

A HISTORY OF ARTIFICIAL INTELLIGENCE IN EDUCATION

THE FOUNDATION

1950'S AND ONWARD

The overarching theory and methods used to build machines that think like humans (Artificial Intelligence) is developed.

IN ED TECH

PLATO (Programmed Logic for Automated Teaching Operations): Developed in the 1960s, PLATO used AI principles to deliver computer-based instruction. While not fully "intelligent," it represented an early application of computational logic for teaching.

IMPACT

These systems introduced automation to education, making it possible to simulate human expertise and provide consistent feedback in specific subjects.

IMPACT

Laid the groundwork for educational systems by introducing automated and structured learning through computers.

EXPERT SYSTEMS

1960'S TO 1980'S

Expert systems use predefined rules and a knowledge base to simulate the decision-making abilities of a human expert in a specific domain. They operate with "if-then" logic and provide consistent, rule-based outputs.

IN ED TECH

Scholar: An educational system for teaching geography through interactive Q&A sessions.

Rule-Based Quiz Systems: Systems providing immediate feedback based on predefined rules, common in early computer-based training.

MACHINE LEARNING

1980'S TO 2000'S

Enables computers to learn from data and improve performance without explicit human programming. This stage marked a shift from static rule-based systems to dynamic, data-driven algorithms.

IN ED TECH

Khan Academy: Recommendation Systems: Machine learning algorithms suggest lessons and exercises tailored to students' performance and interests.

Language Learning Tools: Tools like Rosetta Stone adaptively track and adjust lessons based on user progress.

IMPACT

Machine learning brought personalization to education, allowing systems to adapt dynamically to individual student needs.

IMPACT

Enabled advanced tools that improve accessibility, engagement, and interactivity in education, empowering students and teachers with sophisticated AI capabilities.

DEEP LEARNING

2010'S

Mimics the human brain using artificial neural networks. These systems analyze vast amounts of data, identify patterns, and perform complex tasks such as natural language understanding and image recognition.

IN ED TECH

Duolingo's Speech Recognition: Uses deep learning to analyze pronunciation and provide real-time feedback in language learning.

Grammarly: Employs natural language processing (NLP) to provide advanced grammar, style, and writing suggestions.

GENERATIVE AI

2020'S ...

Creates new content—text, images, audio, video, and even code—based on patterns it has learned during training. It focuses on creativity and innovation, mirroring human creative processes.

IN ED TECH

Khanmigo: Provides conversational support, explains concepts, and assists with creative writing or problem-solving tasks.

UnconstrainED: Auto-generate lesson plans, quizzes, and other teaching resources, reducing teacher workload.

IMPACT

Generative AI is revolutionizing education by fostering creativity, enabling personalized support, and automating time-consuming tasks for educators.

