



AI ESSENTIALS

getting started

OG E ELEKWA



ICE BREAKER

15 MINS



Areas of AI

- Natural Language Processing
- Computer Vision
- Robotics
- Expert Systems



What is Artificial Intelligence

Simply put, Artificial Intelligence is giving computers the ability to think and learn, just like a human.

It's teaching computers to do tasks that normally require human intelligence, such as understanding language, recognizing images, making decisions, and solving problems.



AI vs Machine Learning?

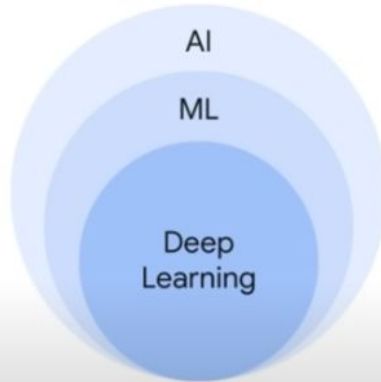
- AI is an entire field of Study, just like medicine, or physics.
- Just like in the said examples, you can have subsets such as Neuroscience or Thermodynamics.
- Think of AI as the broader concept of building intelligent machines that can mimic human behaviour. Think of Assistants like Siri, or Google Assistant.
- Machine Learning is the Subset of AI that focuses on teaching AI how to learn from data without being explicitly programmed. Some Applications include Image Recognition, Recommendation Systems and Fraud detection.

AI vs Machine Learning?



Artificial Intelligence

is a discipline



Machine Learning

is a subfield



APPLICATIONS OF ML

Machine Learning Models Excel at tasks without structured data. Like, most model we have today.

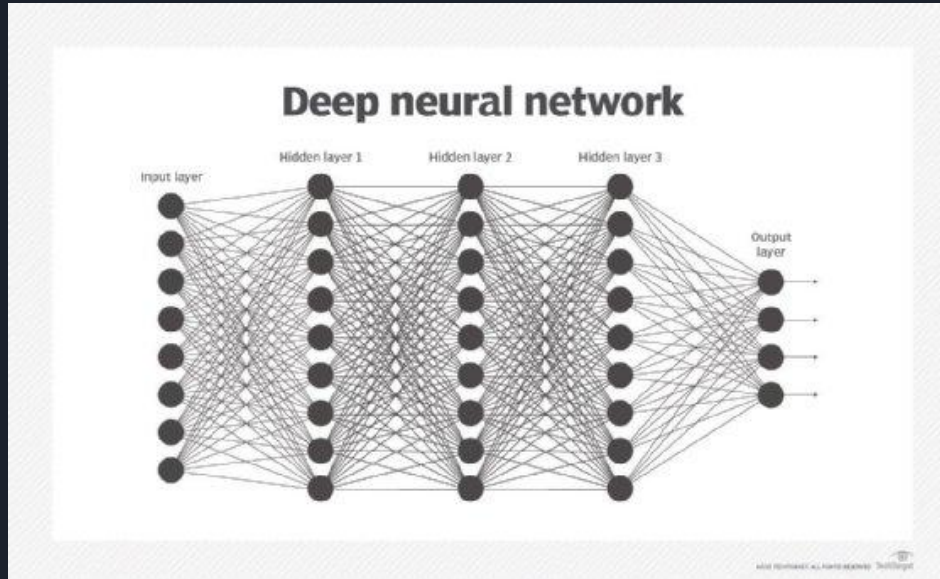
But what is a model?

Simply put, a machine learning model is a mathematical construct that has been trained to recognize patterns and make predictions based on data.

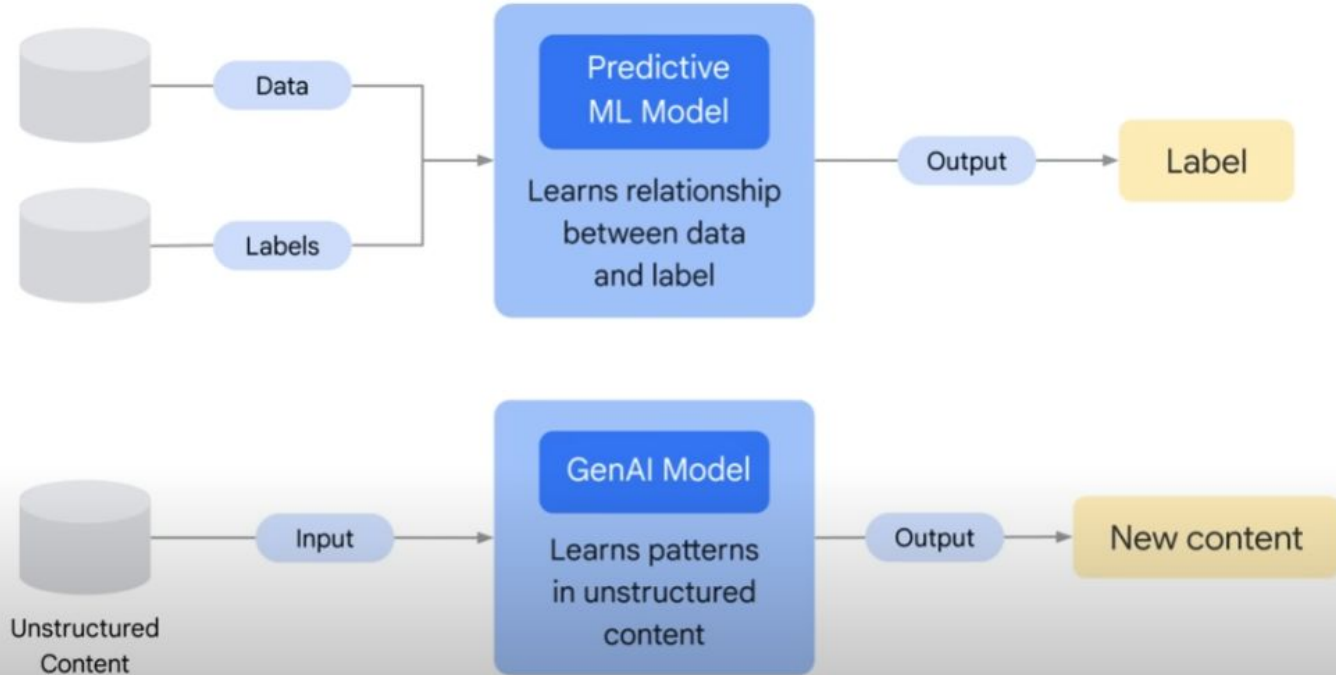
There are different types of models in Machine Learning such as Linear Regression and Decision Trees, but the most common one is the Neural Network.

Neural Networks

A neural network is a computational model inspired by the way biological neural networks in the human brain process information. It is a key architecture in machine learning, particularly in deep learning, and is used for a variety of tasks, including classification, image recognition, natural language processing, and Large Language Models



ML Models





Deep Learning

- Deep learning is a specialized subset of machine learning that employs neural networks with multiple layers to analyze and process data.

It's usually employed when dealing with Large amounts of unstructured data

Deep Learning

What to note:

- Generative AI models are Deep Learning Models
- With more Data and Better Networks, can be improved.
- Deep Neural Networks can be improved by increasing the layers.



Text to Image in 2021

Text to Image in 2023





AI ETHICS

Ethical Considerations in AI

- Bias [Prejudice?]
- Accountability [who is responsible for any casualties/errors?]
- Transparency [how was the data obtained ?]

Ethical Cases



Air Canada Lawsuit

- Incident Overview: Air Canada's AI chatbot provided misleading information regarding bereavement fares.
- Customer Case: Jake Moffatt inquired about a bereavement fare after his grandmother's death.
- Chatbot Response: Incorrectly stated he could apply for a refund on the fare difference within 90 days.
- Actual Policy: Air Canada does not allow refunds for travel that has already occurred.
- Legal Action: Moffatt sought reimbursement based on the chatbot's advice, leading to legal proceedings.
- Tribunal Ruling: British Columbia Civil Resolution Tribunal found Air Canada liable for the misinformation.
- Key Finding: The airline is responsible for all information provided by its chatbot.
- Financial Outcome: Tribunal ordered Air Canada to pay Moffatt approximately \$812.
- Implications: Raises accountability questions for companies using AI in customer service.