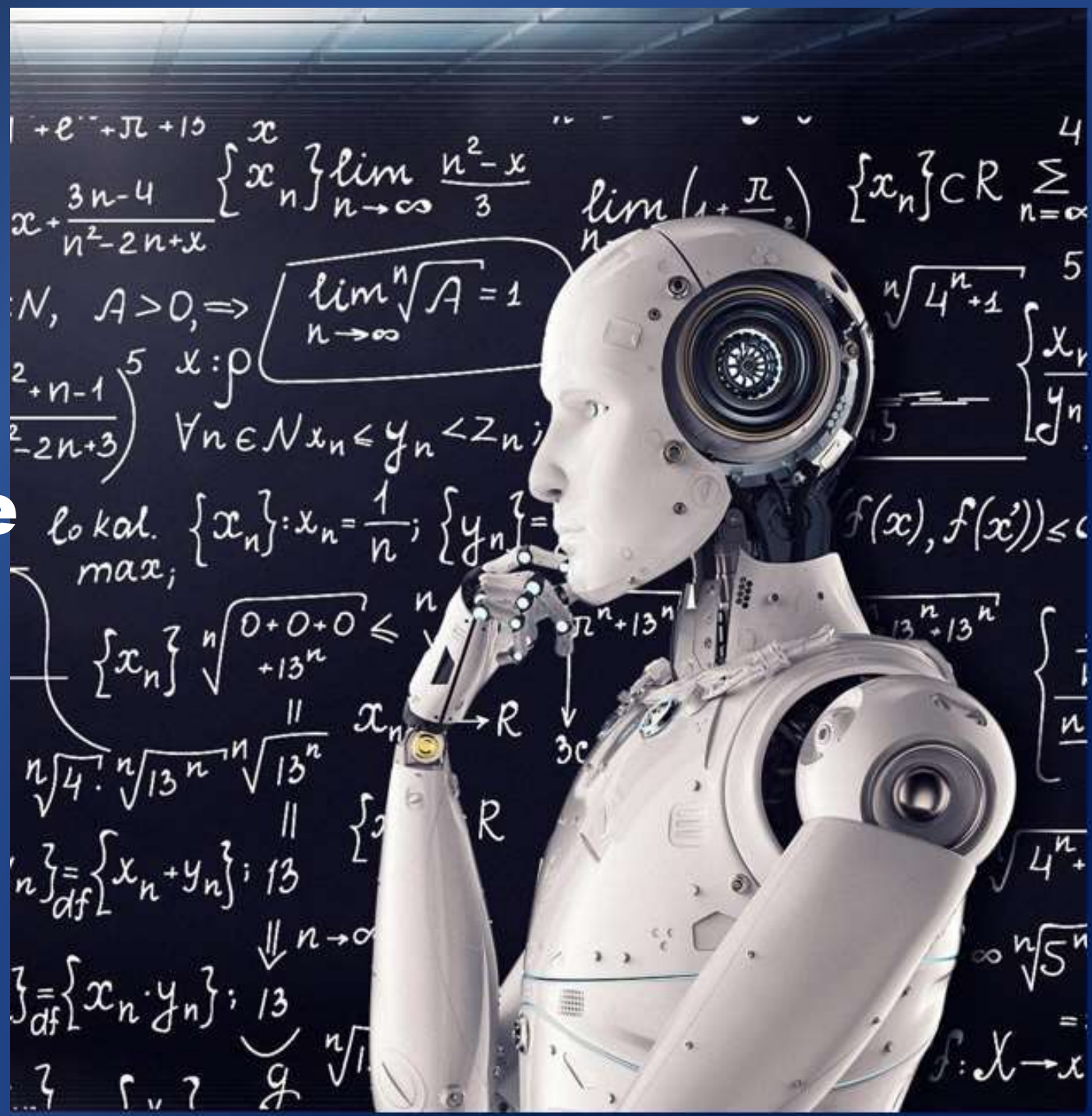


An Introduction to Artificial Intelligence

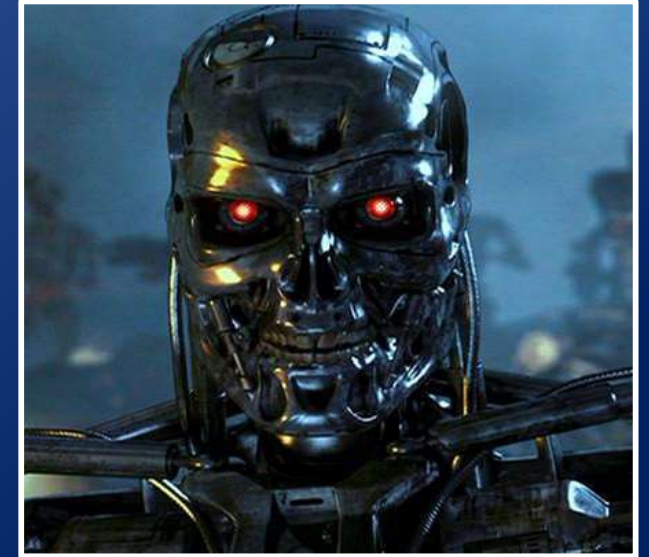


Our Perceptions on Artificial Intelligence

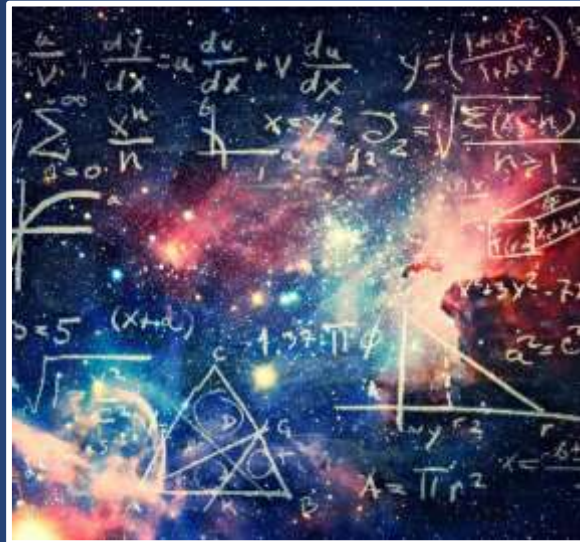
HOW
INNOVATORS
SEE AI



HOW
THE MEDIA
SEES AI



HOW
ENGINEERS
AND
SCIENTISTS
SEE AI



HOW
EVERYDAY
PEOPLE
SEE AI



Topics

1

Define what is Artificial Intelligence (AI)

2

Describe the different branches and subsets of AI

3

Uses and Limitations of Artificial Intelligence

4

Advantages and Disadvantages of Artificial Intelligence

5

What is DeepFake AI

What is Artificial Intelligence?

- Artificial intelligence (AI) is a broad field of computer science concerned with creating intelligent machines capable of performing tasks typically requiring human intelligence.
- A system that shows behavior that could be interpreted as human intelligence
- Artificial Intelligence (AI) refers to the simulation of human intelligence in machines.
- AI systems are designed to think, learn, and act like humans.

*“the ability of a **digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings**. The term is frequently applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from past experience.”*
(Copeland, 2024)

*“Artificial intelligence is the **simulation of human intelligence processes by machines**, especially computer systems. Specific applications of AI include expert systems, natural language processing, speech recognition and machine vision.*

(Laskowski & Tucci, 2023)



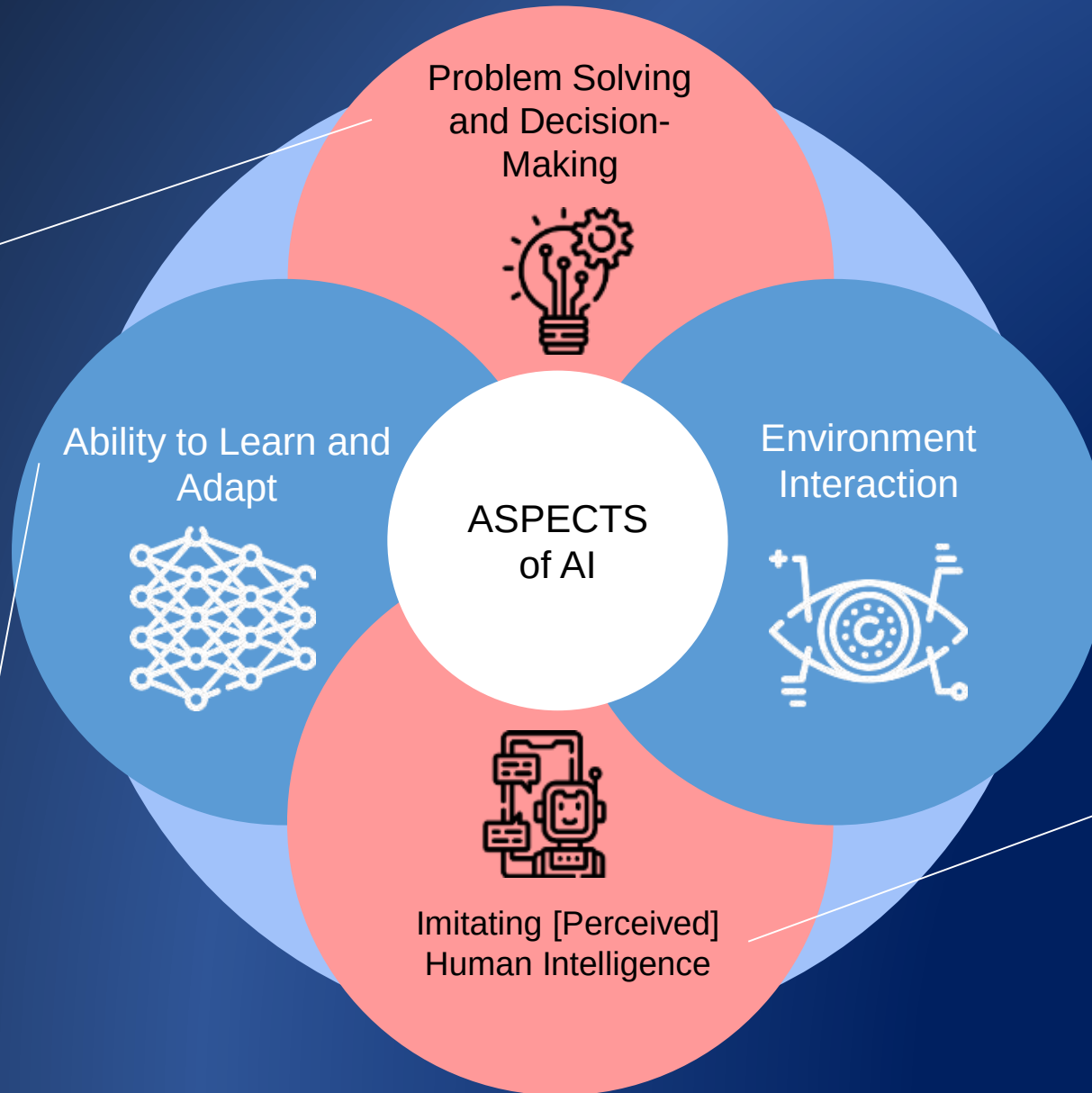
What is Artificial Intelligence?

AI systems can analyze information, identify patterns, and make decisions based on their understanding of the world.

This enables them to tackle complex problems and perform tasks that traditionally require human intervention.

AI systems can learn from data and experience, allowing them to improve their performance over time and adapt to new situations.

This learning can be achieved through various techniques, including machine learning, deep learning, and reinforcement learning.



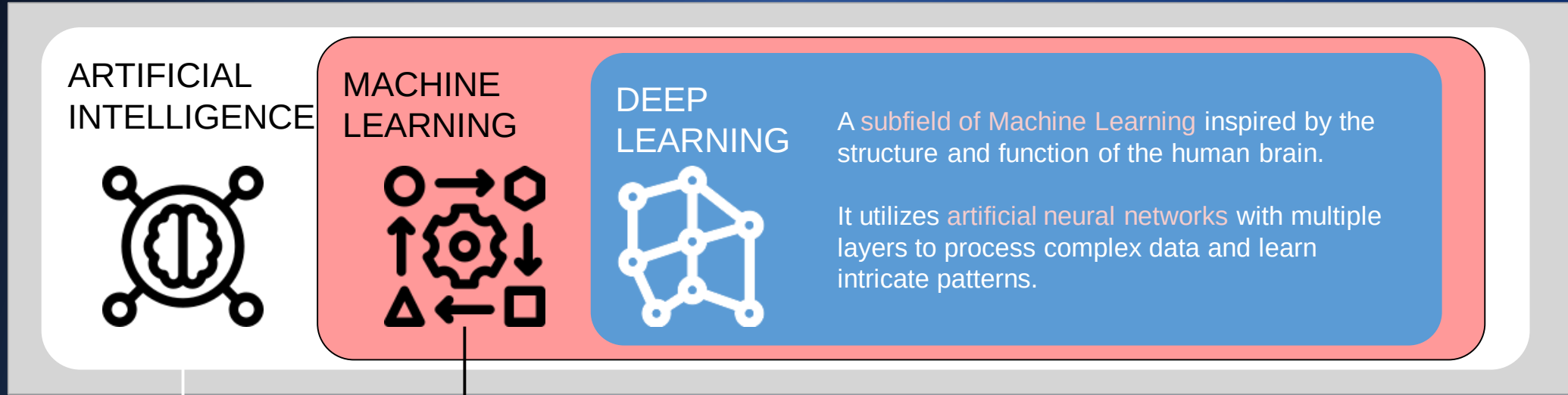
AI systems can perceive their surroundings through sensors and interact with the environment through actuators.

This allows them to gather information, manipulate objects, and navigate the physical world.

While not achieving true human-level intelligence yet, AI systems can exhibit some human-like capabilities, such as recognizing objects, understanding natural language, and generating creative content.

The AI Branches

Machine Learning, and even Deep Learning, are subfields within AI primarily focused on human intelligence.



A subfield of Artificial Intelligence focused on developing algorithms that can learn from data and improve their performance on specific tasks without explicit programming

A broad field of computer science concerned with creating intelligent machines capable of performing tasks typically requiring human intelligence

Types of Artificial Intelligence

Artificial Narrow Intelligence



Stage 1

Machine Learning

- Specialized in one area and solves one problem

Example: Siri, Alexa

Artificial General Intelligence



Stage 2

Machine Intelligence

- Refers to a computer that is smart as human across the board

Example: Self driving cars

Artificial Super Intelligence



Stage 3

Machine Consciousness

- An intellect that is much smarter than the best human brains in practically every field

Popular Uses of Artificial Intelligence

Generative AI creates new content like text, images, or code based on patterns in its training data, while predictive AI forecasts future outcomes by analyzing historical data to identify patterns and trends.

	Generative AI	Predictive AI
Primary Function	Creates new, original content like text, images, or code	Forecasts future events or trends based on historical data
Input	A prompt or user request, and a large dataset to learn from	Historical data and patterns
Output	New, unique content that resembles human-made work	Predictions, forecasts, and insights
Use Cases	Writing articles, creating artwork, generating code, or powering chatbots	Forecasting customer demand, detecting fraud, or predicting maintenance needs
Examples	ChatGPT, Gemini Microsoft CoPilot	Sales Forecast, Marketing Campaign optimization, Demand Forecasting

Limitations of Artificial Intelligence

ETHICS

AI algorithms can inherit and amplify **biases** present in the data they are trained on, leading to discriminatory outcomes.

AI systems can also raise concerns about **data privacy and security**, requiring careful consideration of data collection, storage, and usage practices.



DETERMINISTIC PROBLEMS

AI and Machine Learning excel at finding patterns and making predictions based on historical data.

However, they may struggle with problems requiring **logical reasoning**, **common sense**, or dealing with **entirely new situations** not encountered in the training data.



CORRECTNESS AND COMPLETENESS OF DATA

The performance of AI models heavily relies on the quality of data they are trained on.

Inaccurate, incomplete, or biased data can lead to unreliable and potentially harmful outcomes.



MISUSE AND MISAPPLICATION

AI technology can be misused for malicious purposes, such as **creating deep fakes**, **spreading misinformation**, or automating **discriminatory practices**.



INTERPRETABILITY

Many AI models, especially deep learning models, can be **complex** and **opaque**, making it difficult to understand how they arrive at their decisions.

This **lack of interpretability** can hinder trust, accountability, and debugging efforts.



Uses and Benefits of AI



Automation:
Reduces repetitive tasks, improving efficiency.



Healthcare:
Early disease detection, robot-assisted surgery, personalized treatment.



Education:
Adaptive learning platforms, tutoring systems, grading assistance.



Business and Economy:
Predictive analytics, customer service chatbots, fraud detection.



Environment:
Climate modeling, wildlife monitoring, resource optimization.

Overall Benefit:
Enhances productivity, accuracy, and innovation.

Disadvantages of AI

- Job Displacement: Automation may replace human labor
- Bias and Fairness: AI can inherit biases from data
- Privacy Concerns: AI systems collect and analyze large amounts of data
- Dependence on Technology: Overreliance may reduce critical thinking
- Ethical Issues: Questions about control, accountability, and moral decision-making.
- Cost: Development and maintenance of AI systems are expensive

Impact of AI

Community

Positive:

- Improves public services (healthcare, transportation, education).
- Supports community development and safety through data analysis.
- Enables better decision-making using predictive analytics

Negative

- May deepen inequality if access is limited to certain groups.
- Risk of misinformation and manipulation through AI-generated content.
- Role of Faith and Ethics
Encourages the use of AI to serve humanity with compassion and justice

Youth

Positive:

- Education: Personalized learning experiences, increased access to knowledge.
- Career Opportunities: Opens new paths in tech, data science, and innovation.
- Social Impact: Shapes how young people interact, learn, and create.

Challenges:

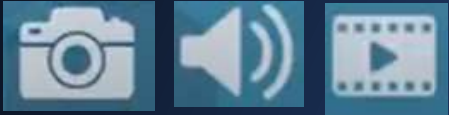
- Digital addiction and reduced human interaction.
- Exposure to misinformation or harmful content.
- Pressure to adapt to rapidly changing technology.

Guidance

- Encourage ethical use of AI.
- Promote balance between digital and real-world life

DeepFake

A type of artificial intelligence that creates convincing image, audio, video hoaxes



HOW IS A DEEPAKE MADE?



HOW TO IDENTIFY A DEEPAKE



HOW TO PROTECT YOURSELF AGAINST DEEPAKES



**AI IS A POWERFUL TOOL THAT CAN GREATLY BENEFIT
HUMANITY WHEN GUIDED BY ETHICAL PRINCIPLES.**

**UNDERSTANDING AI HELPS US ENGAGE
RESPONSIBLY AND COMPASSIONATELY IN A TECH-
DRIVEN WORLD.**

**WE PLAY A ROLE IN SHAPING A FUTURE WHERE
TECHNOLOGY SERVES FAITH, HUMANITY, AND MORAL
INTEGRITY.**

Thank You!