

## Understanding Technological Trends in Education: How Artificial Intelligence Helps Learning in Colleges In Susta

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### ABSTRACT

**Background.** Understanding technological trends is how popular technology is used to assist learning, Artificial Intelligence is created and programmed and designed by humans to assist activities in completing human tasks.

**Purpose** to understand technological trends in education how Artificial Intelligence helps learning in higher education in a sustainable manner, where in the last year 2020 there was Covid 19 which had spread throughout the world so there were online classes, but over the years the problem has ended, that's what caused it technology trend of Artificial intelligence in assisting learning.

**Method.** using the method of conducting interviews from sources directly, conducting interviews with this research with the aim of getting the correct data.

**Results.** shows that understanding the trend of Artificial Intelligence technology in helping learning in higher education in a sustainable manner is very helpful and its use has increased in recent years due to the impact of covid 19 so that it has greatly affected online learning.

**Conclusion** it was concluded that the results of the interviews showed the use of Artificial Intelligence in assisting learning through individuals in using technology in completing learning tasks and assisting when the learning process takes place in the classroom is very helpful, technology as a medium used in learning, students still use the same technology cannot be said in sustainable.

### KEYWORDS

Artificial Intelligence, College, Observation

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### INTRODUCTION

Artificial intelligence created by humans is called Artificial Intelligence, namely Artificial Intelligence is a technological development in both information and communication that was described 10 years ago (Barredo Arrieta et al., 2020).

Artificial Intelligence in helping learning in higher education in a sustainable manner not only assists student work in carrying out coursework but also assists lecturers in their work and solving problems encountered during the learning process or accessing students' final grades. (Reichstein et al., 2019). The existence of



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Artificial Intelligence in helping learning in higher education in a sustainable manner not only assists student work in carrying out coursework but also assists lecturers in their work and solving problems encountered during the learning process or accessing students' final grades.(Reichstein et al., 2019). The existence of technological developments quite rapidly both in information, Artificial Intelligence also continues to experience development, there is an impact from developments in this era so inevitably universities must be smarter in using Artificial Intelligence(Doncel dkk., 2019). Because higher education is an educational institution in Indonesia which plays a very important role in the world of education (Yaros & Misak, 2021).

Artificial Intelligence Artificial Intelligence Artificial Intelligence has developed rapidly enough to be found everywhere, this artificial intelligence is no longer an invention or a new matter, Artificial Intelligence can help activities in higher education in a sustainable manner.(Li, 2020). Artificial Intelligence is applied in universities to assist activities in completing human work(Fernández-Batanero et al., 2022). Artificial intelligence can provide cognitive responses like humans, in the development of the times there are many advantages to Artificial Intelligence, however, does not rule out the shortcomings of Artificial Intelligence (Duan dkk., 2019). However, the advantages that exist in the use of Artificial Intelligence in higher education continue to reduce errors from human work (Mazza dkk., 2020), correct mistakes made by humans because Artificial Intelligence is specifically designed and programmed in a specific job to achieve goal of good work(Bragazzi et al., 2020).

The background of the problem of Artificial Intelligence in college is a continuous problem if it creates Artificial Intelligence itself(Jena et al., 2019), the manufacture of the machine or device to be formed from This Artificial Intelligence, in making human intelligence must have a fairly large cost, it takes quite a long time (Ding dkk., 2021), it is different from using it or using it, of course it doesn't cost too much.(Y. Liu et al., 2019), the presence of AI facilitates the work of students and lecturers, but not all universities can use it Artificial Intelligence easily because there are many constraints both in cost and other problems. The existence of Artificial Intelligence can indirectly make humans not want to predict their mistakes anymore in carrying out activities and make mistakes in every job because they have taken lightly the large amount of work(Makowski et al., 2019).

The use of AI in higher education can help facilitate tasks in the world of education and replace human tasks with tasks performed by computers(Kelson et al., 2019), Smartphones, Android, Laptops and so on this makes humans not feel dizzy anymore in carrying out a job task, and results in fewer mistakes made by humans(Wu dkk., 2020). There is Of course, Artificial Intelligence in carrying out daily activities easily does not rule out the possibility of being able to use ethics and morals which are difficult to incorporate into the Artificial Intelligence program system.(Beagan & Phillips-Cremens, 2020). Humans have to learn a lot before using AI because it is cranial in using Artificial Intelligence is also not arbitrary (Qin dkk., 2020), before that it is necessary to study Artificial Intelligence before using it(Yan dkk., 2020). This Artificial Intelligence helps humans in overcoming difficulties in learning in higher education in a sustainable manner, so that humans can easily complete tasks in the world of education.

The negative impact of Artificial Intelligence in the future is if you can't use it well, there is a sense of ease in everything to solve a work problem so that it makes humans become indifferent to the task of activities in the world of education(Sandín dkk., 2020). Artificial Intelligence has replaced the intelligence possessed by humans so that in the future many work programs will be completed by Artificial Intelligence so that it only takes a short time to do learning tasks.(Z. Liu et al., 2020). Artificial Intelligence in the future, when there are many well-known and large universities

that employ Artificial Intelligence, there will be a negative impact that when Artificial Intelligence develops rapidly until it gets out of control, it finally makes students misuse technology systems in negative forms.(Bilal & Iqbal, 2020). Next, that is Artificial Intelligence does not have a mind that can be beyond reason, different from humans, and Artificial Intelligence has unlimited time. The use of Artificial Intelligence in the world of education is very important, but has limitations on how to use it, otherwise it will certainly harm yourself and other people in society.

The creation of Artificial Intelligence has made many changes in the world of education, both in higher education and in a sustainable manner(Ravichandran dkk., 2019). The use of Artificial Intelligence has become popular since the outbreak of Covid-19 which spread throughout the world, so that this disaster has led to an increase in the use of g-technology in any activity, the use of technology in online learning activities without limiting space and time to prevent virus transmission. effort in use This Artificial Intelligence makes it easier for the world of education to carry out work that is no longer manual but with the technology and information that has been provided(Li, 2020). Various regions and governments are starting to compete to take advantage of the convenience of AI in education(Sangster et al., 2020). Government system regulations regarding the use of Artificial Intelligence, namely the existence of an electronic-based government system called (SPBE), this can be seen from the government's plan to use and manage data from the community(Nie et al., 2020), whether it's the personal data of every community in the use of new technology, for example there is in use Artificial Intelligence.

In use Artificial Intelligence in tertiary institutions, before using artificial intelligence, it is necessary to have classroom training in using digital technology both in practice and in its use.(Duan et al., 2019), how to use it and the method of using the technology referred to as Artificial Intelligence(Anjum dkk., 2021). Classes and practice in using Artificial Intelligence is also available in every college in every university(Ellison dkk., 2019), Researchers can draw conclusions that how Artificial Intelligence in helping learning in higher education is very helpful without technology everything will not work well, technology in any form, both in technology for learning in the world of education. The importance of this research is carried out in order to be able to know how Artificial Intelligence can help learning in college students.

The purpose of conducting this research is to find out how Artificial Intelligence can help learning in higher education in a sustainable manner by associating the data obtained with the relevant articles. How Artificial Intelligence is used in order to be able to analyze scientific publications that are relevant to the topic and identify forms of linkages between articles based on the same keywords, topics and authors(Nie dkk., 2020). This analysis involves collecting descriptive data on publications, be it author, journal, year of publication and number of data citations with qualitative techniques to analyze and interpret the data.(Fernández-Batanero dkk., 2022). Descriptive analysis is useful to find out the paths and trends of science for various useful sciences and to find out from the complete data or not literature in the form of inferior subordinates or information that shows abbreviation and evaluation instructions (Wong dkk., 2019).

Artificial intelligence Facilitates universities in completing assignments with Artificial Intelligence, both assignments in fulfilling half-semester requirements to final assignments as a graduation requirement from the course(Chiarella et al., 2022). But for students who don't understand how to use artificial intelligence or what is known as This Artificial Intelligence, has difficulty competing to get good grades, this is due to the low level of human knowledge in understanding artificial intelligence, in the world of education(Barredo Arrieta et al., 2020). Of course this also affects the low usage Artificial Intelligence for real(Grover et al., 2022).

However, this is a common thing but does not rule out the possibility of students stopping there, students inevitably have to be able to use it Artificial Intelligence as a way to complete college assignments in order to get good grades (Yaros & Misak, 2021). Making it easy for researchers to conduct and analyze data obtained on Artificial Intelligence will provide answers from observations in the form of interviews between documents that have been thoroughly researched. Apart from that, it helps Artificial Intelligence in learning to show how the visualization model goes through the path the researcher is aiming for later by bringing together several relevant references (Doncel dkk., 2019). Researchers can draw conclusions about technology trend researchers about the role of Artificial Intelligence in assisting learning through the methods used in searching for data and information in research.

Based on the explanation above, researchers are interested in taking the theme of descriptive analysis to understand trends in Artificial Intelligence technology, technology research on the role of Artificial Intelligence in assisting learning. The existence of this research aims to find out the progress of the trend of Artificial Intelligence in helping learning in higher education. This research was conducted to find out descriptive analysis related to Artificial intelligence technology by taking data obtained through observation through the use of technology in the form of assisting learning using media technology in learning, with this research being carried out relevantly, namely the existence of previous research related to the trend of Artificial Intelligence in helping learning related to students and educators in the world of education. This study was conducted to link one discussion theme to another through the trend of artificial intelligence in assisting learning. Therefore, further research can draw conclusions about the role of Artificial Intelligence in helping learning in higher education in a sustainable manner.

## RESEARCH METHODOLOGY

The method in this study uses the interview method, in order to find out how far Artificial Intelligence is in helping higher education in sustainability and conducting interviews with individuals in the field of sustainable higher education education for sixth semester students in the study of Islamic Religious Education (Darmayenti dkk., 2021). This research is adjusted to the fact that universities use artificial intelligence in completing student lecture assignments to tasks in achieving graduation for students with tertiary education. (Sanche dkk., 2020). The purpose of this study is that students use learning media in Artificial Intelligence which is intended as a learning resource media in the form of computers (Moriguchi dkk., 2020), Smartphones (Swennen dkk., 2020), Androids, Laptops and so on which contain software called software (Yang dkk., 2019).

Software is software that is contained in a computer device that is programmed to assist in the work of university students in a sustainable manner (Bouckaert et al., 2019). Software in Artificial Intelligence which is shaped like a Microsoft office which can be found in all Artificial Intelligence and Google Scholar which makes it easier for students to do lecture assignments both managing and producing data that can be stored and storing documents such as saving the creation of articles (Bao et al., 2022), theses, and important papers as well as finding learning resources through searching on the web said by using Google Scholar at tertiary institutions in a sustainable manner, in order to make it easier for students to carry out lecture assignments in the world of education.

The existence of Artificial Intelligence is used at Mahmud Yunus Batusangkar State Islamic University in the Field of Study majoring in Islamic Religious Education in facilitating class 2020 students in the sixth semester to students at the undergraduate education graduation stage (Bai dkk., 2020), in order to complete lecture assignments up to thesis assignments (Florian, 2019). This data collection method uses the interview method through interviews conducted individually with personal

data collection on Islamic Religious education students who are at the sixth semester stage in a continuous manner, of course with the direct interview method to produce data that is in accordance with the reality at this time that is happening in this era according to current realities and understanding what is meant by the trend of Artificial Intelligence technology in helping learning in higher education in a sustainable manner.

## RESULT AND DISCUSSION

### Artificial Intelligence Questionnaire Result Score to Help Sustainable Learning in Higher Education

No Response	Questionnaire Item Number									Total Score
	1	2	3	4	5	6	7	8	9	
1	5	5	5	5	5	5	5	5	4	44
2	4	5	5	4	5	5	4	4	4	40
3	3	4	5	5	5	5	5	5	5	42
4	5	4	5	5	4	4	5	4	5	41
5	5	5	5	5	5	5	5	5	5	45
6	4	3	5	5	5	4	5	5	4	40

#### Score Description

1 = Very Unhelpful

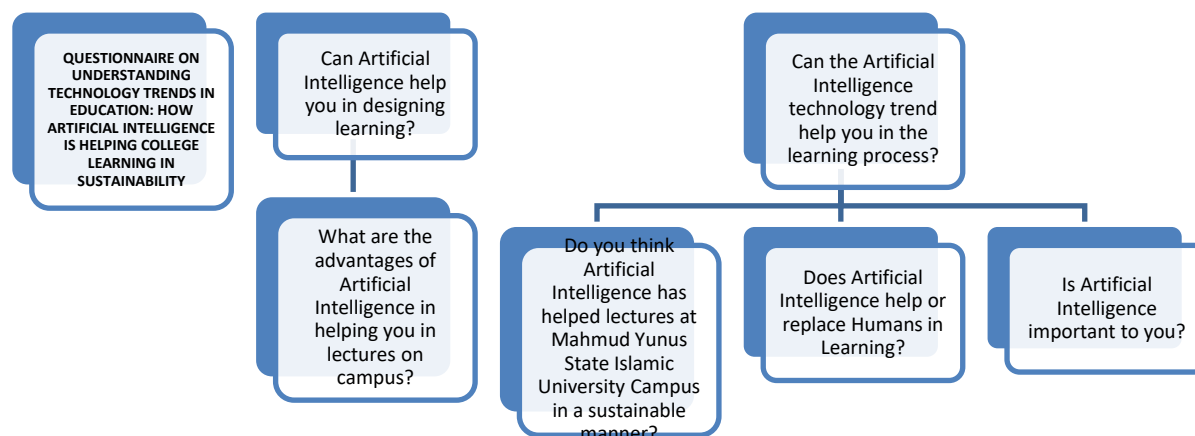
2 = Not Helpful

3 = Help

4 = Very Helpful

5 = Very Helpful

Based on the scores obtained as the data above the results are Very Helpful.



Man-made intelligence, known as Artificial Intelligence or AI, is a technology programmed according to human needs that can help and facilitate students in completing lecture activities in the world of education, this is no longer a new phenomenon. In contrast to the past which was still manual by doing writing by hand and typewriters, but in the course of time these activities have been carried out by computers and laptops using software which has been programmed by humans to complete the tasks required by each student.

Another meaning of artificial intelligence is an object that is designed and programmed by humans themselves in which there is intelligence that can carry out cognitive activities carried out by humans that can resemble thoughts in searching for extensive data and having broad insights. In artificial intelligence, there are many directives that are tied to computer programs so that they can do something, in the human view of course this is a very extraordinary thing. The current phenomenon is no longer a lack of funds in artificial intelligence, but in every human experience as a whole. individuals in using this artificial intelligence, need to know before using it because using it requires knowledge or manual tutorials.

Artificial intelligence which is referred to as (Artificial Intelligence) is very helpful in the world of education in carrying out assignments in lectures, without this human-made intelligence which is named as Artificial Intelligence it may be difficult to complete tasks in the world of education because Artificial Intelligence has been designed and arranged according to the needs of the humans themselves, who discovered Artificial Intelligence for the first time, namely John McCarthy, a person who is called the father of artificial intelligence, a person who became a pioneer in the field of Artificial Intelligence. This artificial intelligence was created in 1956, but artificial intelligence became popular at this time because of the increase in data,

Helping Artificial Intelligence in the world of education makes it easier for humans to work even though there are quite a lot of tasks so that humans think everything can be done easily, even though Artificial Intelligence is very helpful in the world of education for example in universities it does not rule out the possibility that everything can be done easily either like doing lecture assignments to the task of meeting the graduation requirements of higher education in a sustainable manner. The existence of AI also still requires student workers to carry out tasks such as making lecture assignments in making group assignments, individual assignments, in each student's own class, because AI is also programmed with deficiencies. Human artificial intelligence also has its drawbacks,

The deficiency of Artificial Intelligence is not something new because there is no Artificial Intelligence that is created perfectly because Artificial Intelligence is just a program made by humans themselves and those who use it are humans who certainly create more powerful results than the results created, Artificial Intelligence is indeed very help but the shortcomings of Artificial Intelligence still require human labor in completing lecture assignments, for example in searching for data on a computer and typing letters, as well as papers and theses of course still need the hands of the humans themselves, artificial intelligence helps in higher education in a sustainable manner also inseparable from devices the software in it.

Software is an application that is programmed in software and hardware on a computer where this application can be very helpful in carrying out tasks both in searching for data and making scientific writing assignments as well as completing and saving the final assignment of lectures to meet the graduation requirements of students at a university, Artificial Intelligence is very applied to be used whether one understands or not. Artificial Intelligence will continue to grow rapidly and leave humans who are still only in past knowledge, like it or not, humans must be able to accept reality in this era, to learn how to use Artificial Intelligence knowledge required before using Artificial Intelligence, because Artificial Intelligence is not something that ends there, but an intelligence that is made by humans with a broad scope, therefore students must first understand it, otherwise Artificial Intelligence can harm students if the data contained in Artificial Intelligence will be misused by other people. otherwise, to avoid this it is necessary to use Artificial Intelligence wisely and only as needed. so to avoid this it is necessary to use Artificial Intelligence wisely and only as needed. so to avoid this it is necessary to use Artificial Intelligence wisely and only as needed.

Man-made intelligence that is designed and programmed makes it very easy to help complete thesis tasks in finding a bibliography through programmed digital books, which can be found on digital library pages in tertiary institutions, both libraries for universities, as well as helping the public, the Digital Book program is not only you can just find the book you're looking for, but digital books also provide recommendations for lots of books for students. It's easy to find bibliography easily and find a lot of inspiration before doing assignments in lectures. Islamic education, As a result of using this artificial intelligence, students no longer have to bother traveling to the library looking for the desired book, because the books in the library are in a large number of stacks and stacks of books, making it difficult to find books for thesis references that students want to obtain.

Helping human-made intelligence in helping learning Islamic religious education in tertiary institutions covers a wide range both in completing any task but here the use of Artificial Intelligence is not only easy to use but requires money to have it, where not all students are able to have artificial intelligence in college for this is still a problem but there are programs from the government such as assistance for students who excel so that students can buy and use the media both in the form of laptops, Android and so on, so Artificial intelligence is very helpful in learning Islamic Religious Education.

Easystudents in learning use technology called human-made intelligence, which is another name for Artificial Intelligence, in the field of Islamic Religious Education at Mahmud Yunus Batusangkar State Islamic University, both in human-made intelligence programs there are lots of software, namely applications in facilitating Islamic Religious Education students in good learning in the E-campus Application where in the E-Campus room there is an online attendance column and collection of student assignments, and these assignments can be easily seen by lecturers on Android and so on, there is software in the form of Artificial Intelligence software with the E-campus program campus can assist students in fulfilling online presence and uploading lecture activity assignments.

Technology trends in artificial intelligence in Mahmud Yunus State Islamic University in assisting tertiary learning in a sustainable manner, namely the existence of software on computer applications that makes learning easier, in the Field of Islamic Religious Education Studies in the subject of Reading texts in English, using Assessment Tools, namely quizz which helps lecturers in see how far students understand and understand English, Quizz is very helpful in learning with Quizz learning can be more fun and not boring with Quizz students can also know more about where their understanding of learning is because there is a number of scores that can be seen immediately when learning has ended, of course this has become a trend this year according to students at Mahmud Yunus State Islamic University in learning English courses.

The existence of artificial intelligence is very helpful for learning in higher education in completing articles, papers, theses and other scientific writings, which use artificial intelligence in completing assignments in lectures, namely the learning management system is in the form of an application that can find many online journal sites, articles and books in finding books to make references for lecture assignments, of course this kind of software is very helpful in continuous tertiary learning, making it easier for students in the Islamic religious education department to completing lecture assignments and making it easier to find references or references in the bibliography.

### **Results About Understanding Technology Trends In Education:**

#### **Artificial Intelligence in Helping Higher Education Learning in a Continuous**

The existence of data that has been generated from interviews shows a sample of individuals who conducted interviews on how Artificial Intelligence helps learning in higher education, the meaning of these results is how today's technology trends help learning in students studying at universities in a sustainable manner, both in completing lecture assignments to final assignments from colleges to universities Mahmud Yunus Batusangkar State Islamic University, where this research was conducted on even semester students who are sixth semester students in the Islamic Religious Education department, in order to obtain data through the results of interviews conducted in writing this article.

How understand technological trends in Artificial Intelligence education in helping learning in higher education in a sustainable manner, the results are very helpful without Artificial Intelligence technology, of course students are very difficult to find solutions to make it easier to do cognitive tasks, both in typing to doing lecture assignments, the existence of artificial intelligence is already appeared long ago since 1955, but the form of Artificial Intelligence was created far from before that year. However, over the times, experts from time to time have conducted research to continue to develop artificial intelligence, human-made artificial intelligence that is programmed and made by humans.

In lectures need a solution to facilitate a job where pastudents have a world that is only about learning, as a student who sits at a higher education level, of course, requires technology in the form of a learning resource media called Artificial Intelligence, whose name is abbreviated as Artificial intelligence is intelligence that exists in forms of technology that usually help student work in a cognitive form that can encourage students' abilities in good learning, and also in interactive learning, intelligence that is programmed and designed by humans is no longer new but old, but each version is different. from time to time.

The rapid development at this time makes students different in doing assignments, as different asin students in recent years this was due to the sophistication of technology which continued to develop from era to era where at that time there was a pandemic covid 19 so that technological trends

were widely used and very helpful in online classes, but during the current trending period there were also printed books that are arranged in every library have been replaced with digital books, books that can be read anytime and anywhere and can be searched easily according to what students want, this makes the technology in reading and searching for books different in ancient times, this is the background behind the development of Artificial Intelligence in the past and present.

Intelligence programmed and made by humans are very helpful in the world of learning education for students because this man-made intelligence has everything needed as a solution to facilitate learning, both in finding books, typing, storing personal data, writing letters, and saving letters, looking for journals and articles through searches on the internet called search engines, the form of this facility has been widely displayed in Artificial Intelligence which includes software called software.

Software which is an application designed and programmed by humans to assist learning for students, this software is found in media in the form of technology in the form of objects such as computers, laptops, android, etc. It is this media that is called intelligence that is made by humans which is called Artificial Intelligence, an information and communication technology, helping this technology to have drawbacks, namely the cost of owning it and the cost of using it because every technology used in today's technology trends requires networks and power lines. both in charging and in charging electronics in the use of technology whatever form of technology.

Help him Artificial Intelligence in learning really helps students in providing answers to the problems they face, finding a lot of inspiration so that this inspiration does not make students confused in doing assignments and there is a lot of knowledge that can be learned in Artificial Intelligence, namely being able to know ways to make something. coursework, for example in video applications how to use applications through tutorial content so students no longer ask lecturers about things they don't understand, the existence of video learning applications can make it easier for students to carry out lecture assignments in the world of education.

Apart from helping students in learning artificial intelligence, it is also capable of facilitating teachers, facilitating lecturers in developing more active learning materials, artificial intelligence can assist in producing in-depth analysis of student assignments, so lecturers can know where they have arrived. na knowledge and understanding of students in learning, and lecturers can find out what learning patterns are like for students so that lecturers as teachers can easily assess students when learning takes place while in class to lecture assignments at home for students, these are helpful things for teachers in using technology in lectures.

how Artificial Intelligence in helping learning in higher education is sustainable from the results of research on making this article is by taking research using the observation method and using individual interviews with students in the field of study majoring in Islamic religious education, meaning in sustainable higher education, namely how is technology the current trend in assisting learning at the Mahmud Yunus Batusangkar State Islamic University on campus one for students of the Faculty of Tarbiyah and Teacher Training. The meaning from within is sustainable, namely the relationship between individuals using technology in encouraging increased learning for all students has reached the stage where.

However, at Mahmud Yunus Batusangkar State Islamic University, there are still many students who only rely on technology which is only around there and have not experienced much change in using today's trending technology, this makes the results of observations and interviews in the making of this article provide the truth that the results of research on the making of this article shows that at Mahmud Yunus Batusangkar State Islamic University, it is not yet in the progress of technological

trends in Artificial Intelligence today, because of the low ability of students to understand the use of technology and facilities that are still in the developing stage not at the sustainable stage.

## CONCLUSION

This article aims to find out how to understand technological trends in education, namely the role of Artificial Intelligence in helping learning in higher education in a sustainable manner, how to understand technological trends and the function and role of human artificial intelligence in assisting learning in students in this era. By using Artificial Intelligence as a system assistant in learning both in the learning process and helping to do assignments in lectures, this artificial intelligence is designed and programmed to help many things, artificial intelligence is no longer a common thing but learning trends use software in the form of many applications in This era in helping learning produces solutions that are very helpful in learning.

## AUTHORS' CONTRIBUTION

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; In-vestigation.

Author 3: Data curation; Investigation.

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