Artificial Intelligence and Machine Learning in detail

Welcome to a comprehensive guide of Artificial Intelligence and Machine Learning. In this presentation, you will explore the evolution, applications, ethics, and future of AI and ML technologies.

by Nishtha Trehan
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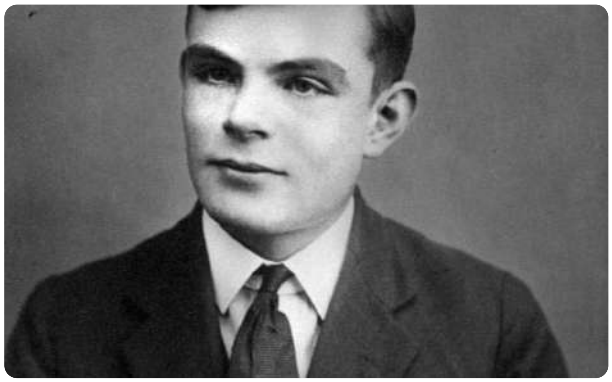
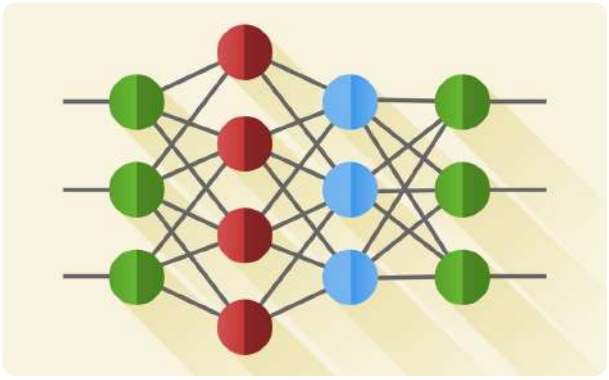
The Origins of AI



Alan Turing

In the 1940s, Alan Turing developed the Turing Test to measure a machine's ability to mimic human intelligence. His work laid the foundation for the development of modern AI.



Neural Networks

In the 1950s, the concept of neural networks was introduced, which is inspired by the way the brain works. In 1958, Frank Rosenblatt invented the Perceptron, which paved the way for the development of deep learning algorithms.

IBM Deep Blue

In 1997, IBM's Deep Blue computer defeated the world chess champion Garry Kasparov, marking a significant milestone in the development of AI.

Types of AI

Narrow or Weak AI

Designed to perform a specific task, such as voice assistants and recommendation algorithms.

General or Strong AI

Capable of performing any intellectual task that a human can do; however, the development of strong AI is still far away.

Artificial Superintelligence

Theoretical AI that is significantly smarter than the best human brains and has the ability to improve itself continuously.

Machine Learning: Basics and Techniques

1

Supervised Learning

Data is labeled to train a model, and a prediction is made for new, unlabeled data.

2

Unsupervised Learning

No labels are provided; algorithms find patterns and relationships in the data.

3

Reinforcement Learning

Encouraging positive outcomes through trial and error; rewards and punishments guide actions

Applications of AI and ML

Self-Driving Cars

Use computer vision and machine learning to detect obstacles, traffic signs, and other vehicles to navigate roads.

Chatbots

Provide human-like interaction with users, answering questions and providing assistance for businesses.

Medical Diagnosis

AI can analyze medical images and provide diagnoses, detect diseases earlier, and suggest treatments.

Ethical Considerations in AI and ML

1 Biases and Fairness

Algorithms can reflect the biases present in data. Developers need to ensure fairness, transparency, and accountability.

2 Job Automation

AI is expected to displace jobs, and companies and governments need to plan accordingly.

3 Privacy and Security

AI collects, processes, and