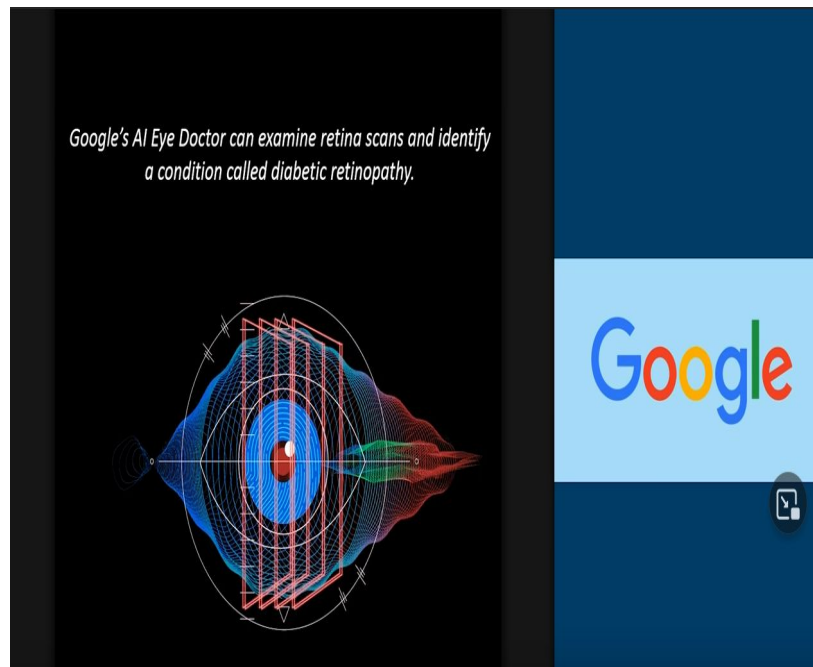
Scope of AI



Artificial Narrow Intelligence



Artificial Narrow Intelligence (ANI) also known as weak AI involves applying AI only to specific tasks.



HANSON
ROBOTICS



The social humanoid, Sophia, built at Hanson Robotics



Google Maps



Finding the optimal path through Google Maps

Scope of AI

Twitter's is using AI to identify hate speech and terroristic language in tweets.




The company discovered and banned 300,000 terrorist-linked accounts, 95% of which were found by non-human, artificially intelligent machines.

Twitter's is using AI to identify hate speech and terroristic language in tweets.

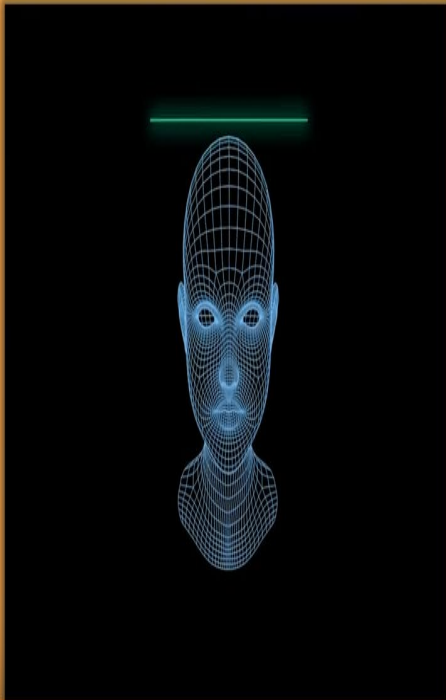
Sara Stewart
Event Manager, BrandEquity

That last session wasn't bad, but it could have used more audience participation.

0 0



Facebook uses Machine Learning & Deep Learning to detect facial features and tag your friends



facebook

Application of AI



Source:

<https://www.slideteam.net/introduction-to-artificial-intelligence-powerpoint-presentation-slides-templates/>

AI in Healthcare

AI Usecase in HealthCare



Source:

<https://www.slideteam.net/introduction-to-artificial-intelligence-powerpoint-presentation-slides.html>

AI in HR

AI Use Cases in Human Resource



LEARNING

- Curated Training
- Skill Development



RECRUITING

- Dynamic Career Sites
- Smart Sourcing



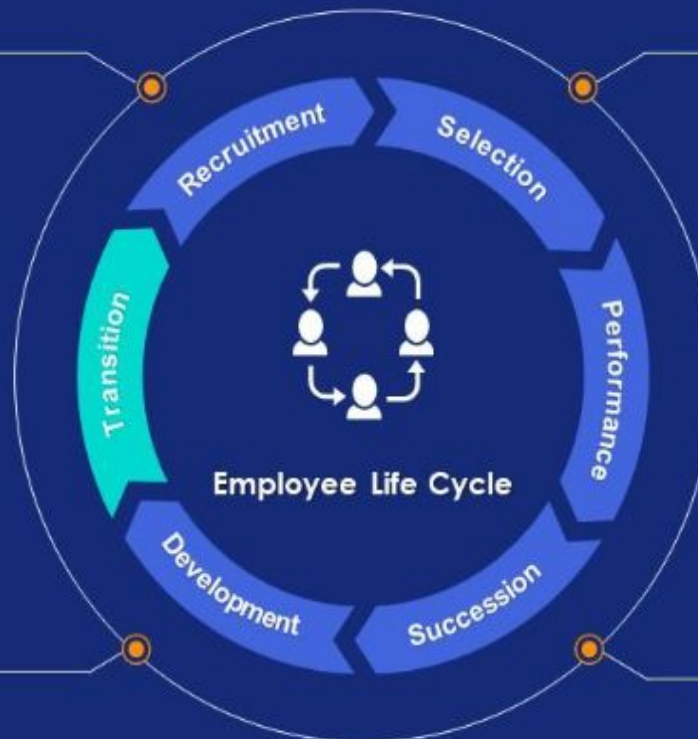
ENGAGEMENT

- HR Chatbot
- Engagement Surveys



ONBOARDING

- Automated Messages
- Curated Videos

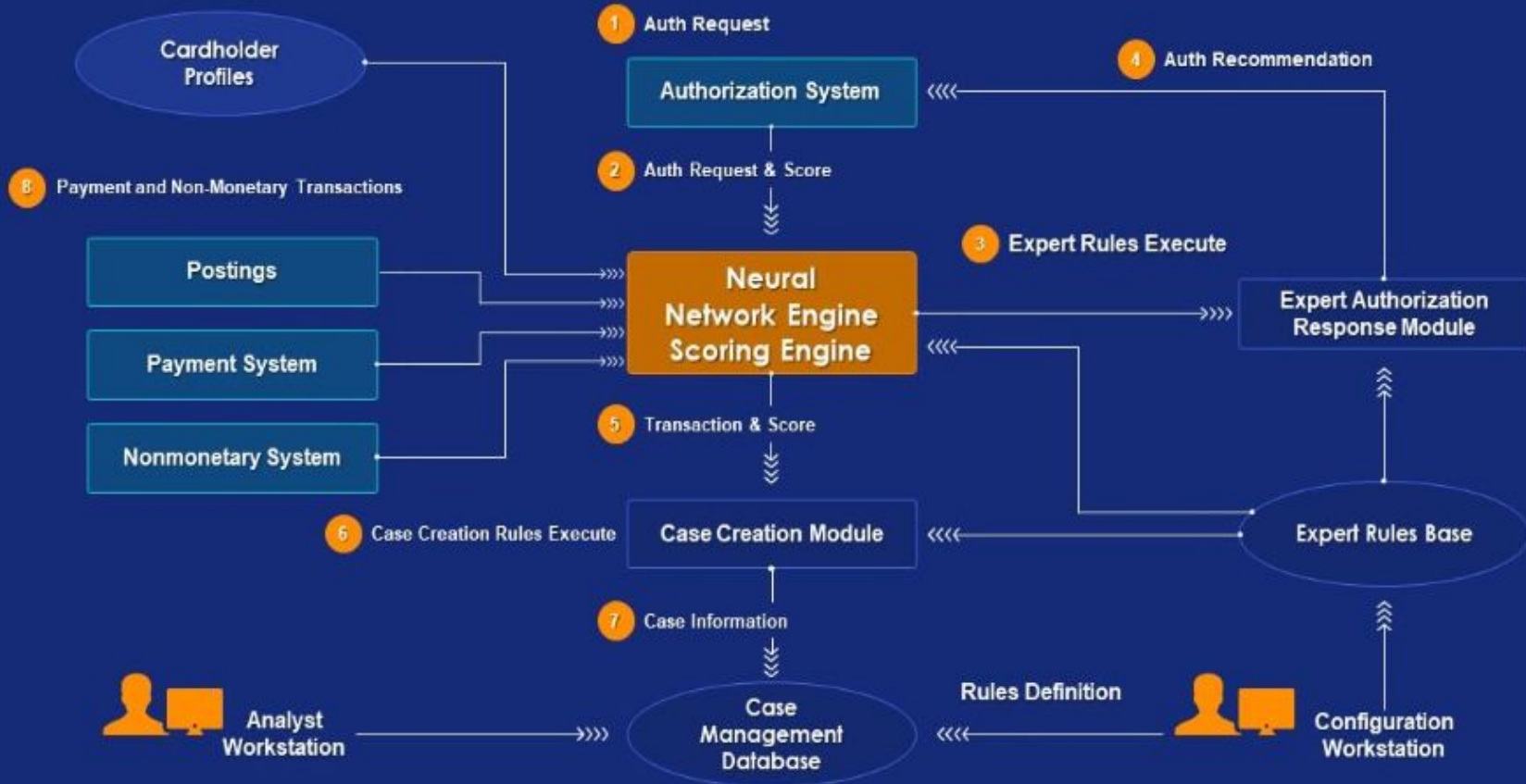


Source:

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AI in Banking

AI in Banking for Fraud Detection



Source:

<https://www.slideteam.net/introduction-to-artificial-intelligence-powerpoint-presentatio>

AI in Supply Chain

AI in Supply Chain

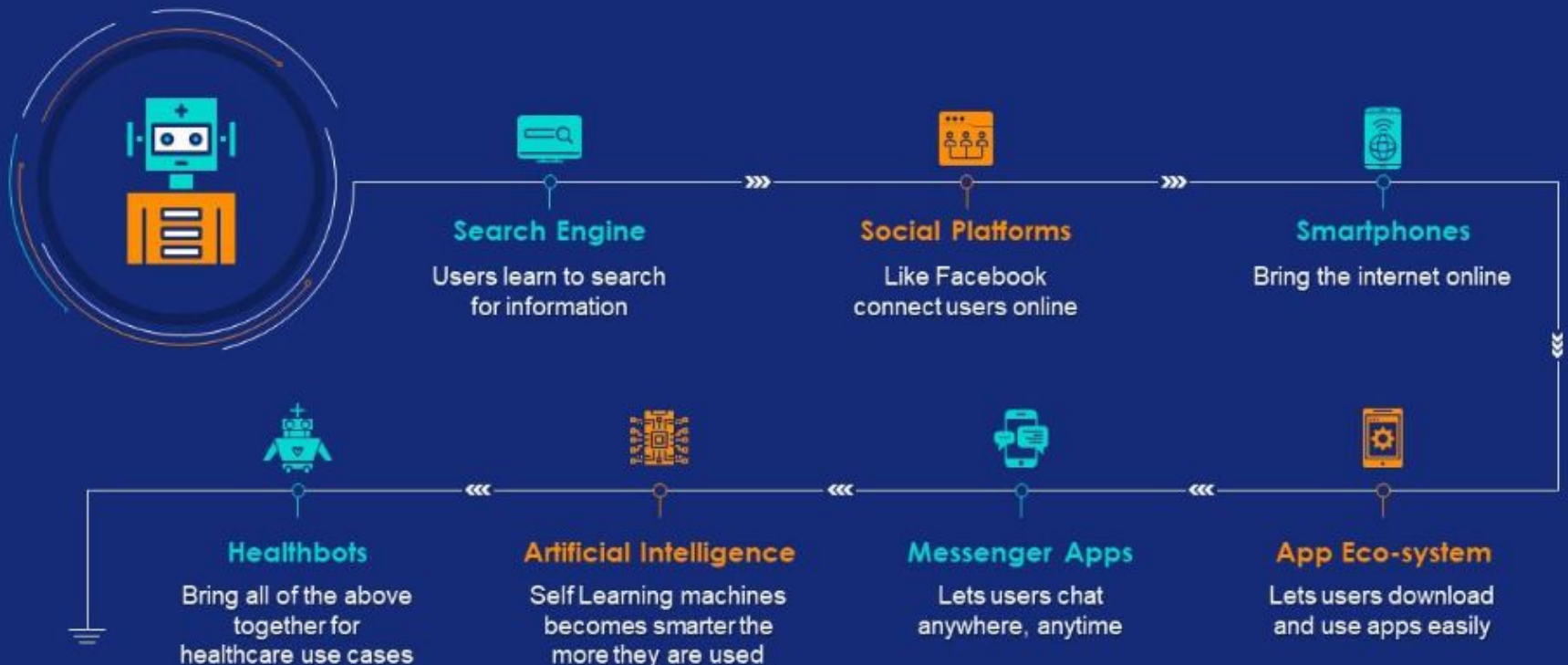


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AI Chatbots in Healthcare

Ai Chatbots in Healthcare



Source:

<https://www.slideteam.net/introduction-to-artificial-intelligence-powerpoint-presentatio>

Why is AI Booming

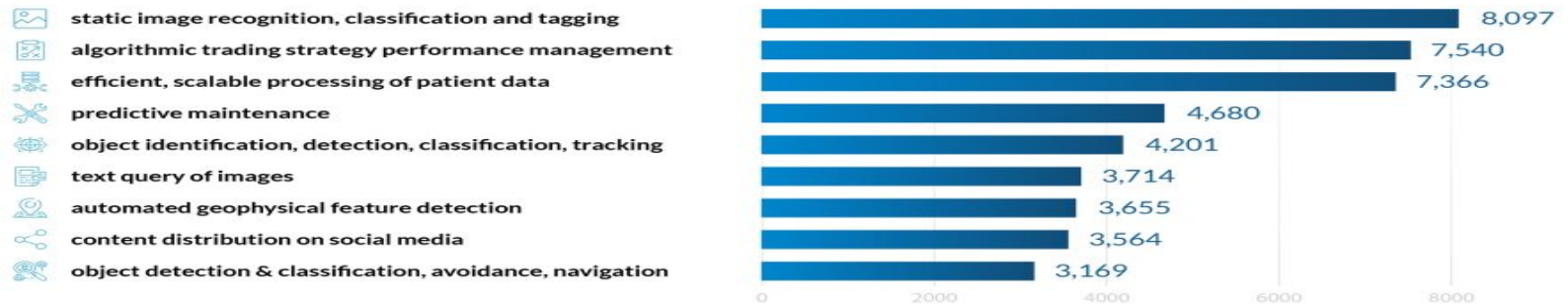
- Increased computing power, big data availability, improved algorithms, industry adoption, and technological convergence has created a favorable environment for the boom of AI in recent years.

Key AI Trends

3 Key AI Trends You Should Know

1 Global AI revenue forecast by 2025, ranked by use case in millions US dollar

Source: Statista



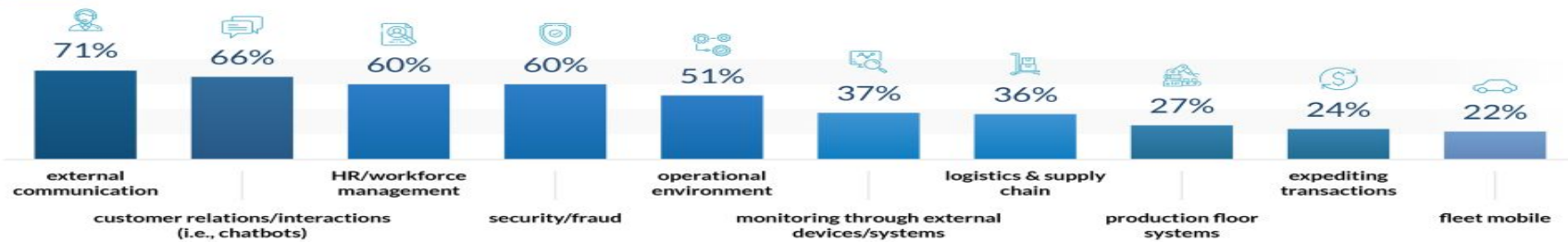
2 Penetration of artificial intelligence skills, by country

Source: Dun & Bradstreet



3 Organizations deploying AI, by functional areas

Source: Medium



Source: <https://financesonline.com/ai-trends/>

10 AI Trend in 2020

10 AI Trend in 2020



Source:

<https://www.slideteam.net/introduction-to-artificial-intelligence-powerpoint-presentatio>

Advantages of AI

- 1. Reduction in Human Error
- 2. Zero Risks
- 3. 24x7 Availability
- 4. Digital Assistance
- 5. New Inventions
- 6. Unbiased Decisions
- 7. Perform Repetitive Jobs
- 8. Daily Applications
- 9. AI in Risky Situations
- 10. Faster Decision-making
- 11. Pattern Identification
- 12. Medical Applications

Source:

<https://www.simplilearn.com/advantages-and-disadvantages-of-artificial-intelligence-artic>

Disadvantages of AI

- 1.Substantial dependency on data
- 2.High Costs
- 3. No Creativity
- 4. Unemployment
- 5. Make Humans Lazy
- 6. No Ethics
- 7. Emotionless
- 8. No Improvement
- 9.Since artificial intelligence learns and makes judgments by itself, a completely different artificial intelligence may be born that deviates from human development intentions at first.
- 10.Bias can be planted in AI

•Source:

<https://www.simplilearn.com/advantages-and-disadvantages-of-artificial-intelligence-article>

How Will Artificial Intelligence Affect Jobs 2023-2030

- The World Economic Forum has estimated that AI will replace some 85 million jobs by 2025. 65% of retail jobs could be automated by that year, which is largely due to technological advancements, rising costs and wages, tight labor markets, and reduced consumer spending.
- Perhaps machines are likely to replace humans in existing simple repetitive tasks due to automation and sensor technology.
- If so, there is a high possibility that humans will do more creative and high-thinking tasks that are difficult for artificial intelligence to do, that is, with little existing data.

Source:

<https://www.nexford.org/insights/how-will-ai-affect-jobs#:~:text=The%20World%20Economic%20Forum%20has,85%20million%20jobs%20by%202025.>

Few useful links

- <https://www.analyticsvidhya.com/blog/2018/05/10-videos-machine-intelligence/>
- Instructors are encouraged to show few videos available in above link **illustrating Amazing Applications of Artificial Intelligence (AI)**

**Thank
You**

