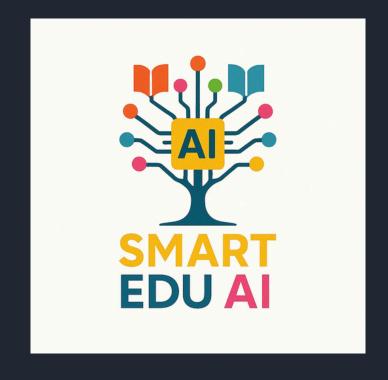


What is AI and How is it Used in Education?

Expert Talks - Day 1







What is Artificial Intelligence?



Definition

Systems performing human-like intelligence tasks



Key Technologies

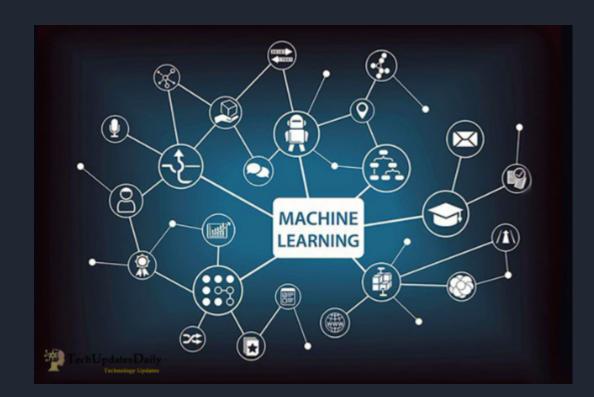
Machine Learning, NLP, Computer Vision



Examples

Chatbots, recommendation systems, autonomous vehicles





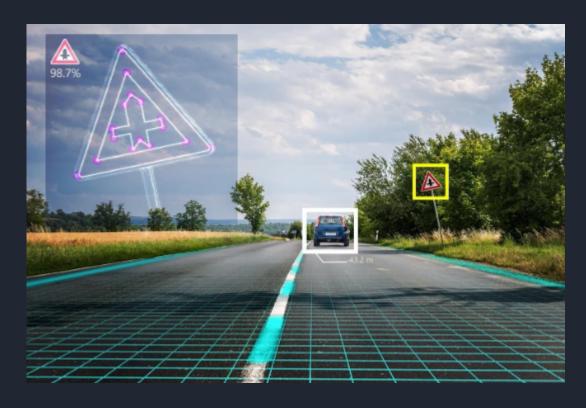
Machine Learning (ML):

Machine Learning is a subset of artificial intelligence (AI) that focuses on developing algorithms and statistical models that enable computers to perform tasks without explicit instructions. Instead, these systems learn patterns and make decisions based on data. ML algorithms are trained on datasets to identify patterns, make predictions, or classify information, and they improve their performance over time as they are exposed to more data.



Natural Language Processing (NLP):

Natural Language Processing is a field of Al that focuses on the interaction between computers and humans through natural language. NLP enables machines to understand, interpret, generate, and respond to human language in a meaningful way. It involves tasks such as text analysis, sentiment analysis, language translation, speech recognition, and chatbot development. NLP combines techniques from linguistics, computer science, and machine learning to process and analyze large amounts of natural language data.



Computer Vision:

Computer Vision is a field of AI that enables machines to interpret and understand visual information from the world, such as images and videos. It involves techniques for acquiring, processing, analyzing, and understanding digital images to extract meaningful information or make decisions. Applications of computer vision include object detection, facial recognition, image classification, medical image analysis, and autonomous vehicles. It often relies on machine learning models, particularly deep learning, to achieve high levels of accuracy.





AI in Our Daily Lives

Virtual Assistants
Siri, Alexa, Google Assistant

Personalized Recommendations
Netflix, Spotify, Amazon

Smart Devices
Thermostats, security cameras



AI in Education: Why Does It Matter?

Personalized Learning

Tailoring education to individual student needs

Automation

Reducing administrative burdens for teachers

Enhanced Engagement

Interactive and immersive learning experiences

Data-Driven Insights

Improving decision-making through analytics



How is AI Used in Education?



Intelligent Tutoring Systems
Adaptive platforms like Khan Academy and Duolingo



Automated Grading
Tools like Gradescope for faster assessment



Learning Analytics
Platforms tracking student progress



Immersive Learning AR/VR tools for virtual field trips

Benefits of AI for Education

For Students

- Personalized learning paths
- 24/7 tutoring and support

For Teachers

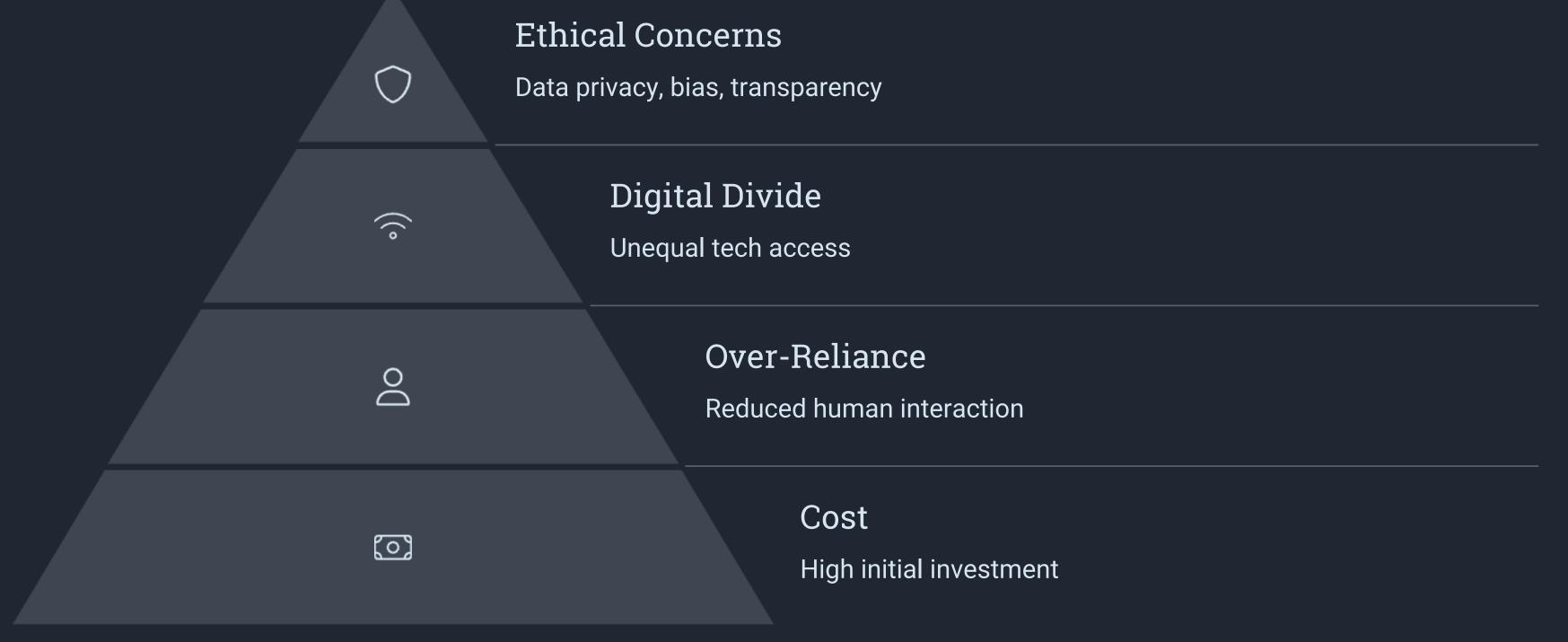
- Time-saving grading tools
- Insights into student performance

For Institutions

- Improved resource
- Ehbaatied learning outcomes



Challenges and Limitations





Real-World Examples of AI in Education



Duolingo:

Duolingo is a popular language-learning app that uses AI to personalize lessons for users. It adjusts the difficulty level of exercises based on the user's performance, ensuring an optimal level of challenge to keep learners engaged. Duolingo also offers a classroom version and a math education app, further expanding its AI-driven educational offering



Khanmigo by Khan Academy:

Khanmigo is an Al-powered tutoring assistant developed by Khan Academy. It provides personalized assistance to students in subjects like math, reading, and writing. Teachers can use Khanmigo to create effective lesson plans based on student assessments, while parents can monitor progress and receive explanations of the subjects their children are studying

3

Carnegie Learning:

Carnegie Learning uses AI to provide personalized math and literacy lessons. The platform identifies knowledge gaps in students and adjusts instruction accordingly, allowing students to learn at their own pace and fostering a deeper understanding of concepts



The Future of AI in Education

Adaptive Learning

Expansion of personalized platforms

= 2

Immersive Learning

Increased AR/VR use

Generative AI

Interactive learning tools



Teacher Development

Al-powered training tools



Conclusion

