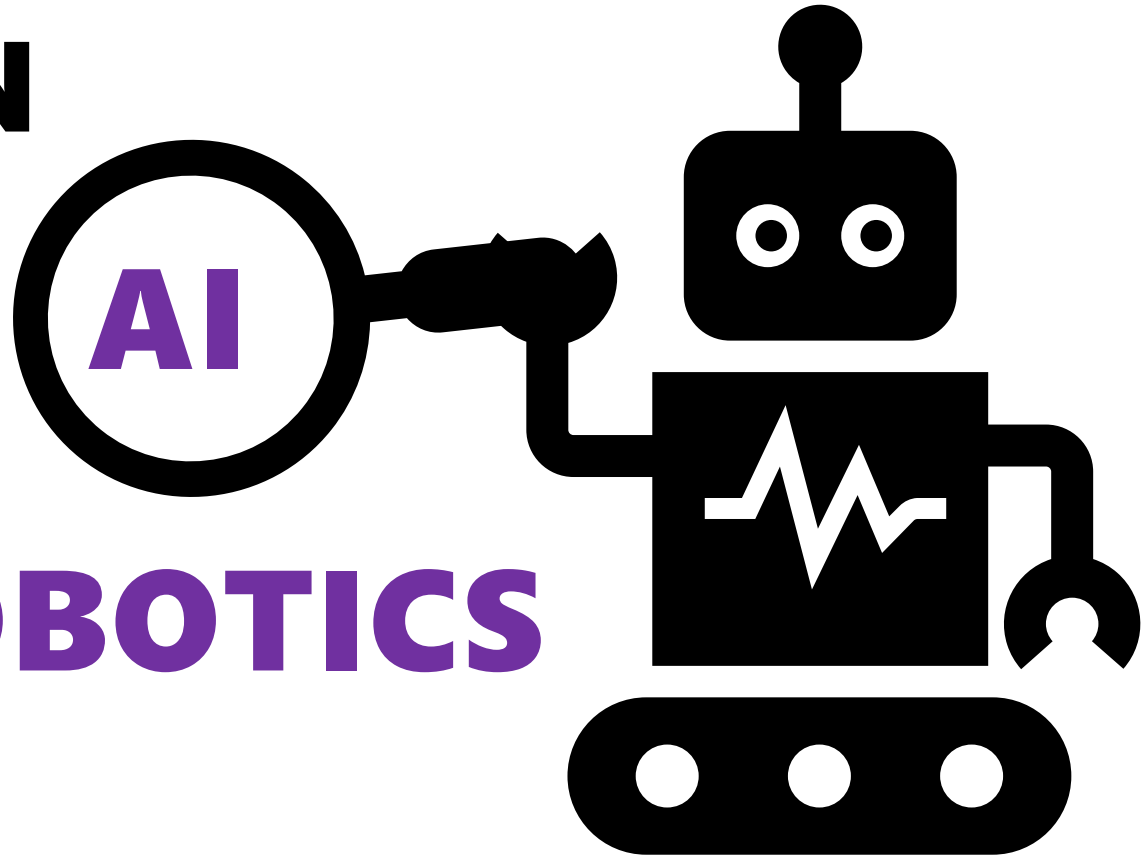
PRESENTATION

On AI

And ROBOTICS



ARTIFICIAL INTELLIGENCE

Revolutionizing the Future

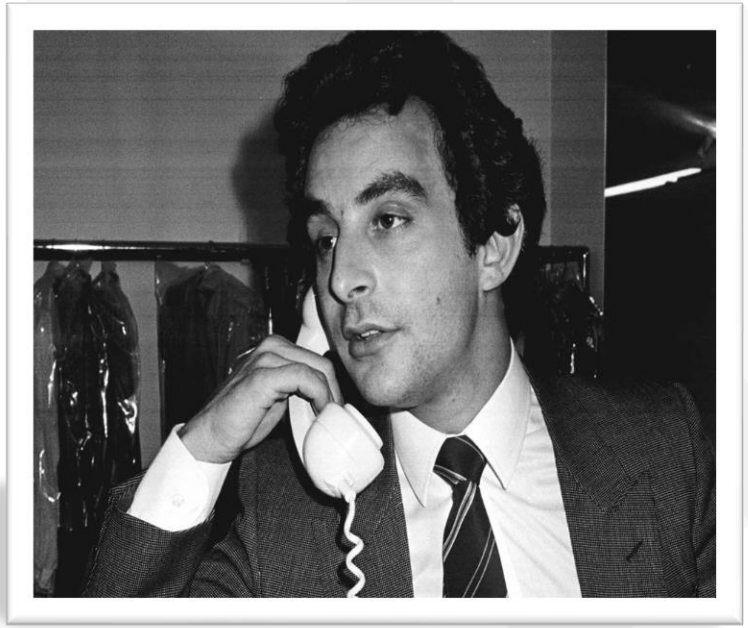
ARTIFICIAL INTELLIGENCE

- John McCarthy coined the term "artificial intelligence" in 1956.
- In the 1960s and 1970s, AI faced challenges and criticisms, leading to the AI winter.
- In the 21st century, AI experienced exponential growth fueled by big data, faster processors, and advanced algorithms.

ARTIFICIAL INTELLIGENCE

Artificial Intelligence, often abbreviated as AI, refers to the simulation of human intelligence processes by machines, particularly computer systems.

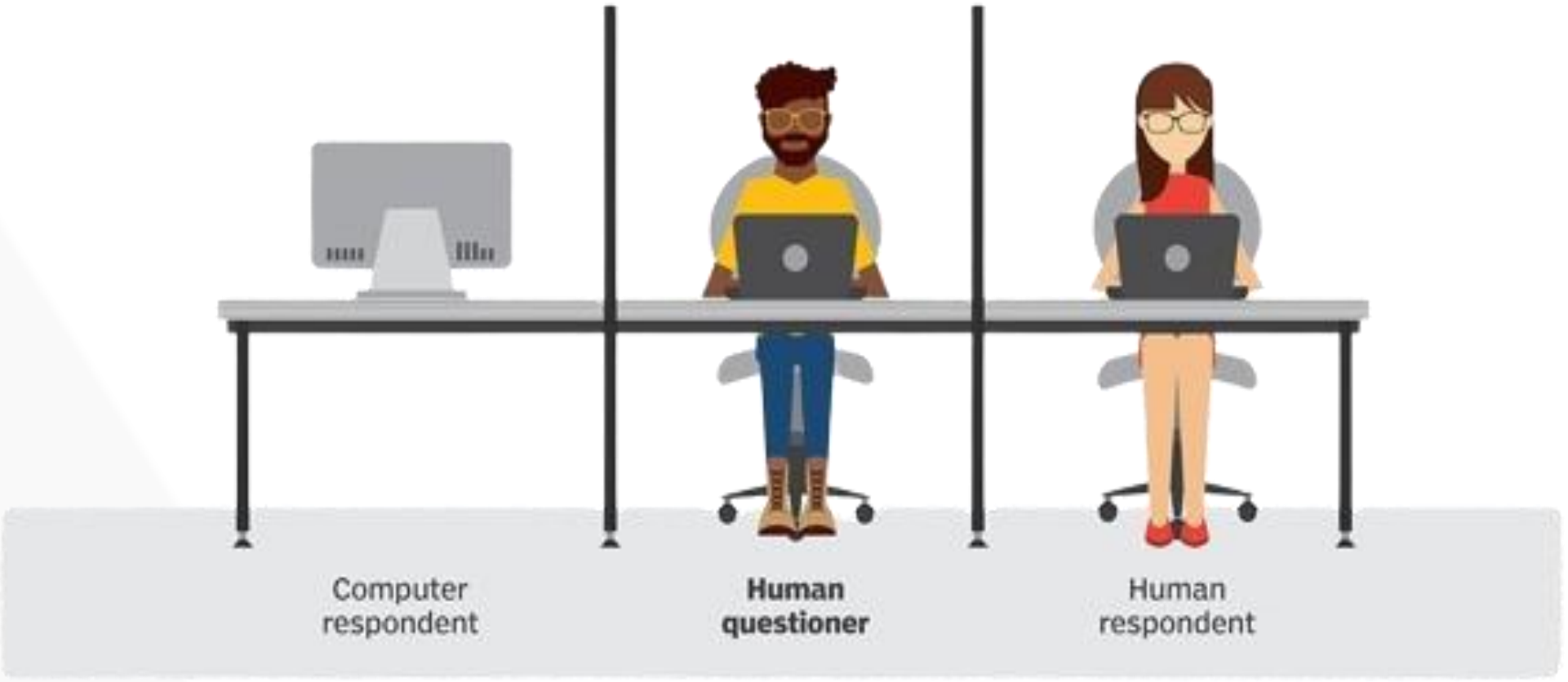
AI encompasses a wide range of technologies and approaches, aiming to create systems that can perform tasks that would typically require human intelligence. These tasks may include understanding natural language, recognizing patterns in data, solving problems, and making decisions.



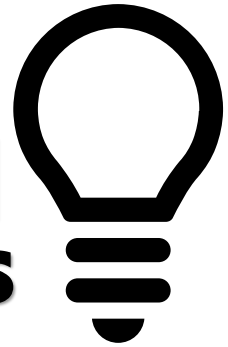
RICHARD E. BELLMAN

The automation of activities that we associate with human thinking activities such as decision-making, problem-solving, learning.

Turing Test



DOMAIN AREAS



- HEALTH CARE
- ROBOTICS
- MANUFACTURING
- GAME PLAYING

- AGRICULTURE
- CYBER SECURITY
- SPEECH RECOGNITION
- EDUCATION

➢ HEALTH CARE

AI is used for disease diagnosis and prediction, personalized treatment plans, drug discovery, medical image analysis, and health monitoring systems.

➢ AGRICULTURE

AI assists in precision agriculture, crop monitoring, yield prediction, pest detection, autonomous farming equipment, and agricultural drones.

➢ MANUFACTURING

AI enables predictive maintenance of machinery, quality control, process optimization, supply chain management, and robotics automation in manufacturing plants.

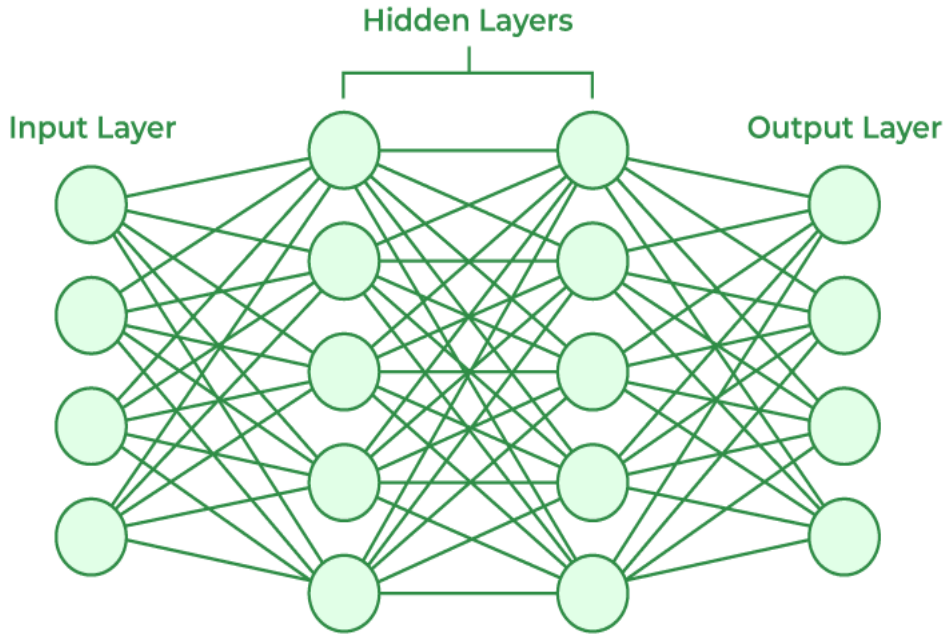
➢ GAME PLAYING

AI excels at games like chess, Go, poker, and video games, creating realistic opponents and enhancing player experiences with adaptive difficulty levels.

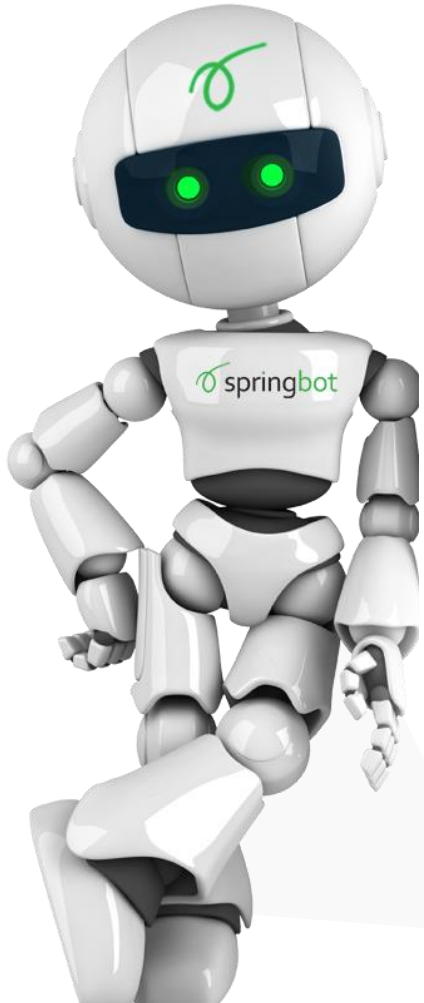
➢ NLP

Natural Language Processing is a branch of Artificial Intelligence that allows machines to understand human language.

➢ NEURAL NETWORK



Neural networks are a type of artificial intelligence model inspired by the structure of the human brain. They consist of interconnected nodes (neurons) arranged in layers, capable of learning complex patterns and making predictions from data.



ROBOTICS

Robotics is the interdisciplinary field that involves the design, construction, operation, and use of robots to perform tasks autonomously or semi-autonomously, often in place of humans.

In 1979, **Robotics Institute of America** defined, “A Robot is a reprogrammable multifunctional manipulator designed to move material, parts, tools or specialized devices through variable programmed motions for the performance of a variety of tasks.”

LAWS OF ROBOTICS

Law 0: A robot may not injure a humanity or, through inaction, allow humanity to come to harm.

Law 1: A robot may not injure a human being or, through inaction, allow a human being to come to harm unless this would violate a higher order law

In 1979, **Robotics Institute of America** defined, “A Robot is a reprogrammable multifunctional manipulator designed to move material, parts, tools or specialized devices through variable programmed motions for the performance of a variety of tasks.”

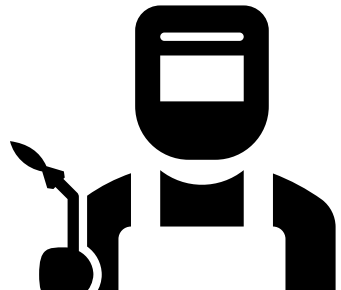
LAWS OF ROBOTICS

Law 3: A robot must obey the orders given it by human beings, except where such orders would conflict with the First Law**.**

Law 4:A robot must protect its own existence as long as such protection does not conflict with the First or Second Law..

Classification Of Robots

- Industrial Robots
- Competitive Robots
- Domestic Robots
- Military Robots
- Exploratory Robots



Industrial Robots

Used in manufacturing for tasks like assembly, welding, and painting.

Competitive Robots

Competitive robots, also known as combat robots or fighting robots, are specially designed machines built to compete in robot combat competitions.

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SOLOMONJAGWE
BUTTERFLY
IEBHERR
ARAG

Domestic Robots

Home or domestic robots are a subset of service robots designed to assist with tasks in household settings. Example: Cleaning bots, Cooking robots, security robots etc.

Military Robots

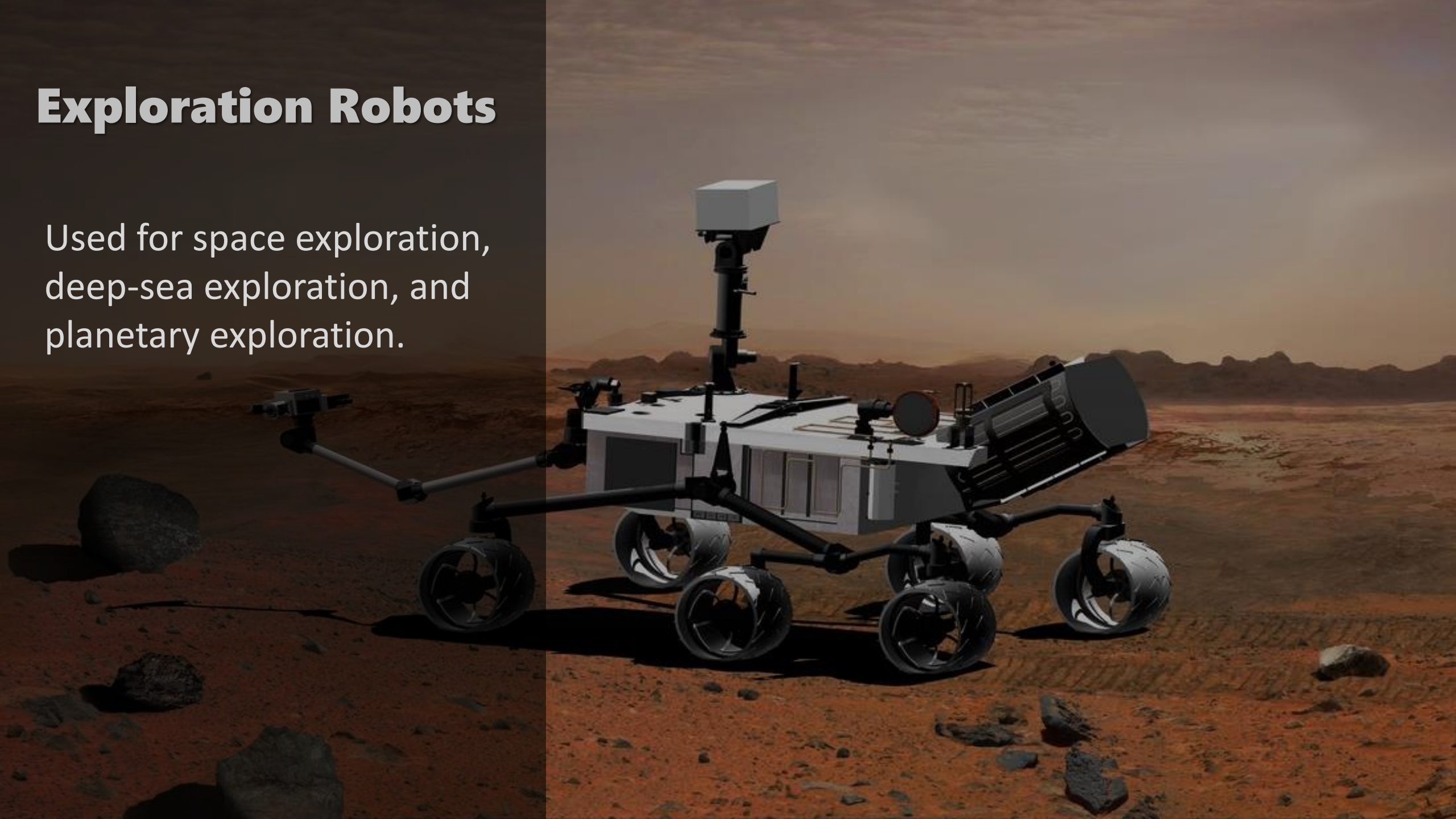
Designed for reconnaissance, bomb disposal, and combat operations.

Military Robots

Designed for reconnaissance, bomb disposal, and combat operations.

Exploration Robots

Used for space exploration, deep-sea exploration, and planetary exploration.



CONCLUSION

- AI, or artificial intelligence, refers to the development of computer systems that can perform tasks that typically require human intelligence where Robotics, on the other hand, involves the design, construction, operation, and use of robots.

- The world of AI and robotics offers exciting possibilities, but it's crucial to develop and use these technologies responsibly.

- By working together and keeping these principles in mind, we can ensure that AI and robotics contribute to a brighter and more inclusive future for everyone.

thankyou
Everyone