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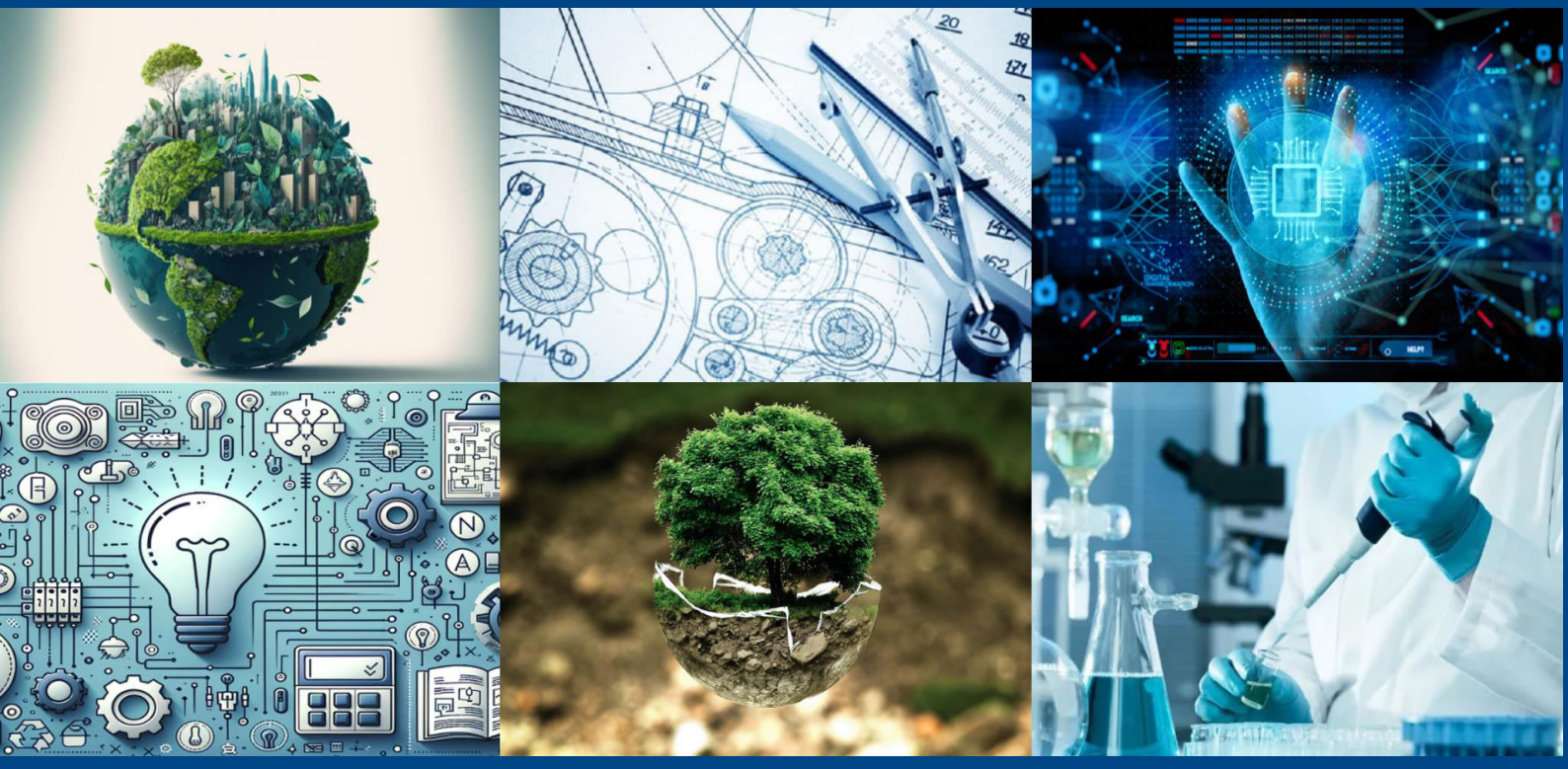

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Impact of Artificial Intelligence on Future Employment

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ABSTRACT: Artificial Intelligence is rapidly transforming education, offering great potential in teaching, learning, and research. While AI tools like ChatGPT, MidJourney, and Codex bring exciting opportunities They also worry about whether using them is right or wrong. Technologies such as NLP, APE, ITSs, PLS, VR/AR, and sentiment analysis are being applied in areas like student support, personalized tutoring, automated grading, data analytics, content development, and academic planning. This article takes an optimistic view of AI's role in higher educat ion while urging thoughtful and responsible engagement. Artificial Intelligence has roots as far back as the 1930s, with key developments by Turing, McCullough, and Pitts, but 2023 marks a major leap in its growth. While AI offers vast opportunities in science, education, and health, it also raises serious ethical concerns. Experts like Harari and Holmes warn that the real issue lies in how humans use these technologies, emphasizing the need for responsible engagement.In education, AI and technology have expanded access to learning through online platforms, enabling flexible, personalized, and on-demand education. This shift breaks barriers of distance and language, offering more inclusive learning opportunities. However, it also demands changes in teaching methods, ongoing faculty development, and adaptable student attitudes. Universities are changing fast because of new technology and changes in society. To keep up, they need to go digital and make learning available online. Traditional classroom models are giving way to project-based learning, which encourages student creativity, collaboration, and deeper thinking.

I. INTRODUCTION

Technology now plays a key role in education, with tools like digital lectures, virtual classrooms, online resources, simulations, and e-books enhancing the learning experience. However, there is growing concern that reading—a vital skill for cognitive development—is declining as students rely more on images and sound. If not addressed, AI could make this problem worse. This raises an important question: Could robots replace humans as the main readers of the future if we don't do more to encourage people to read?

Technology is changing the way students learn by giving them more access to information and new learning opportunities. It helps teachers connect better with students and allows for personalized education. Using new tools like machine learning can improve teaching, make learning more flexible, and give students access to resources outside the classroom. It also helps create education that fits the needs of all students. However, a significant effort must be made to transfer educational technology from one culture to another to preserve cultural differences and world cultural enrichment an important problem that has been on the table since the third quarter of the past century (Escotet, 1991).

Augmented reality (AR) and virtual reality (VR) will change the way students learn in college. Tools like virtual whiteboards and 3D models will help teachers make lessons more exciting. Students can even take virtual field trips to better understand their subjects. Also, with the help of AI, learning can be tailored to each student's needs and help them reach their goals.

AI is rapidly changing many fields, including education. In "AI-driven learning," AI can personalize lessons and make learning more interactive and engaging. Tools like Natural Language Processing help create tailored instruction and real-time feedback based on each student's needs. This helps students learn at their own pace and get support where they need it most.

Generative AI (GenAI), which creates things like text, pictures, and videos is also transforming teaching, research, and

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university management. Technologies such as APE and ITSs help with grading, tracking progress, and providing personalized support. These tools also help teachers save time and boost students problem-solving skills

Figure 1 What is Generative AI? A Basic Infographic by Visual Capitalist

An intelligent guidance system could help students follow personalized learning paths based on what they already know. This system would take into account their strengths and weaknesses, offering advice that includes psychological and social factors. As these tools develop, they will transform education at all levels, supporting continuous learning throughout life and aligning with career needs. Several AI language models agree in establishing the current and Emerging fields like AI, renewable energy, cybersecurity, and biotechnology are creating new job opportunities in just the next five years. Here are some fields that may have potential growth:

- artificial intelligence and machine learning
- cybersecurity and privacy
- renewable energy and sustainability
- healthcare and telemedicine
- data analysis and management
- robotics and automation
- blockchain technology and cryptocurrency
- content creation and digital marketing
- e-commerce and online businesses
- remote work, e-learning, and virtual collaboration

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Of course, since the job market is constantly evolving, especially in these transition years, what we perceive as emerging fields today may not necessarily be the same tomorrow. Therefore, It's important to stay flexible, keep learning, and improve your skills for future job opportunities .This requires flexible vocational and higher education study plans and careers, and learning flexibility is not always available in many countries and educational systems.

The future impact of AI technology is expected to create new jobs, especially in fields related to artificial intelligence. In fact, as the professional market evolves, new roles will emerge regularly, transforming the labor landscape. By mid-2023, for example, AI-related careers were already starting to appear.

In education, AI technology promises to improve teaching and learning by increasing efficiency and effectiveness. Key developments expected include personalized learning systems, AI-powered tutoring, and tools for automating administrative tasks.

- AI-**Driven Program Development**: Study programs will focus more on what students need to learn, using AI, data science, and predictive models, instead of what teachers already know.
- Curriculum **Planning**: AI will support curriculum design aligned with societal and global needs.
- LMS **Integration**: AI will enhance Learning Management Systems, creating a more seamless and efficient learning experience.
- Advanced **Personalization**: AI will enable deeper, more tailored learning for each student.

Here are some new and unconventional job titles related to AI advancements:

S.No.	Job Title	Job Description
1.	Prompt Engineer	Professionals who create and refine prompts to effectively guide AI systems in generating desired outputs.
2.	Algorithm Inspector	Experts who review and analyze AI algorithms to ensure their performance, safety, and ethical compliance.
3.	Human Machine Trainer	Specialists who work closely with AI systems, training and fine-tuning them for better performance.
4.	AI Ethics Manager	Professionals responsible for overseeing the ethical development, implementation, and usage of AI systems.
5.	Deepfake Reviewer	Experts who detect and analyze deepfake content to prevent its spread and mitigate potential harm.
6.	Authenticity Checker	Individuals who verify the authenticity of information, images, or videos, often using AI-assisted tools.
7.	Kill Switch Engineer	Engineers who design and implement safety mechanisms to stop AI systems in case of malfunction or misuse.
8.	AI Dream Interpreter	Specialists who analyze AI-generated dream simulations to gain insights into human creativity and problem-solving.
9.	Robotic Emotion Designer	Experts who design and program emotions and emotional responses for AI systems and robots to improve user experience.
10.	AI Art Curator	Professionals who evaluate and curate AI-generated art, recognizing the value and creativity in the work of AI artists.
11.	AI Talent Agent	Representatives who promote and manage AI-generated personalities, artists, or influencers in various industries.
12.	AI-Assisted Legal Mediator	Professionals who utilize AI tools to facilitate negotiation and conflict resolution in legal disputes.
13.	AI-Powered Storyteller	Writers who collaborate with AI systems to create compelling stories, novels, screenplays, or other narrative works.
14.	Virtual Reality Therapist	Mental health professionals who use AI-powered virtual reality environments for therapy and treatment.

Figure 2 Some of the new jobs emerging from the references books in April 2024

- **Collaborative Learning**: AI helps improve teamwork between students, teachers, and schools, leading to better results
- **VR/AR in Education**: AI enhances learning by using virtual and augmented reality.
- **Natural Language Processing** : NLP analyzes large text data to uncover trends and insights.
- **Task Automation**: AI automates administrative work, letting teachers focus more on students.

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- **Predictive Analytics**: AI predicts student performance to help tailor teaching strategies.
- **Adaptive Learning:** AI customizes lessons and assessments to match each student's skill level
- **Advanced Assessment Tools**: AI improves psychological and educational diagnostics.
- **Human-Computer Interaction**: AI deepens understanding of how tech supports learning.
- **Personalized Learning**: AI creates more tailored learning based on individual performance.
- **Health Education**: AI supports healthcare education, treatment development, and systems transformation.
- **Mental Health Support**: AI chatbots offer wellness support, especially for remote students.
- **Virtual Counseling**: AI-powered counselors offer both academic and mental health support to students in schools and universities.

Intangible learning, when used alongside traditional methods, will create virtual environments, games, and simulations for faster and innovative learning. It will use AI to enhance knowledge gaining and transformation. This approach will change both in-person and online education by focusing on predictive and anticipatory learning. The new method will aim to strengthen research-based learning.

Of course, we already use multiple applications for two-way communications, and different media presentations are compelling in dealing with face-to-face or online learning. Figure 3 shows some of the programs using generative AI in text, image, video, audio, 3D, and coding.

Sentiment analysis is a powerful tool that uses AI to understand emotions in written text. It helps in education, research, and communication by analyzing opinions, attitudes, and emotions in materials like student feedback or social media posts. AI can even create text with specific emotions, such as positive or negative posts, to influence public opinion. This is especially useful for balancing data in areas like education and customer service.

AI can greatly improve education by enhancing how we learn, teach, and assess, leading to better results, mental health support, and continuous learning. While AI will play a major role in the future of education, it's important for humans to guide its use responsibly for the benefit of society.

Figure 3 Open access illustration with some of the current generative AI in six dimensions

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To achieve this, humanity must first set aside ethical and aesthetic responsibilities—something that is still lacking in the ongoing revolution of knowledge. In terms of immediate and specific AI applications to higher education as well as general basic education, here are a few plain examples:

Student Support: AI chatbots provide 24/7 assistance, answering student queries anytime, anywhere.
Personalized Tutoring: AI delivers customized learning and feedback based on students' interests, skills, and learning styles.
Automated Grading: AI streamlines grading, supports large classes, enables self-assessment, and offers instant feedback.
Education Data Analytics: AI analyzes test scores, participation, attendance, and more to improve teaching and student outcomes.
Planning & Administration: AI supports curriculum design, institutional planning, and performance forecasting for better academic management.

II. CONCULSION

In simpler terms, our education system mostly teaches us what has already been discovered, but the challenges ahead are unknown. AI, however, aims to explore and tackle what we don't yet know. As Yuval Noah Harari said, AI is something that takes power away from humans, and it's unclear how humanity will adapt. On the brighter side, I believe we will survive, and our education should focus on preparing us for uncertainty. As Pliny the Elder put it, "the only certainty is uncertainty." This mindset could be the key to thriving in an uncertain future.

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