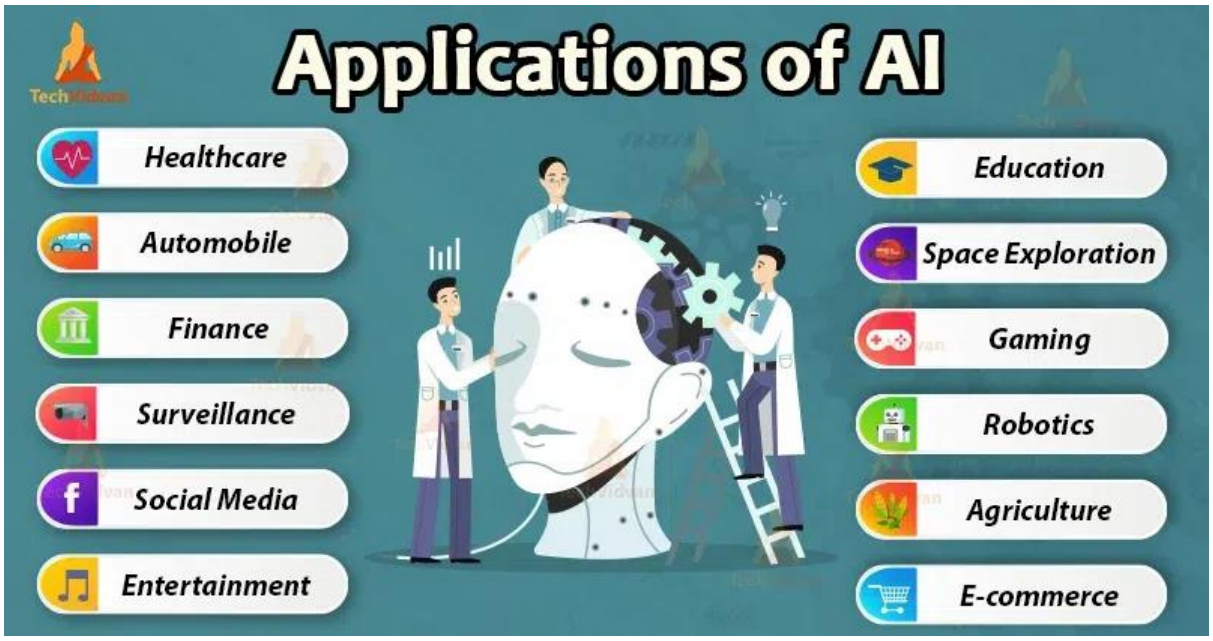
## MODULE-01

## INDIVIDUAL TASK

- **Research And Present A Timeline Showing Major Milestones In Al History.**

**Introduction to Artificial Intelligence.**

- Artificial Intelligence (AI) is the simulation of of human intelligence processes by machines, machines, especially computer systems.
- It has evolved through decades of research, development, and innovation.
- This presentation highlights key milestones in the history of AI from its inception to the present day.

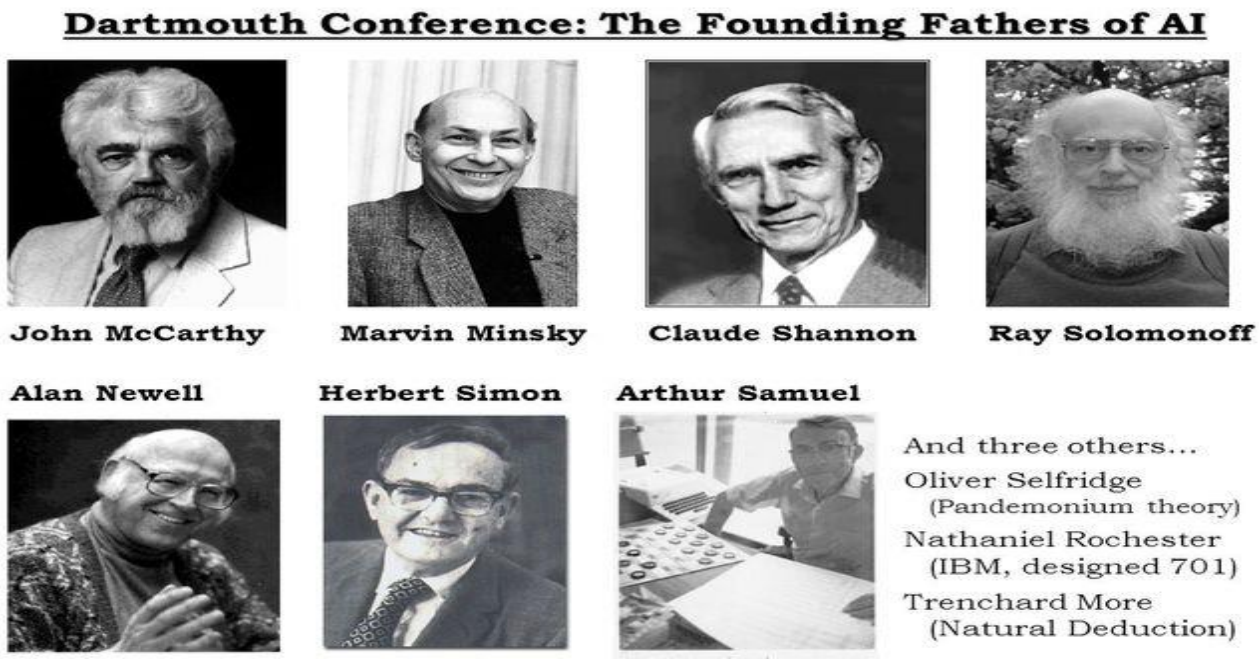



**Early Foundations of AI (1940s-1950s):**

- The formal foundation of AI was laid in the the 1940s and 1950s with the development of development of early computational theories.
- Alan Turing proposed the Turing Test in 1950 as a measure of machine intelligence.
- The term "Artificial Intelligence" was coined by John McCarthy in 1956 during the Dartmouth Conference.

**The Dartmouth Conference (1956):**

- The Dartmouth Conference is considered the the birth of AI as a formal field of research.
- Researchers like Marvin Minsky, John McCarthy, Nathaniel Rochester, and Claude Shannon attended.
- The goal was to find ways to make machines simulate human intelligence.




**Early AI Programs (1950s-1960s):**

- The Logic Theorist (1956), developed by Newell and Simon, was one of the first AI programs capable of theorem proving.
- ELIZA (1964-1966), created by Joseph Weizenbaum, simulated human conversation using pattern matching.
- These early programs demonstrated that machines could perform tasks previously thought to require human intelligence.

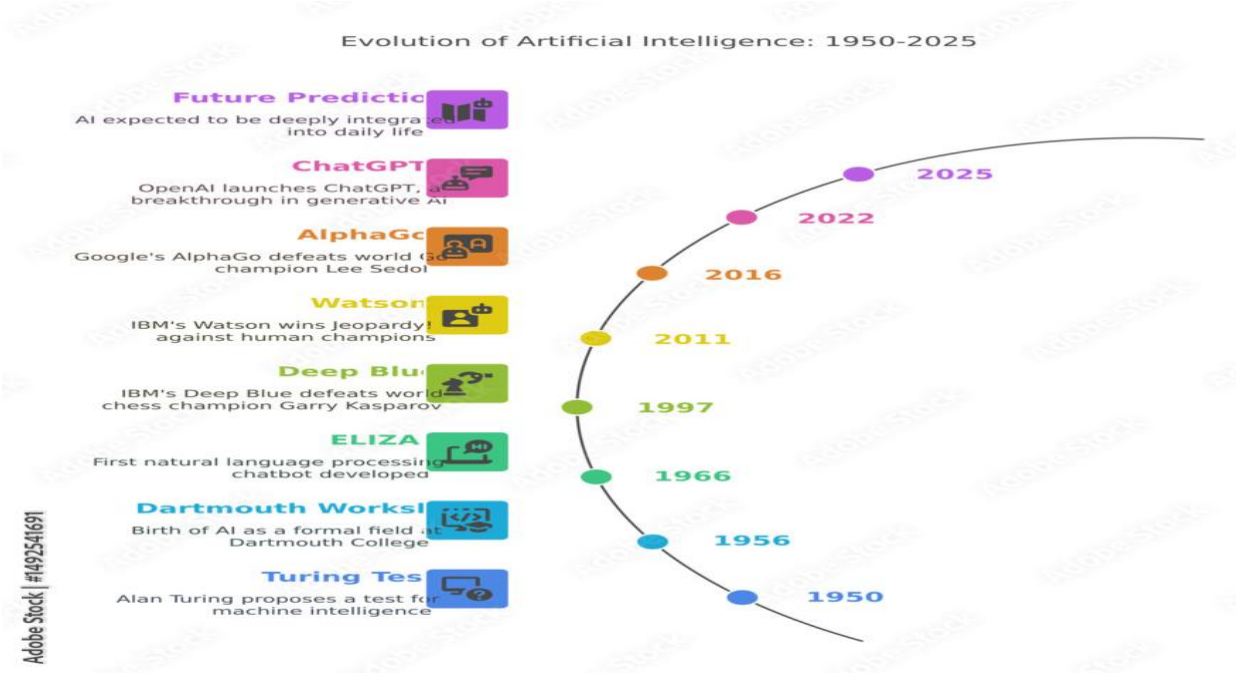
**The Rise of Expert Systems (1970s):**

- Expert systems, like MYCIN (1970s), aimed to mimic decision-making abilities of human experts.

- MYCIN was designed to diagnose blood infections and recommend treatments.
- The success of expert systems sparked commercial interest and further research in AI.

**AI Winter I (1974-1980):**

- Due to high expectations and limited computational power, funding for AI research decreased significantly.
- The limitations of early AI systems became apparent, leading to a period known as the "AI Winter."
- Researchers faced skepticism about the feasibility of achieving human-like intelligence.




**Revival with Machine Learning (1980s):**

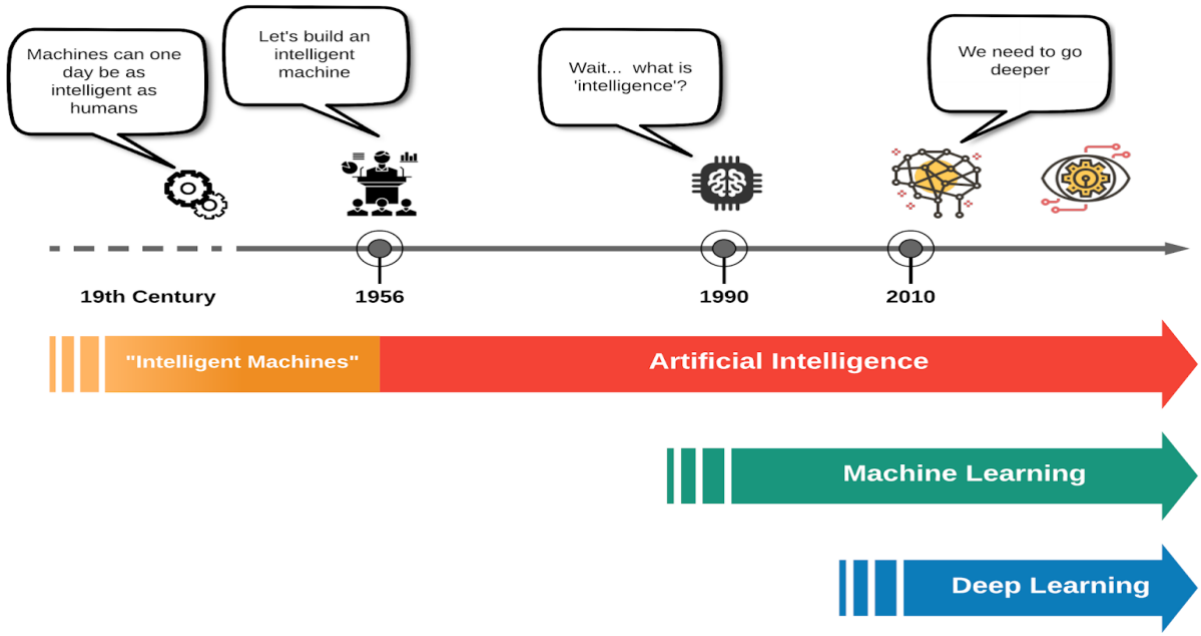
- The 1980s saw a resurgence in AI with the development of machine learning algorithms.
- Researchers focused on enabling machines to learn from data rather than relying solely on predefined rules.
- Neural networks gained renewed interest with the invention of backpropagation algorithms.

**The Rise of Data and Big Data (1990s):**

- The growth of the internet and digital data provided new opportunities for training AI models.
- Support Vector Machines and decision trees became popular machine learning techniques.
- AI applications expanded into areas like speech recognition and computer vision.

**Deep Learning Emerges (2000s):**

- Deep learning, a subset of machine learning involving neural networks with many layers, gained prominence.
- Technologies like convolutional neural networks (CNNs) advanced image and speech recognition.
- Breakthroughs in hardware, such as GPUs, enabled training of complex deep neural networks.



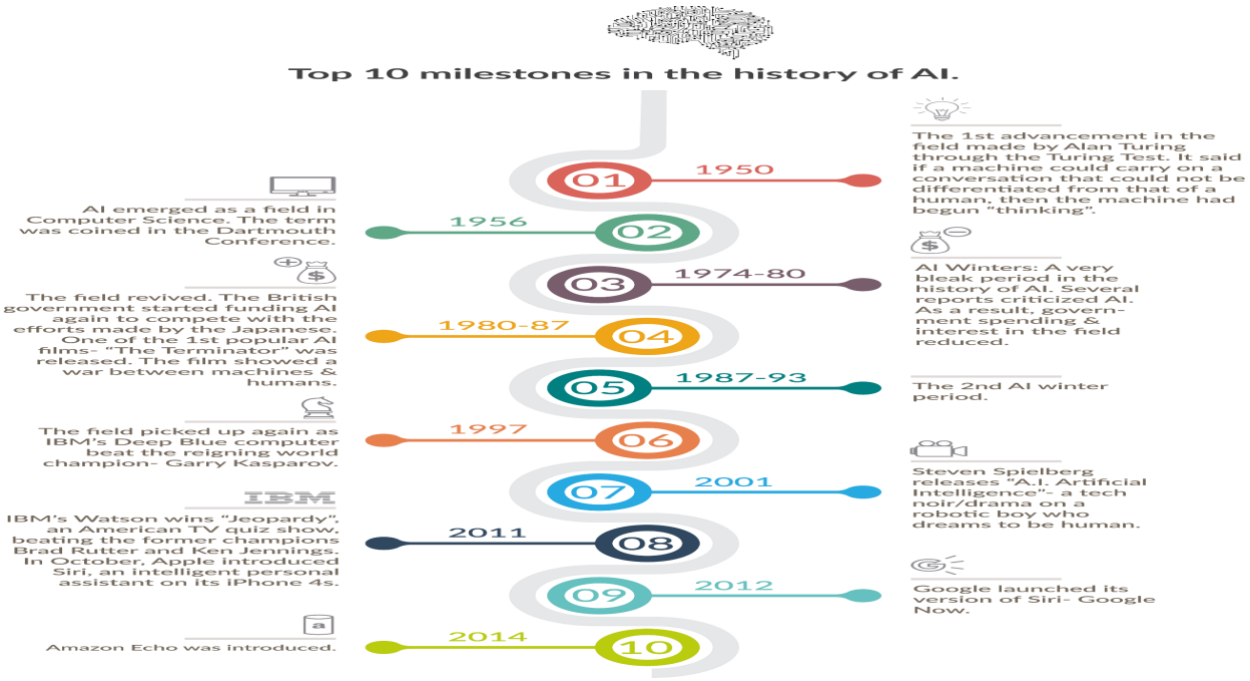

**AlphaGo and Milestones in AI (2016):**

- DeepMind's AlphaGo defeated world champion Go player Lee Sedol in 2016, showcasing advanced AI capabilities.

- This victory demonstrated the power of reinforcement learning combined with deep neural networks.
- It marked a significant milestone in AI's ability to handle complex, strategic tasks.

**AI in Everyday Life (2010s-present):**

- AI technologies like virtual assistants (Siri, Alexa) became common in households.
- AI-powered recommendation systems transformed industries such as entertainment, shopping, and advertising.
- Autonomous vehicles and drones began to utilize AI for navigation and decision-making.




**Major AI Companies and Research Institutions:**

- Tech giants like Google, Amazon, Microsoft, and Facebook heavily invest in AI research.
- Universities such as MIT, Stanford, and OpenAI contribute to advancing AI technologies.
- Collaborative efforts foster innovation and address global AI challenges.

**Notable AI Achievements:**

- IBM Watson won Jeopardy! in 2011, demonstrating natural language processing capabilities.
- GPT series (including GPT-4) by OpenAI showcase advanced language understanding and generation.
- Autonomous vehicles by Tesla, Waymo, and others are pushing the boundaries of AI-driven transportation.

**Challenges and Limitations:**

- AI systems can perpetuate biases present in training data, leading to ethical concerns.
- The high computational cost of training advanced models raises environmental and economic issues.
- Achieving transparency and understanding AI decision-making remains an ongoing challenge.