

AI REFLECTION PROJECT CYCLE AND ETHICS

INTRODUCTION TO AI

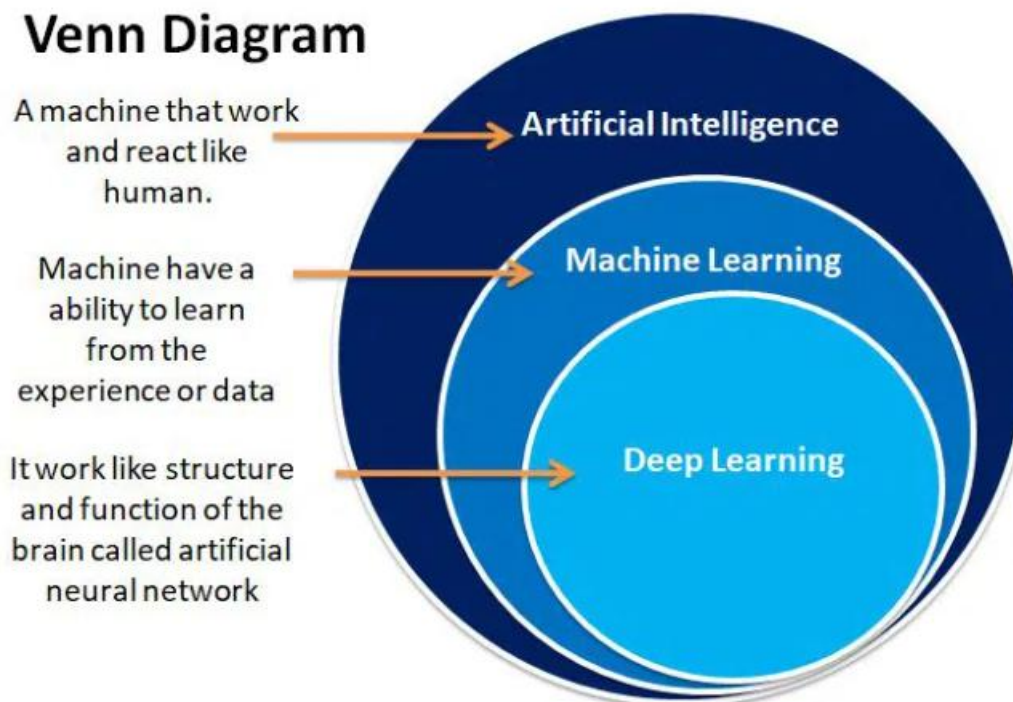
AI stands for artificial intelligence. The term artificial intelligence was coined by Stanford researcher John McCarthy in 1956 and combines the two words artificial and intelligence.

Artificial – Artificial refers to something created or produced by humans rather than existing naturally.

Intelligence – The ability to acquire and use knowledge and skills is referred to as intelligence.

Definition: Artificial intelligence (AI) is the ability of machines to do cognitive tasks such as thinking, perceiving, learning, problem-solving, and decision-making. It is based on how individuals use their brains to observe, learn, figure out, and make decisions

Venn Diagram



- **Artificial Intelligence** – Artificial intelligence (AI) is the simulation of human intelligence in robots that have been trained to think and act like humans. The term can also refer to any machine that demonstrates, like humans, the ability to learn and solve the problem is Artificial Intelligence.
- **Machine Learning** – Machine learning is a part of an Artificial Intelligence application in which we give data to the machine and allow them to learn for themselves. It's essentially getting a machine to accomplish something without being specifically programmed to do so.
- **Deep Learning** – Deep learning is a part of Artificial Intelligence that uses neural networks with multilayer. Deep learning analyzes the data, learns the data and solves the problem the same as a human. Deep

learning requires the machine to be educated with a large quantity of data in order to train itself.

Application of AI

Some of the AI applications are –

- **Face Lock in Smartphones** – Nowadays, mobiles come with face lock systems. In this mobile, the front camera detects and captures the face and matches it with the features image, and if it is matched, then the phone will be unlocked.
- **Smart assistants** – smart assistants like Apple's Siri and Amazon's Alexa—recognise the speech patterns of the user and provide a useful response.
- **Fraud and Risk Detection** – Now AI can identify and prevent fraud-related activities by analysing the data. AI also helps the bank to push their banking products based on the customer's purchasing power.
- **Medical Imaging** – The AI application is used to read and convert 2D scan images into interactive 3D models that enable medical professionals to gain a detailed understanding of a patient's health condition.

Three Domains of Artificial Intelligence

There are three types of domain in Artificial Intelligence.

1. Computer Vision (CV)
2. Data Statistics (Data for AI)
3. Natural Language Processing (NLP)

1. Computer Vision (CV)

Computer vision allows computers and systems to extract useful information from digital photos, videos, and other visual inputs. The goal of Computer Vision is to take necessary action after identifying an object or person in a digital image.

2. Data Statistics (Data for AI) –

Data statistics is a collection of facts, observations, or measurements used to analyse the data using mathematical methods to make decisions. Data statistics is a part of data science and helps the system to collect a large amount of data, analyse it, interpret it, maintain sets of data, and extract meaning from them using mathematical formulas.

Rock, Paper, Scissors is an easy game to play. Each player chooses one of the three things (typically by creating the appropriate hand shape on three counts!) and the following rules are used to determine who won that round:

- Paper wraps (beats) Rock
- Scissors cut (beat) Paper
- Rock blunts (beats) Scissors

3. Natural Language Processing (NLP)

Natural language processing (NLP) is a branch of artificial intelligence. Natural language Processing has the ability to understand text and spoken words in the same manner that humans can.

AI Games related to Natural language Processing (NLP)

- Semantris is a word association game developed by the Google team that uses machine learning to make associations between words.