



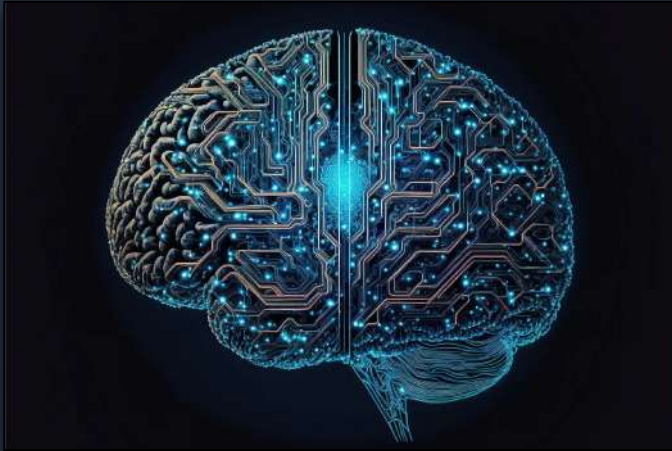
# Artificial Intelligence & Machine Learning

# What is AI?

Artificial Intelligence is a machine's ability to perform the cognitive (or thinking) functions we usually associate with human minds.



# How It Works:



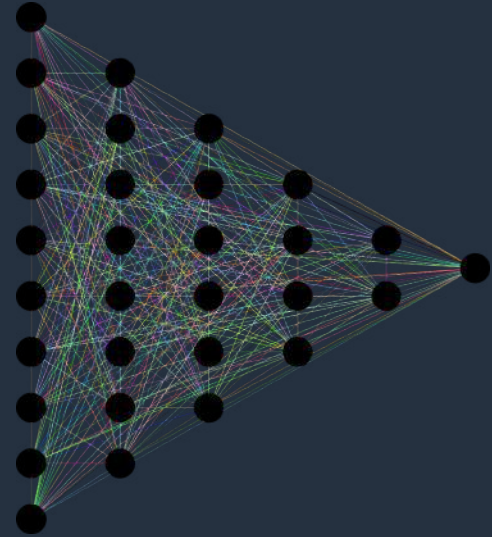
AI uses **machine learning** to perform those cognitive functions we associate with human thinking such as:

- perceiving
- reasoning
- learning
- interacting w/ an environment
- problem solving



# Machine Learning:

- Is inspired by the human brain
- Uses algorithms entered into the computer by humans
- Is programmed using lots of different descriptive data such as images, text, textures, sounds, etc. to create artificial neural networks

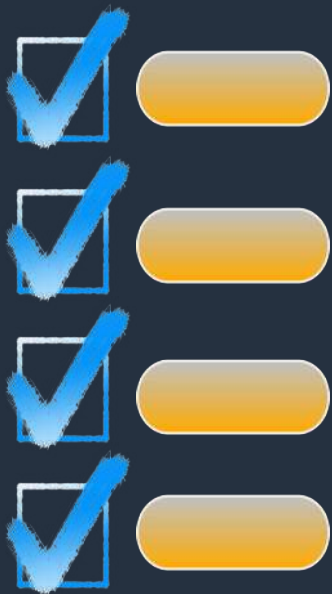


# Neural Networks:

- An AI method, also known as **deep learning**, teaches computers to process data in a way that is inspired by the human mind.
- The learning machine will then use that data & its new neural networks (the new learning) to determine what something is all on its own.



# Deep Learning:



- The machine will continue to make guesses, learning from from both its correct guesswork & its mistakes
- Over time, it will get really good at providing correct answers - leaving little room for mistakes.

See it in Action:



# Complete the Learning Activity here:

## Machine Learning Activity

Using Google's  
"Teachable Machine"





# Discussion Questions:

- How does machine learning differ from traditional computer programming?
- List a minimum of 3 everyday applications of machine learning that you might encounter in your life.
- How do these applications improve user experiences?

# Discussion Questions:

- What ethical considerations should be taken into account when developing and deploying machine learning systems?
- Are there any potential biases that need to be addressed?

# Discussion Questions:

- How do businesses and industries benefit from machine learning applications?
- Can you provide examples of companies that have leveraged machine learning for competitive advantage?
- Imagine a future where machine learning has advanced significantly. How might it impact various industries, job markets, and society as a whole?

# Discussion Questions:

- Can you think of any potential ethical dilemmas or concerns that might arise as machine learning becomes more integrated into our daily lives?
- What skills and knowledge would be valuable for students interested in pursuing careers related to machine learning or artificial intelligence?

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