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–AI and Education–

Artificial Intelligence (AI) is **rapidly transforming** higher education in a multitude of ways. When harnessed to **bolster student outcomes**, AI gives higher education institutions the ability to **anticipate enrollment trends**, **optimize recruitment** efforts, and **elevate academic performance**.

For example, **AI-powered chatbots** can answer student queries in real time, providing support 24/7. Adaptive **learning platforms** use AI algorithms to **analyze student data** and **create personalized learning paths** that cater to the individual needs of each student.

AI can also **analyze** large volumes of data to identify patterns and insights that can help educators make informed decisions about curriculum development and teaching methods.

Additionally, AI is also **creating new opportunities for research**, **enabling researchers** to **analyze large datasets** and **conduct complex simulations** that were previously impossible. AI-powered systems can also **automate tedious research tasks** such as **data entry** and **literature reviews**, **freeing up valuable time for researchers** to focus on more important aspects of their work.

However, the integration of AI in higher education also raises concerns about **privacy**, **bias**, and the **potential displacement** of human workers.

It is therefore important for universities to carefully consider the **ethical implications** of **AI** and ensure that its implementation is done in a responsible and transparent manner.

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Don’t hesitate to leave us a comment, to share our newsletter with others.

Enjoy reading!

- **Artificial Intelligence in Higher Education: Applications, Promise and Perils, and Ethical Questions—Educause Review**

In this contribution to Educause, Elana Zeide provides a comprehensive overview of the impact of AI on higher education.

The article discusses the various ways in which AI is transforming higher education, such as improving the learning experience and automating administrative tasks.

However, the article also raises concerns about the ethical implications of AI, including issues related to privacy, bias, and the potential displacement of human workers.

The article highlights the need for universities to carefully consider these ethical implications and ensure that AI is implemented in a responsible and transparent manner.

Overall, the article provides a balanced analysis of the impact of AI on higher education, recognizing both the promise and the perils of this transformative technology.

- **ChatGPT and cheating: 5 ways to change how students are graded — The Conversation**

Louis Volante and his colleagues explore in this contribution to The Conversation how the impact of generative AI platforms such as ChatGPT could push universities to reform traditional assessment practices.

After reviewing the challenges that these platforms present for formal assessment, the author outlines several proposals of educators can respond to ChatGPT and other AI language models: consider ways to incorporate AI in valid assessment; engaging students in setting learning goals requiring students to submit drafts for feedback, grading subcomponents of the task, and moving to more authentic assessments or include performance elements.

- **Higher Education Will Have to Adapt to Generative AI—And That's a Good Thing—Data Innovation.org**

As the title of his contribution suggests, Gillian Diebold argues that the integration of generative AI in higher education will bring significant benefits.

The article explains that generative AI, which involves using algorithms to create original content, has the potential to transform the way we teach and learn. For example, it can be used to create personalized learning experiences, generate new content for courses, and provide real-time feedback to students.

The article acknowledges that there are challenges to integrating generative AI in higher education, such as ensuring that it is ethically and responsibly implemented.

However, the article concludes that the benefits of generative AI are too great to ignore and that higher education will need to adapt to this technology to remain relevant in the future.

- **How Colleges Are Using Artificial Intelligence to Improve Enrollment and Retention—Forbes**

In this contribution to Forbes, Michael T. Nietzel provides a practical and informative overview of how AI is being used in the context of enrollment and retention in higher education.

He explains that AI-powered chatbots and virtual assistants are being used to provide personalized support to students throughout their academic journey, from the admissions process to graduation.

AI is also being used to analyze student data to identify patterns and insights that can help colleges make data-driven decisions about recruitment and retention strategies.

The article concludes that AI has the potential to transform the way colleges attract and retain students, but emphasizes the need for colleges to use this technology ethically and transparently to ensure that students' privacy is protected.

- **Chatting and cheating. Ensuring academic integrity in the era of ChatGPT—EdAXiv.org**

With the advent of ChatGPT (GPT-3 language model), OpenAI has disrupted the higher education space. OpenAI's conversational agent brings its own set of benefits to higher education.

ChatGPT also raises a number of new questions and concerns for universities and faculty.

However, strategies can be put in place to prevent fraudulent and dishonest use by students or third parties.
In this pre-publication, authors Debbie Cottom, Peter Cottom and Reuben Shipway explain these benefits, challenges and fraudulent uses of ChatGPT. In addition, the authors outline strategies for the smooth use of ChatGPT in higher education.

- **The application of AI technologies in STEM education: a systematic review from 2011 to 2021—Springer**

The paper is published in the International Journal of STEM Education (article number: 59 [2022]) and is authored by Weiqi Xu and Fan Ouyang. Weiqi Xu and Fan Ouyang are interested in the application of artificial intelligence (AI) in science, technology, engineering and mathematics (STEM) education.

To conduct this study, Weiqi Xu and Fan Ouyang reviewed 63 empirical research papers on AI in STEM disciplines over a 10-year period (2011–2021).

Weiqi Xu and Fan Ouyang classified research into 6 main categories. In addition to these 6 categories, each main category has several subcategories.

The **first category** of AI applications in STEM education is learning prediction, exemplified by systems that predict student performance or learning status in advance through AI algorithms and modeling approaches.

The **second category** of AI applications in STEM education is intelligent tutoring systems (ITS), defined as AI-based systems designed to provide personalized instruction or feedback to students and promote personalized and adaptive learning.

The **third category** of AI applications in STEM education is student behavior detection, which refers to systems for exploring and tracking student behaviors, patterns, and learning characteristics through data mining and AI learning analytics in teaching and learning processes.

The **fourth category** of AI applications in STEM education is automation, which uses AI technologies to automatically assess student performance and generate questions or tasks for instructors.

The **fifth category** of AI applications in STEM education is educational robots, which is the adoption of robots in STEM education to facilitate students' learning experience and enable them to acquire knowledge in an interactive manner.

And, in the **last category**, the other, consisting of two papers on collaborative learning training based on commonalities among students or improving student engagement.

- **Out of the laboratory and into the classroom: The future of artificial intelligence in education—SocArXiv**

Despite the daily presence of artificial intelligence (AI) in all sectors of the economy, defense and entertainment. The education system remains a sector where AI employment is in the minority. Even though this publication was published in August 2020.

The article is still relevant as the author, Daniel Schiff, explains the history and use of AI in education.

In the **first part**, the author begins with a historical overview of the use of AI and offers his perspective on the fears and misconceptions about these forms of educational technology.
In the **second part**, Daniel Schiff focuses on distance learning technologies (ed. note: controversial technologies during the coronavirus health crisis).

In the **third and fourth parts**, Daniel Schiff analyzes AIEd and offers his perspective.
In the **fifth part**, Daniel Schiff analyzes the recommendations for promoting the development of AI in education.

Use of artificial intelligence technologies in the educational process—Academia

Published on the website "Web of Scientist: International Scientific Research Journal" (Vol. 3 No. 10–2022—: was), this article, written by Z. Ravshanbek, lists the different cases of the use of AI in the educational system.

But also to know if an AI is able to replace humans in the field of education.

Or if AI is more of a complementary tool for administrators and teachers.

In addition, the author brings answers with the help of AI to different problems encountered in the educational system, with as an example the use of an AI able to analyze feelings to understand school drop-outs.

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