Artificial Intelligence

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Introduction

AI is no longer science fiction. It's writing our emails, recommending our next song, and even diagnosing diseases

AI refers to computer systems that perform tasks typically requiring human intelligence, like decision-making, learning, and perception

Brief History of AI

1950s: Alan Turing and the Turing Test

1956: Dartmouth Conference – birth of AI as a field

Winters and revivals: Early enthusiasm, setbacks, and modern resurgence with machine learning

How AI Works

Machine Learning: Training data, algorithms, and models

Neural Networks & Deep Learning: Inspired by the human brain

Natural Language Processing (NLP): Understanding human language (e.g., ChatGPT)

Examples of AI in action:

Google Translate

Facial Recognition

Predictive text

Self-driving cars

Applications of AI in the Real World

Healthcare: Diagnosing illnesses, drug discovery

Finance: Fraud detection, algorithmic trading

Transportation: Autonomous vehicles, traffic prediction

Entertainment: Streaming recommendations, content creation (AI-generated music, art)

Education: Personalized tutoring, language learning

Ethical and Social Considerations

Bias and fairness in algorithms

Job automation and workforce displacement

Surveillance and privacy concerns

AI alignment and existential risk

The Future of AI

General AI vs. Narrow AI

Collaborative human-AI systems

Calls for regulation and responsible development

Concluding thought: "AI is a tool, how we use it will define its impact on society."

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