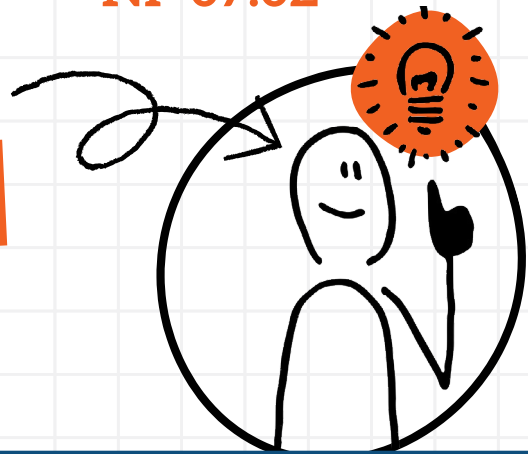


# Applied AI

# EDUCATION

NP 07.02



## WHY AI?

- Personalized learning
- Efficiency in administration
- Enhanced student engagement
- Data-driven insights
- Automated grading and feedback

## STRATEGIC TRENDS

- Online learning platforms
- Gamification of education
- AI tutors and assistants
- Big data analytics
- Adaptive learning technologies
- Virtual and augmented reality
- Blockchain for certification
- Collaborative learning tech
- Mobile-first education platforms
- Cloud-based educational resources

## LEADING COMPANIES

- Coursera, EdX, Khan Academy (E-learning)
- Duolingo (Language learning)
- Quizlet (Study tools)
- Blackboard (Education management)
- Canvas (Learning management systems)

## AI DISRUPTION

- Personalized learning paths
- Predictive analytics for student success
- AI-driven content curation
- Automated grading systems
- Chatbots for student support
- AI in educational gaming
- Natural Language Processing (NLP) for languages
- Facial recognition for attendance
- AI in special education
- Data-driven curriculum development

## ECOSYSTEM REQUIREMENTS

- High-speed internet access
- Technologically equipped classrooms
- Continuous professional development for educators
- Collaboration between tech providers and educators
- Supportive policy and funding

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## INDUSTRY

- Schools and Universities
- E-learning platforms
- Educational content providers
- Assessment and testing
- Education technology

## WHY CHANGE?

- Global educational accessibility
- Evolving job market needs
- Technological integration demand
- Personalized learning importance
- Efficiency in administration

## ENABLING TECHNOLOGIES

- AI-powered educational assistants
- Virtual Reality (VR) classrooms
- Augmented Reality (AR) learning
- Adaptive learning algorithms
- Blockchain for secure certifications
- Cloud computing for accessibility
- Big data for personalized insights
- Gamified learning experiences
- Mobile learning applications
- E-learning platforms

## GREAT EXAMPLES OF AI

- AI tutors like Carnegie Learning
- Chatbots like SnatchBot for student queries
- AI-driven personalized learning from Knewton
- Automated essay scoring by Turnitin
- AI in Duolingo for language learning
- IBM Watson for education analytics
- Content recommendations by Quizlet
- Facial recognition in Smart Classrooms
- AI for special needs education in CogniToys
- Predictive analytics in higher education

## NEW RISKS

- Data privacy and security concerns
- Bias in AI algorithms
- Over-reliance on technology
- Digital divide among students
- Ethical use of surveillance tech

## MISUSE

- Biased AI in admissions
- Invasive surveillance in classrooms
- Plagiarism using AI writing tools
- Manipulated educational content
- Hacking of educational databases

## ORGANIZATIONAL REQUIREMENTS

- Strong leadership and vision for AI integration
- Skilled team for AI development and maintenance
- Collaborative culture embracing technology
- Effective data governance and management
- Continuous investment in technology and training

## BEST PRACTICES

- Start small with pilot programs
- Focus on student privacy and data security
- Encourage educator and student feedback
- Continuously update AI systems
- Blend traditional and AI methods

## DIGITAL TWINS

- Virtual campus models
- Digital twins for laboratory experiments
- Virtual reality classroom simulations
- Online learning environment replicas
- AI-driven school operation models

## FUTURE JOBS

- AI curriculum developers
- Educational data analysts
- VR/AR educational content creators
- AI ethics officers in education
- Edtech support specialists

## RECOMMENDED READING

- "Artificial Intelligence in Education" by Holmes, Wise
- "Teaching Machines" by Watters
- "AI in Learning and Education" by Selwyn
- "Machine Learning Yearning" by Ng
- "The Hundred-Page Machine Learning Book" by Burkov

## ONLINE RESOURCES

- Coursera: Offers online courses from universities.
- Khan Academy: Free educational resource for all ages.
- EdX: Online courses from various universities.
- LinkedIn Learning: Professional development courses.
- Udemy: Wide range of courses on various topics.



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## DILEMMAS

- Should AI grade subjective answers?
- Is constant AI surveillance in education ethical?
- How to ensure equitable AI access?

## STEP BY STEP APPLICATION

- Assess educational needs
- Choose suitable AI tools
- Train educators and staff
- Implement in phases
- Monitor and adapt

## AI MODELS

- Predictive analytics models
- Natural Language Processing (NLP)
- Machine learning for personalized learning
- Decision tree algorithms
- Neural networks for pattern recognition

## GLOBAL LEADERS

- United States (Silicon Valley's edtech)
- China (Massive online platforms)
- India (Rapid edtech growth)
- Norway (Innovative learning solutions)
- United Kingdom (Diverse educational tech)

## THE FUTURE OF AI

- AI for individual learning paths
- Immersive VR and AR learning
- AI in global education outreach
- Ethical AI development in education
- Integration of AI in curriculum design

## TED TALKS

- "The future of learning" by Sugata Mitra
- "What AI is – and isn't" by Sebastian Thrun
- "Can we build AI without losing control?" by Sam Harris
- "Let's teach for mastery – not test scores" by Sal Khan
- "The surprising thing I learned sailing solo" by E. MacArthur

## NEXT STEPS

- Engage with AI technology.
- Identify opportunities for AI application.
- Invest in AI education and training.
- Please contact us at [hello@nextpaper.me](mailto:hello@nextpaper.me) for further exploration or inspiration through an AI-related talk, workshop, or consulting. We'd love to help!



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