COMPUTER SCIENCE AND ENGINEERING IN ARTIFICIAL INTELLIGENCE

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Abstract
Until the present, the technology has made students and teachers to object in its use, the quick development of it in engineering has been possible by the appearance of the covid-19, the objective of this investigation is to respond to the following question: why engineering and computer science students would have to learn artificial intelligence? It can be said that the students learning of these disciplines study or develop competences like the creation of: A.I. in mechanics, robotics, biological sciences, physical sciences, etc., from where they could develop, such as the advanced neural networks. The method used for this research is the PRISMA which allowed through the keyword of A.I. and Computer Science in the database of Scopus, Wos, World Wide Science, Scielo, Dialnet, from where we then have a large number of research articles that will have to be filtered, having as a result in the first search 321 952 articles, which were then filtered at various times until reaching the number of 320 429 filtered articles leaving us with 37 of them related or linked to research on A.I. and computer science. In conclusion, A.I. applied by engineering schools of all specialties has granted the development for companies and technological contributions to the new digital culture.

Keywords : *Artificial Intelligence, Technology Approach, Intelligent Computer, Robot Automata,*
Neural Intelligence, Agent Research, Computational intelligence.

Introduction

Currently, a great challenge facing the takeoff of Artificial Intelligence (A.I.), has been due to the advancement of the use of technologies and that schools of science and engineering are developing new historical moments; within humanity, hybrid learning is the sequence of making virtuality part of the professional training (De Jesús & Nisan,2021), developing the A.I. without stopping even when there were times when students of engineering and computer science were locked in quarantine in their houses, it was known that facing new challenges humanity could develop a variety of scientific and technological activities with A.I.; were new paradigms of a technology that revolutionizes the world form home of every science and engineering student appear. Every concern has the human begins to reflect itself, and this worries because it can be used to harm the human race being in the hands of unscrupulous men the misuse of technologies, for this reason the European Union (E.U.) is against the rapid development of this technology tool because by the time could present some difficulties in human beings, from the creation of autoboots, bots, unmanned drones with autonomous learning, that acquire all the knowledges by the interaction of reality and that can perform and direct themselves according to the construction of their algorithms, or programming codes, that is the reason for the E.U.

Also, A.I. can be defined as follows: it is a high-risk technology because it is fully interconnected with the physical world and lacks regulations for its use in technological applications (Vázquez Pita, 2021), as the powers of the world becoming part of the armament world of these powerful countries since 2019, researchers of the E.U. has launched their concerns about ethical construction in the use of A.I.

From the application of the automaton neural learning, it can be mentioned that there are two types of doing A.I. such as logical structures based on mathematics and the non-symbolic A.I. but both are of importance and usefulness in the daily life of people since today everything is connected to the internet network who oversees making a neuronal system of active networks exist that can thus fulfill its purpose, capable of solving problems from industry, medicine, technology to crops as previously mentioned as shown in the research.

For this reason, this research is within the pedagogical framework in university classrooms where the beginning of this discipline of A.I. technologies is given. Likewise, we can show that A.I. is an academic resource in the formation of engineering and computer science students; due to the fact that society itself, according to its needs, makes changes occur in all educational systems being the fourth industrial revolution in the process of acquiring mastery with the use of

autonomous technologies, and that also today its application is found within the initial classrooms with children who are able to interact with A.I

A.I. has a global and international scope because in everyday in student learning, education is strongly linked to electronic devices that teachers and students share daily, and it is a form of coexistence due to this tool is present to help improve the quality of education, for this reason in the following paragraphs we can define the objectives of the investigation.

the objectives of the investigation are to verify the relationship that exists between artificial intelligence in the learning of engineering and computer science, why these students should learn artificial intelligence, and as the third objective is to know what changes make engineering and computer science have to join the technological and social changes, the research will be developed with a descriptive approach using the database obtained from each objective that will be answered with the research of other authors and researchers' own contribution.

A.I. is disruptive becoming dispensable in students and teachers in the search for knowledge or information of research work, since they have the cell phone in their hands, they already have internet access like Google search engines and others that are developed by the A.I. (Chávez Valdivia,2021), making each student dependent on this technological system. Likewise, the A.I. has been taking part of all virtual environments, and in the world of learning in robotic construction that are also completely linked to the internet system, as in the times of old movies full of science fiction, today in these times it is a reality.

Methodology

research is a systematic review article based on the PRISMA method that has a high degree of rigor in selecting the information, being repository by repository and that each of them are analyzed by keywords to achieve the objective of obtaining articles linked to the selected research as mentioned by (Vera Carrasco,2009), being the initial structure from the construction of the title that is relevant in scientific research, in the same way a systematic review article presents a superstructure very different from an initial research work to, reach the known structure in all research it goes through very rigorous processes, due to the exposition of the research. This article is given in the following investigation databases.

Review Of Literature :

In Scopus, we performed our first search with the keyword TITLE-ABS-KEY (Artificial AND Intelligence), and it gave us as a result 497 research articles referring to A.I.; these were in the first research from the years 2013 to 2022, containing works from different areas or disciplines, for this we filtered by reducing the number of years and the specialty, reducing the number of results ina margin of five years from the year 2018 to 2022 and from the specialty of Engineering and Computer Science, giving us as results, from where, this allows us to improve the research developed by researchers in the world who publish their research.

Likewise, the search procedure continued with the database of Worldwide Science with the key word of artificial intelligence (Did you mean artificial intelligence), in this first search is obtained in general 312290 articles due to the finding of studies from different disciplines, therefore there was only filtered articles initially with the key word Artificial intelligence in engineering and computer science .

In the development of the search for scientific research articles on the Web of Science (Wos), the following filtering is followed by the type of topics Computer vision & Graphics and knowledge engineering, giving us as a result of 28 articles, which will be reviewed one by one to verify if there is duplicity and the they belong exactly to the research Artificial Intelligence in learning engineering and computer science, finally 23 articles were filtered, leaving us with 5 research articles corresponding to the proposed research .

Now the search in Worldwide Science is done by specialty or discipline to approach the research as is the case presented by the page of this repository in the visual part where it details that 22 articles are technology, 20 machine learning, 39 Uma, 36 systems, 25 problems, and 23 neural networks having a total of 165 articles as seen in Image 1. We will limit it in articles of technology, machine learning, systems, and neural networks, obtaining as a result 101 articles in all possible languages and that will be filtered then by years of search being carried out in an ocular way one by one; reducing them by filtering and having a result of 21 investigations as shown in Image 1b, we will continue filtering in the search of article by article because there is a great difference of excluded articles of during the process of exclusion by area, finally we found only 5 articles that comply with the search of information of the A.I. un engineering and computer science.

Conclusions

In conclusion the A.I. applied by the engineering schools and even by companies interested in developing technological applications make these databases of information on a A.I. collected on

the web, through search engines or information search engines allows a great development and a career of new technological contributions on the new digital culture to achieve innovation in the creation of smart cars, cameras, cellphones drones and the internet of things in their home applications as well as in industry, agriculture, medicine, etc. In the same way in education of training of professional, it has allowed the development of intelligent educational platforms where students of engineering and computer science can develop education and professional training fully linked in the participation of massive groups that have the same interest in developing technologies, these platforms have the creation to apply student tutoring or monitoring, so that the student can perform this or that situation according to the need within their search for information, and the scientific community develops a great contribution because it makes new knowledge or new research that are born of the set of contributions of each student and professional from different disciplines connected online from different countries or nations in all languages is massified.make them to join with new contributions to the technological culture that is through the programming language or the source codes of the logical programming system that allows to develop neural networks among other applications, interested in engineering and sciences, as we can also see that every day is more common the existence of hackers and specialists who did not study at a university and they have a high degree of mastery about A.I., to commit crime or develop activities that benefit the citizenship, for this reason it is necessary the construction of ethical codes about the use and manipulation of A.I.

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