

Main Generative Artificial Intelligences (GAI) and their opportunities in education.

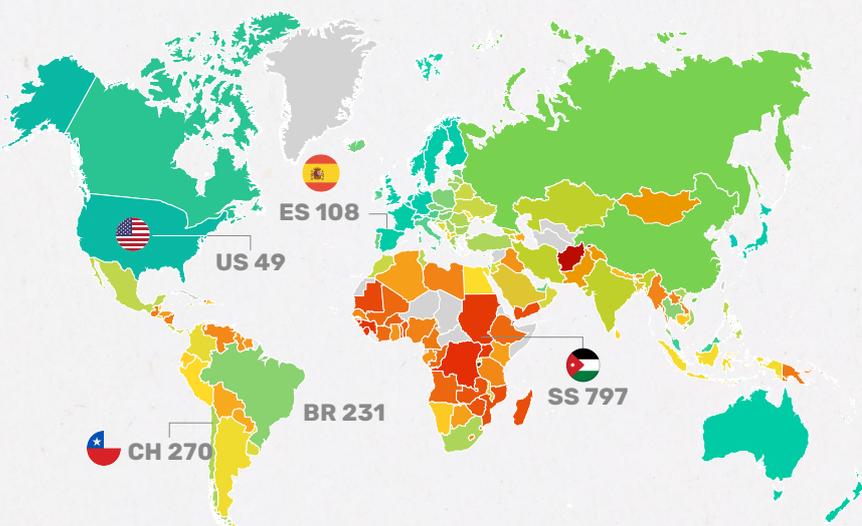
In recent months, a series of applications based on Generative Artificial Intelligence (GAI)¹ have been made public, which are revolutionizing the way information is produced and shared.

This type of advance is part of frontier technologies according to an UN, 2018 Study in which is revealed the need to create measures that allow a balance between economic efficiency, equity and ethical considerations in their application. Regarding this situation, the following graph is presented that shows the scores obtained in the readiness index for frontier technologies carried out by the United Nations Conference on Trade and Development (UNCTAD). Colombia ranks 72nd among 166 countries with a score of 0.54/1.0, evidencing the persistent challenges in terms of access and use of technological advances that are also essential for the transition to greener technology.

This technological revolution is generating concern in some sectors, since it has been feared for some time that the advances that are part of it will leave a good part of the population unemployed, especially in mechanical and repetitive jobs, which are easier to automate (Acemoglu & Restrepo, 2016). However, some experts affirm that, as has happened with other Industrial Revolutions, it is expected that, within the framework of emerging trends, new jobs will be created for which it is necessary to have not only technical skills but soft skills such as adaptation to change, continuous learning, emotional intelligence and teamwork, and thus contribute to correct reskilling² (topic addressed in Issues Note No. 16 Talent Retraining) that allows a better and faster adoption of these technologies.

The countries most prepared for frontier technologies

Degrees of preparation of countries to use frontier technologies



Source: Statista based on UNCTAD, 2023

What is Generative Artificial Intelligence?

It is a category of algorithms that generate new results based on data with which they have been trained. **The GAI creates content in different formats (text, images, audio, video and more)** (FEM, 2023).

From the academic sector, there is a warning about the consequences that the use of Artificial Intelligence could bring by reducing the effort of students; Other trends show that, on the contrary, these technologies can become tools that increase people's productivity in their learning process. Beyond divided opinions, these types of technologies are here to stay and their rapid adoption is transforming the way of doing things with strong impacts on the educational and labor sectors. In this thematic note we share with you some of the GAIs that have gained the most strength in the educational environment.

¹ GAI is an aspect of artificial intelligence focused on the generation of original content from existing data; it uses algorithms and advanced neural networks to learn from previous information such as texts and images, and subsequently generate new content. (Source: <https://www.obsbusiness.school/blog/que-es-la-inteligencia-artificial-generativa>)

² Also known as skills recycling, it is the process of learning new skills in addition to those you already have, to do a different job, either within the same organization or between companies.

ChatGPT

Version: free and paid.

What does it consist of? is the most recognized AI so far, launched by the company OpenAI on November 30, 2022. ChatGPT is an AI that has been trained to be a specialized chatbot, where conversations are held naturally. The ability to construct argumentative texts and solve complex exams has demonstrated its potential, which, according to education specialists, can be used to generate more personalized and effective learning experiences. However, its biggest limitation is that it only has information until 2021, something that will surely soon be overcome. Google most recently launched its version of Chatbot comparable to ChatGPT called Bard.

Perplexity

Version: free and paid.

What does it consist of? Similar to ChatGPT, it is an AI that allows you to ask questions naturally with the difference that it shows the sources from which the information was taken, which generates greater trust among academic users, by being able to make visible the veracity of the origin of the information. In this AI, the provision of updated information is also striking.

SlidesAI

Version: free and paid.

What does it consist of? is a Google Workspace add-on that, through a topic instruction of at least 500 characters, creates a presentation in a matter of minutes, which can be edited and downloaded in ppt format.

This AI promises to increase the productivity of one of the most common tasks in academic and work settings: making slide presentations. Although, like many AIs, it is in the development phase, which means that it can provide imprecise or incomplete information, especially on very specific topics, it is very attractive because it not only shows the information, but is also capable of choosing images, diagrams, and colors. Additional SlidesAI promises soon to be integrated with PowerPoint.

ChatPDF

Version: free and paid.

What does it consist of? Using natural language processing and machine learning techniques, it can read and understand text, identifying important keywords and phrases in the document to extract them in a summary or analysis.

The emphasis of this AI is on increasing productivity by reducing the time required to read articles in PDF format, since this tool offers the possibility of not only generating a summary, but also asking questions about the text.

Synthesys X

Version: free and paid.

What does it consist of? analyzes objects and patterns from pictorial representations and generates new images based on their similarity and relevance to the objects/patterns found in the original input.

Several AI applications have entered one of the sectors characterized by human imagination and creativity: Art. In the Sony World Photography Award (SWPA) photography contest, German artist Boris Eldagsen surprised the jury when he refused to accept the first place prize, revealing that the contest's winning photograph was actually created by an AI.

Cleanup.pictures

Version: free and paid.

What does it consist of? This application allows you to remove anything that is required from a previous image, such as objects, defects, people or text; becoming a very useful tool for people in the audiovisual sector (photographers, creative or e-commerce agencies, among others); It is also a support instrument in school projects. It has a free version and a paid version, the difference lies in a better resolution and the quality of the images.

Synthesia

Versión: paid.

What does it consist of? this audiovisual tool allows the creation of professional videos in 15 minutes which can have their script modified with the help of avatars, it allows to change the language between 140 options it has, to change backgrounds and to add new elements. This kind of AI facilitates content creation and allows to create more dynamic presentations.

Hugging Face

Version: free and paid.

What does it consist of? focuses on creating next-generation Deep Learning³ models, to do so, it creates an open source platform "Transformers", which allows developers to access and use pre-trained Natural Language Processing (NLP) models.

This AI allows, among other things, to have an online repository where users can share, download and create pre-trained NLP models. It is worth noting that recognized companies such as Microsoft, Google AI, Intel, Meta AI use this platform to share some of their models, which makes it an ideal tool for Data Science professionals.

To take into account:

- The information contained in this note may vary given the continuous advances, improvements and new releases that each of the Artificial Intelligence technologies constantly presents, for example, Usechannel focused on generating data answers to text questions, is in the beta or testing phase. Additionally, companies may modify their business models, which is why some free versions may become paid.
- This overview of the main GAI's that are transforming the world, and therefore education, shows the enormous impact that access and use of them will possibly have on people's daily lives; Furthermore, it highlights the need for dialogue about the moral, social, emotional and economic implications that they may have in the near future.

³ Deep learning- is a branch of AI that focuses on developing algorithms and computational models that use artificial neural networks for handling large sets of information (images, texts, and data).

- The importance of socio-emotional skills such as creativity, resilience, teamwork and critical thinking is also highlighted, which can allow greater adaptation and criteria to use this type of technologies, therefore, the development of these represents a challenge for educational processes in the classrooms.

Desde Sapiencia

The use of AI in education is encouraged, allowing students, teachers and administrators to better adapt to the new dynamics and resources that technology offers. Currently, there is an offer from the Yes Med! platform. created with the help of AI, where, by 2022, 5,104 people were able to improve their English skills and 150 more obtained a license for the TOELF Essentials Test that certifies their skills at the national and international level.

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