Es- saoura journal for human and social studies | ISSN: 2477-9881 EISSN: 2676-2153 | Volume:10 / N°: 01(2024), p 450-469

Uses of artificial intelligence in fact-checking and detecting fake content Tech 4 Peace Platform Case Study

Mekki Radja [1*] , Benlarbi Yahia [2]

[1] Language and Communication Laboratory (مخبر اللغة و الاتصال), University of Oran 1 Ahmed BenBella, Oran (Algeria), Rajoua17@hotmail.fr

[2] Laboratory for analysis and design of media models in history, economics, sociology and politics (SIGMA), University of Oran 1 Ahmed BenBella, Oran (Algeria), benlarbi.yahia@univ-oran1.dz

Received: 09/05/2023 Published: 30/06/2024

Abstract:

This study aims to find out the progress of artificial intelligence in fact-checking and detecting fake news and content, through a case study of the Technology for Peace platform using the interview tool, also provided a fact-checking comparison between machine (artificial intelligence) and between humans (fact-checkers) ,This study concluded that there is a hybrid system between man and machine that creates false content and provides mechanisms to detect it and to check facts through algorithms, applications and techniques provided by artificial intelligence and trained by humans, that is, they exist together in one loop.

Keywords: artificial intelligence; Fact-checking; Fake content.

الملخص : تهدف هذه الدراسة إلى معرفة تقدم الذكاء الاصطناعي في التحقق من الحقائق والكشف عن الأخبار والمحتوى المزيف ، من خلال دراسة حالة لمنصة التقنية من أجل السلام باستخدام أداة المقابلة ، كما تقدم مقارنة بين التحقق من الحقائق بين الآلة (الذكاء الاصطناعي) وبين البشر (مدققي الحقائق)، خلصت هذه الدراسة إلى أن هناك نظاما هجينا بين الإنسان والآلة يخلق محتوى كاذبا ويوفر آليات لاكتشافه والتحقق من الحقائق من خلال الخوارزميات والتطبيقات والتقنيات التي يوفرها الذكاء الاصطناعي ويدربها البشر ، أي أنها موجودة معا في حلقة واحدة.

الكلمات المفتاحية: الذكاء الاصطناعي ، تدقيق الحقائق، المحتوى المزيف

***Corresponding author**

1. INTRODUCTION

Artificial intelligence is one of the computer sciences that search in advanced methods of programming and creatioing out work and conclusions similar to those attributed to human intelligence, so that it has the ability to perceive learning to solve problems and make decisions in a logical manner and try to implement the way of thinking of the human mind in a way that simulates his mental abilities, which made it invade all fields, including the field of media, which is witnessing great transformations today And continuous thanks to the development of artificial intelligence techniques and systems such as expert systems, neural networks, systems of genetic algorithms, deepfakes techniques and other applications that contribute significantly to the creation of false content and its dissemination without appearing to be fake, and at the same time the fact-checker was able to detect it also faster and better.

The technological development has helped to reach artificial intelligence to high levels of human capabilities, so the entry of artificial intelligence into the field of media has brought about major transformations in the ability of the media to influence and address public opinion with smarter and faster applications and techniques in creating news or content and publishing it and users interact with it.

As the problem of the current study is the use of artificial intelligence applications in detecting false content, fighting it, and checking the facts in an automated manner, and therefore we ask the following fundamental question:

How does the Technology for Peace platform" tech4peace" benefit from artificial intelligence in fact-checking and detecting false content ?

Sub-questions:

- What are the uses of artificial intelligence in the manufacture of fake media content?
- What are the uses of artificial intelligence in detecting fake media content and fact-checking ?
- How does the Technology for Peace "tech4peace" platform check the facts and expose fake media content in the presence of artificial intelligence applications ?
- Does AI play the role of fact-checkers?

Study objectives

Highlighting the role of artificial intelligence and knowing the progress of its technologies and applications and knowing the diligence of this machine in detecting and fighting false contents compared to human facts, through a case study of the technology platform.

1 .1 Method and tool :

The study relied on the case study methodology to achieve the research objectives .

The methodology of the case study is a research methodology mobilized to study phenomena in real situations, whether new and/or complex or to extend knowledge on phenomena already investigated. The case studies thus provide a detailed and in-depth analysis on a limited number of topics. ((Pierre-Jean Barlatier, 2018)

We used the interview tool in this study to reach answers about the problem and questions that we have already asked, and the interview in scientific research is generally known as one of the qualitative research methods, and it includes asking open questions to the sample members to collect data on a topic, and in most cases the interlocutor is the researcher who intends to understand the respondents' opinions through a series of well-planned and implemented questions and answers . (Mohamed Tayseer, 2023)

Study sample :

The study relied on an intended sample represented by the Technology for Peace platform tech 4 peace, which is a platform approved by the International Fact-Finding Network, this platform is present at the level of all social networking sites and websites in the link referred to, we conducted an electronic interview where we sent the interview written to the management of the platform at the beginning of April, the period of answering the questions took two days, and unfortunately for the confidentiality of the administrative staff, we were unable to identify the respondents and their personal information.

https://t4p.co/ Platform link on the web

1.2 Study concepts:

Artificial Intelligence:

The name artificial intelligence was first launched at a conference held at Dartmouth College Hanover, New Hampshire, and it is a very common term today, but it does not have a common common definition around the world, and this is partly because the study of artificial intelligence is a very fast and common topic that always presents new results and blurs the boundaries between computing, statistics and robotics.

Artificial intelligence also means that machines can perform tasks in smart ways. These machines are not just programmed to do one movement and repetitive movement that can do more adaptation to different situations (Bader Al-Jarrah Nada, 2019) .

Artificial Intelligence (AI) refers to computer systems designed to mimic human intelligence and, in more sophisticated iterations, to simulate human-like learning processes. However, crafting a universally accepted definition for AI remains challenging due to the elusive nature of intelligence itself, which raises fundamental questions about human consciousness that remain unanswered by both natural and social sciences. Even the Association for the

Advancement of Artificial Intelligence (AAAI) defines AI in broad terms as the scientific exploration of the mechanisms that drive cognition and intelligent behavior, and their implementation in machines.') (Wood, C., 2016).

The classification of AI commonly falls into two main categories: strong (broad) AI and weak (narrow) AI, which is the prevailing categorization. Occasionally, there is a three-fold division, which includes narrow AI, Artificial General Intelligence (AGI) (a theoretical concept), and Superintelligence (also theoretical). (Gonçalo Carriço, 2018)

Artificial Intelligence Applications : AI applications provide speech recognition, vision, decision logic and other intelligent functions that mimic the human brain. These are the core functions of many software products on the market today. Artificial intelligence applications can communicate with end users in a more natural way and make the user experience better (v_hanki & others, 2022)

Fact-checking : The term "fact-checking" these days has come to refer to the process of confirming the veracity and accuracy of a particular statement or allegation, with the aim of finding and sharing accurate and evidence-based information, which is based on reliable and high-quality primary and secondary sources. (Mena check, 2017)

Fact-checking is a set of practices and tools that allow you to validate information. There are many ways to do this. It is also possible to verify the authenticity of any type of content (photo, video, rumors published on social networks...)

Fake content : Content can take various forms, including textual content like the fictitious news sites such as WTOE5 News, known for fabricating stories like the false claim that the Pope endorsed Donald Trump for President. Alternatively, content can be visual, such as misleading graphics implying that voting for Hillary Clinton via SMS was possible. These graphics were specifically aimed at minority communities on social media platforms during the lead-up to the US Presidential election**.** (Claire Wardle & Hossein Derakhshan, 2018)

2. The use of artificial intelligence techniques in the creation of fake content

Several AI tools are proficient in generating deceptive content, with new ones continually emerging. These tools encompass intelligent systems capable of emulating human behavior to manipulate public discourse, text-generating AI engines that produce synthetic content known as "readfakes," and bots adept at swiftly and inexpensively creating deepfakes. In a comparative study, an AI system outperformed a human team in generating phishing tweets, achieving a higher success rate. The AI system sent out tweets to over 800 users at a rate of 6.75 tweets per minute, successfully luring 275 victims. In contrast, the human team sent tweets to only 129 users at a rate of 1.08 tweets per minute, managing to trick only 49 users. (Kimiz Dalkir, 2021)

In summary, fabricated content generated through artificial intelligence methods has the potential to mislead audiences and is challenging to differentiate from authentic content. An illustrative example of this was demonstrated in 2017 when a company conducted an experiment comparing the effectiveness of humans and AI software in enticing users to click on malicious Twitter links. The AI software emerged as the clear winner in this experiment. (Kimiz Dalkir, 2021)

2.1 Deepfake technology for creating fake visual content:

Synthetically generated media, often referred to as deepfakes, can be described as artificial auditory or visual content produced using deep learning, a branch of machine learning (ML). These creations are designed to appear genuine and are frequently crafted with the intention of deceiving audiences. The technical complexity and purpose of synthetically generated media can vary widely. Deepfakes, specifically, have been utilized to propagate disinformation and misinformation concerning public figures and political matters. The term "deepfake," a fusion of "deep learning" and "fake," originated

on Reddit in 2017 and rapidly gained traction in technical discourse, becoming commonplace in news and magazine articles by 2018. Deepfakes are defined as manipulated or synthesized auditory or visual content created using deep learning techniques, aiming to convincingly mimic authenticity.(Amiratha Jayanti, 2020) .

Case in point: a fake video with this technology of the Ukrainian president:

3 .The use of artificial intelligence applications in fact-checking :

While artificial intelligence can be used to create false content, it can also be used to detect this type of content and ideally prevent it from spreading so quickly and on a large scale, for example, we can reverse engineer the manipulated data and restore video, audio and images to their original state, Artificial intelligence can be useful in detecting the source of fake news through electronic search for similar content.

Facebook's AI is trained via machine learning, a technique in which an AI sys- tem takes in a huge data set of labeled material and independently finds pat- terns, Jim Kleban, a Facebook product manager who works on reducing misinformation in the site's news feeds, explains that Facebook now uses AI to augment human intelligence. The AI goes through the millions of links shared on Facebook every day to identify suspect content, which is then sent to human fact-checkers. "For the foresee- able future, all these systems will require hybrid solutions," he says,When fact-checkers rate a piece of content as false, Facebook places it lower in users' news feeds. Kleban says this method reduces future views of that content by 80 percent. (ELIZA STRICKLAND, 2018)

In 2018, Mike Zuckerberg predicted that in the next decade, AI would be the savior for the

massive problems of scale that Facebook and others come up against when dealing with the global spread of junk content and manipulation . (Samuel Woolley., 2020)

Machine learning algorithms and artificial intelligence are used to solve a lot of real problems. For example, researchers have used them to analyze users' emotions in social media, to detect satirical and satirical news in texts, and also in the field of e-learning and MOOCs. (Youness Madani, Mohammed Erritali, & Belaid Bouikh, 2021)

Machine learning algorithms and artificial intelligence are used to solve a lot of real problems. For example, researchers have used them to analyze users' emotions in social media, to detect satirical and satirical news in texts, and also in the field of e-learning and MOOCs. (Youness Madani, Mohammed Erritali, & Belaid Bouikh, 2021)

According to Natalia Osipova, a senior journalist in the Wall Street Journal's video journalism division, fake videos are detected by verifying video clip-by-screen, using video editing programs such as Final Cut, which enables journalists to slow down video footage and zoom in on footage by clip.

As for audio content, irregular breathing, abnormal sound rhythm and metallic sounds must be monitored, all of these are signs of the use of artificial intelligence techniques, however, it should be mentioned that detecting fake videos is never easy.

Machine learning algorithms and artificial intelligence are used to solve a lot of real problems. For example, researchers have used them to analyze users' emotions in social media, to detect satirical and satirical news in texts, and also in the field of e-learning and MOOCs. (Youness Madani, Mohammed Erritali, & Belaid Bouikh, 2021)

According to Natalia Osipova, a senior journalist in the Wall Street Journal's video journalism division, fake videos are detected by verifying video clip-by-screen, using video editing programs such as Final Cut, which enables journalists to slow down video footage

and zoom in on footage by clip, As for audio content, irregular breathing, abnormal sound rhythm and metallic sounds must be monitored, all of these are signs of the use of artificial intelligence techniques, however, it should be mentioned that detecting fake videos is never easy. (Asma Ramadan, 2019)

Claire Wardle, who leads the Draft First project to fight disinformation, says AI can speed up time-consuming steps, she says, like seeing the huge amount of content published online daily. (ELIZA STRICKLAND, 2018)

3.1.Fact-checking:

"Fact-checking" as a concept and job description began to spread in journalism in New York City in the early twenties. TIME magazine was new at the time when its founders decided that they needed employees to verify everything that was collected and prepared by reporters and journalists to be true and accurate. (Mena check, 2017)

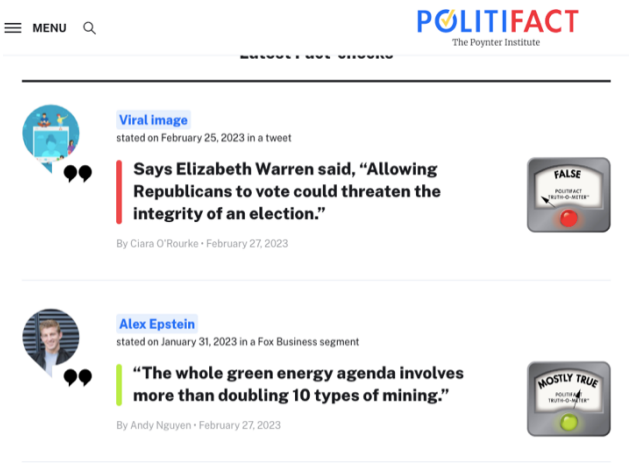
The term fact-checking can mean two things in journalism traditionally: fact-checkers were employed in newsrooms to verify the allegations of facts included by journalists in their articles, and the auditor who practiced this type of verification evaluated the coherence of reports, verified facts and figures, and conducted a kind of comprehensive quality control round of the content of the news outlet before publication, and the second type of fact-checking that we are interested in in the study is the subsequent verification of the facts, that is, after publication. Content that arouses public interest to verify the validity of the data Fact-checkers are looking here for reliable primary sources to confirm or deny claims made to the public. (Mantzarlis, 2018)

Fact-checking is important to assess whether the allegations made in the written or spoken language are true. The publisher of newspapers and domains checks manually by competent organizations:

Examples of fact-checking organizations:

In 2017, Duke Reporters revealed that there were 137 ongoing fact-checking initiatives

across 51 nations, with the United States leading as the largest market for fact-checking endeavors. The inception of the first wave of such projects can be traced back to the 2009 Pulitzer Prize for national reporting, awarded to PolitiFact. This fact-checking endeavor was initiated slightly over a year before by the St. Petersburg Times, now known as the Tampa Bay Times, in Florida. One of PolitiFact's key innovations was its system of rating claims using a "Truth-O-Meter," introducing a structured approach that enhanced clarity in their fact-checking processes. (Mantzarlis, 2018)



The second wave of fact-checking initiatives arose in response to the worldwide proliferation of what became known as "fake news." Originally coined to describe entirely fabricated and sensationalist stories, the term has since been co-opted and misused. These stories gained widespread reach by exploiting social media algorithms. As the susceptibility of online information platforms to disinformation and misinformation became increasingly apparent throughout 2016, a growing number of organizations shifted their focus towards fact-checking . (Mantzarlis, 2018)

International fact-checking Network:

The International Fact-Finding Network was launched in 2015 to bring together the

growing community of fact-checking around the world in the global fight against disinformation empowers fact-checkers through communication, capacity building and collaboration.

Fact-checking is becoming increasingly important because of the speed at which disinformation can spread in the modern media ecosystem. (IFNC, s.d.)

4. Tech4Peace Platform Case Study (Interview Data Analysis):

4.1 Tech4 Peace Platform: (Private data about the platform)

Tech4Peace is a non-profit organization operating independently around the clock to present factual information backed by evidence and sources. Our mission is to ensure the accessibility of accurate information to the public. Through our efforts, we aim to provide Tech4Peace's audience with direct access to information from its original sources. Established in April 2016in the Middle East (e.g. Iraq) with 265 volunteers accredited by the International Fact-Finding Network as a reliable source, it aims to reduce the spread of violence and terrorism by reporting websites and social media pages that spread false news or propaganda that promotes violence or incites terrorism.

4.2 Verification of fake content through the "Tech4Peace" platform : Answering the questions of the first axis about the mechanism of work

Tech4Peace team works according to fixed standards based on accuracy, transparency, credibility, independence, and neutrality. The team was chosen carefully through multiple processes to ensure the independence of the person and impartiality in the future to any party.

4.2.1 Technology for Peace Fact Checking Teams :

The Verification Team comprises a significant group of volunteers dedicated to fact-checking news to determine its accuracy. These individuals undergo thorough training in

utilizing Bellingcat's open-source tools, such as Google Image, TinEye, Yandex, Bing, and inVID, to trace sources on the internet.

The Translation Team operates within the investigative framework, assisting in translating news undergoing verification into nine different languages: Arabic, Kurdish, Turkmen, Turkish, Farsi, English, French, Italian, and Dutch. This facilitates the investigation process for the Verification Team.

The Social Media Team plays a crucial role in supporting the preceding teams by extensively and accurately verifying claims during the verification phase. After the Verification Team completes its assessment, the Social Media Team conducts a secondary review of the information obtained. Subsequently, all relevant materials are forwarded to the Information Technology and Design Team.

The Information Technology and Design Team utilizes Tech4Peace's approved templates to design and format the verified materials, selecting post and article photos based on popularity and interaction metrics to maximize public awareness.

Finally, the Publishing Team, serving as editors and final auditors, meticulously verify all materials, including the origin of the claim, verification tools used, report drafting, language usage, template design, and content classification. Once approved, the results of the investigations are published on the Tech4Peace website and various social media platforms.

4.2.2 Classification :

The content is classified by the editor-in-chief, which is based on the criteria of Tech4Peace described below Accompanied by an example from the podium :

Classification	Example
Clarification: It is employed to rectify a publication, confirming its accuracy while addressing ambiguities or inaccuracies in certain details that were conveyed unclearly or inaccurately. Attention: It is utilized when the publication contains partially incorrect news. Additionally, it serves to caution against fake links or malicious software. Fake post: It is employed when the post includes fake news with a photo or a video clip that is completely different from what was published Fake tweet: It is utilized when there is a tweet that was created or faked and circulated as being issued by a person, institution, or any party. Fake news: Employed when the post contains news (text only) that is not true. Misleading title: It is utilized when an agency, a news website, or any media organization publishes a piece of news that is correct, but the title is misleading and does not accurately reflect the details of the news.	

.Photoshop: Utilized when a photo is circulated, and the Tech4Peace team identifies its authenticity and locates the original copy. The two photos are juxtaposed, indicating which is the fake and which is the real one.

Fake account: Employed when there are accounts or pages on social media platforms that impersonate a name, a personal photo, an institution, or any entity.

Fake document: Used when a circulating document's content has been altered, and it has been denied by the relevant authority. The Tech4Peace team exposes the document's falsity by identifying spelling errors or differences in drafting style, based on the typical administrative steps for writing official documents, in case the original copy cannot be obtained.

True news: Used to publish accurate news in response to numerous inquiries and questions. It is also employed to disseminate important news and decisions issued by official institutions.

4.2.3 Using the Tech4Peace platform for artificial intelligence applications:

Based on what was stated in the content of the interview, the Tech4Peace platform sometimes uses artificial intelligence applications in fact-checking, through the use of special sites such as: https://citizenevidence.amnestyusa.org , http://fotoforensics.com , https://29a.ch/photo-forensics/#forensic-magnifier ,http://web.archive.org, http://archive.is, https://satellites.pro, which analyzes the image criminally through artificial intelligence and finds out if there are any modifications to the image or manipulation, but we do not rely on it as a single source, but it is considered one of the secondary sources that we refer to in our search for facts. Also, recently, some images have appeared that have been made by artificial intelligence, so we are using artificial intelligence image creation sites and writing the same data in the image, and comparing the results with the image in question, to make sure in the event that a definitive result is not reached proving that this image has been created by artificial intelligence.

Regarding deepfakes, which has become one of the most dangerous applications of artificial intelligence in the manufacture of false content, and fact-checkers often find it difficult to detect it, the members of the Technology for Peace platform replied that: "So far, we have not encountered a publication related to DeepFake, which we have not reached a conclusion, as we rely on official sources that published the video and photos under research, as well as interviews and others, until the result of the image or video is reached."

discussion :

The Technology for Peace platform performs integrated work through a large group of people who play the role of fact-checkers, representing their number in 265 distributed over teams specialized in investigation, translation, and others specialized in information technology and design, until the information is published and reaches the public in its correct form in fixed templates and with approved classifications that have already been detailed based on the content of the interview, so the presence of artificial intelligence applications is

strongly present in fact-checking and revealing Fake content in the Technology for Peace platform, whose founders strongly supported the existence of such applications because they facilitate the verification of information published in the digital space or even in traditional media.

fotofronsics application among the artificial intelligence applications that this platform has benefited from in the fact-checking process significantly, as it can detect fake and fabricated images in an automated way.

Today, major companies compete to develop artificial intelligence software such as Meta and Google to help fact-checkers and give them the advantage of leveraging open source and automated algorithms to automatically recognize fake content.

4.3 Comparison between automated (AI) and manual (fact-checkers): Answering the questions of the second axis

4.3.1Automated verification of fake content by the Technology for Peace platform :

Answering questions about the use of automated methods to detect fake content We rarely use automated methods to verify content, as we use all available search methods until a conclusion is reached. We used all the deepfake audio programs to analyze one of the leaked recordings of a political figure, and we found that these programs do not support the Arabic language until the date of publication of the investigation, and this was one of the conclusions that confirmed to us that the audio clip is correct**.**

comparison between fact-checking using artificial intelligence and traditionally human fact-checking:

Automated fact-checking meets through artificial and human intelligence techniques and applications through journalists tasked with fact-checking and auditing a number of points while differing in others, as researchers have identified two main indicators to evaluate the

usefulness of AI-based solutions in detecting fake news compared to fact-checking: The first main indicator is accuracy, by which we mean the accuracy of artificial intelligence in analyzing The author of artificial intelligence systems who issued data related to accuracy indicated that the degree of accuracy is fairly high between 89 to 98.3 The second main aspect is comprehensiveness The extent to which artificial intelligence is wide to include different aspects, it is necessary to combine accuracy and comprehensiveness to detect fake news (Andrej skolkay., 2019) and therefore we relied on these two indicators to provide

The following table reviews a simple comparison between fact-checking using artificial intelligence and traditionally human fact-checking:

Comparisons	Fact-checking (Artificial Intelligence)	Fact-checking (journalists)
Objectivity	Artificial intelligence, when checking the facts and detecting false content, does not tend to one party or the other, but rather addresses the problems that it has been trained to combat.	Humans have feelings, emotions and p +olitical principles that make them inclined to the periphery and biased in their appreciation of false content, so artificial intelligence can be more objective than humans.
Duration	AI trained in analyzing text, video, imagery and audio can work around the clock at rates far exceeding even the most efficient human beings.	Fact-checker humans needhours to go and can't continue working continuously.

Accuracy	The advantage of artificial intelligence or machines is that they are able to analyze large amounts of content accurately.	Humanslack accuracy in analyzing content and detecting news and false content.

Source: Prepared by the researcher based on the results of the research

Discussion:

Some experts in the field of media and journalism bet that artificial intelligence can compete with the journalist and try to occupy media institutions as it can play the roles of fact-checkers, news bulletin producers and audio and video technicians, while some maintain the position of the journalist and media in the practice of media as it can actually tame the machine to perform tasks that facilitate media work and only because, for example, it is difficult for artificial intelligence to manage a dialogue in a television program while it can provide a news bulletin edited from Competent press party .

Our view as researchers who are passionate about identifying and delving more into the study of this modern technological phenomenon is that checking the facts automatically cannot do without humans, journalists specialized in fact-checking are a guide to the successful conduct of the process, which is what we glimpsed in the content of the interview, on the other hand, the journalist is based on most of the new artificial intelligence applications and software that he is fascinated by and tries to train and acquire them to reach everything that is honest and detects all fake content that deceives the audience.

5. CONCLUSION

Although artificial intelligence plays a major role in the manufacture of false content and its rapid dissemination, it can contribute effectively to the detection and audit of facts in the context of fake news and information disorder, artificial intelligence algorithms enable fact-

checking networks to develop their methods in the process of verifying information published in the digital space, facilitating and accelerating them and preventing them from spreading rapidly, while these networks strongly supported the existence of such applications, provided that their results Absolutely accurate to achieve technology information peace is what was extracted from our study of the state of the platform approved by the International Fact-Checking Network (INFACT) technology platform from. For peace.

The most important recommendation from this study is that:

The best solution to detect and fight fake content and fact-checking is the presence of humans and artificial intelligence in one episode, as humans are the ones who classify content and train artificial intelligence, we need human experience to understand the nature of content, for example, biased content, misleading content...

So, this hybrid human-machine approach is through which we seek to reach an early warning system when posting fake content before it arrives and spreads among users.

- **Bibliograghie :**

- Pierre-Jean Barlatier. (2018). Case studies. DBA research methods , 126.
- Mohamed Tayseer. (2023, 06 15). The Interview in Scientific Research. Consulté le 2023, sur (https://blog.ajsrp.com/?p=7267)
- Bader Al-Jarrah Nada. (2019). Artificial Intelligence for the Development of Statistical Machine Learning . Iraqi Journal of Information Technology, 09.
- Wood, C. (2016, august 1). What Is Artificial Intelligence? . Récupéré sur Government Technology: http:// www.govtech.com/computing/What-Is-Artificial-Intelligence.html
- Gonçalo Carriço. (2018). The EU and Artificial Intelligence: A Human-Centred Perspective. European View, 17. Récupéré sur European View: https://doi.org/10.1177/17816858187648
- Mena check. (2017). fact-cheking. Consulté le avril 2023, sur Mena check: https://menacheck.com/
- Claire Wardle , & Hossein Derakhshan. (2018). THINKING ABOUT 'INFORMATION DISORDER': FORMATS OF MISINFORMATION, DISINFORMATION, AND MAL-INFORMATION. france: unesco.
- Mantzarlis, A. (2018). JOURNALISM, FAKE NEWS & DISINFORMATION - FACT-CHECKING 101 . france.

- Youness Madani, Mohammed Erritali, & Belaid Bouikh. (2021). Using artificial intelligence techniques for detecting Covid-19 epidemic fake news in Moroccan tweets.. Results in Physics.
- Kimiz Dalkir. (2021). Fake News and AI: Fighting Fire with Fire? . McGill University.
- Amiratha Jayanti. (2020, SPRING). deepfake. TECH FACTSHEETS FOR POLICYMAKERS.
- IFNC. (s.d.). International Fact-Checking Network. Consulté le avril 2023, sur IFCN Poynter: https://www.poynter.org/ifcn/
- v_hanki, & others, a. (2022, decembre). What are applications of artificial intelligence? Consulté le Avril 2023, sur microsoft: https://learn.microsoft.com/ar-sa/azure/cloud-adoption-framework/innovate/best-practices/ai-applications
- ELIZA STRICKLAND. (2018). AI-HUMAN PARTNERSHIPS TACKLE "FAKE NEWS. SPECTRUM.IEEE.
- Samuel Woolley. (2020). The Reality Game: How the Next Wave of Technology Will Break the Truth . New York.
- Asma Ramadan. (2019, 10 29). Deep fake technology: falsifying facts through artificial intelligence. Consulté le avril 2023, sur N post: https://www.noonpost.com/content/30007