

Mechanisms for detecting false news on specialized Facebook pages

Haya Ammar Sabah

Aliraqia University , Media college

hayaamaar94@yahoo.com

Prof Dr.Sahar Khalifa Salim

Aliraqia University, Media college

dr.saharkhalifa@yahoo.com

Introduction

False news is a modern social phenomenon that is of paramount importance for its wide dissemination over the Internet, particularly on social media sites, and for its different forms. These websites allow people of all walks of life to freely express their personal opinions; they are, therefore, an important source of access to news and knowledge, contributing significantly to the dissemination of misinformation and false news. Accordingly, Facebook has become the leader in publishing this news, due to its nature in publishing without cost and without censorship, and the high availability it has of freedom of publication.

Facebook, also, gave all individuals at all levels the opportunity to transmit their information to erase all geographical differences between them, thus providing a means of communication to influence daily events within unchecked surroundings. Given the recent ways in which the site produces communication, the Facebook site has become a fertile environment for spreading everything that is new by saving effort and time and easing communication, where individuals were able to access the news when they want, and as a result, fake news spread, which is one of the most dangerous messages that target minds, aiming to influence their opinions..

The spread of false news depends on misinformation and camouflage focused on followers, dissemination of the idea without the opportunity to verify the veracity of the news, as well as falsification of the sources on which it is based. This is the method used by the promoters of this news with a view to disseminating and commenting on images and situations of persons or entities in a completely different way than the true purpose of the image or situation or the

opinion of the declared person or the person to whom it relates because they use tactics that facilitate their dissemination, such as the use of emotional language and catchy addresses, to increase the number of clicks and shares.

Topic 1: Methodological framework

First: research problem:

The research problem focused on the pages specialized in detecting deception, and the effective role they played in

educating users and immunizing them against such news through a set of mechanisms used to detect false content. One of the main reasons for the research problem was that the subject of false news was a recent subject in the field of media studies. The main question was formulated as follows: (What are the mechanisms for detecting false news in the specialized Facebook pages?)

Second: Importance of research

This study is one of the most recent studies aimed at diagnosing and identifying the mechanisms on which the Facebook pages that specialize in the detection of false news are focused. The importance of the study comes from the fact that it is a recent subject and is an important feature of the concerns of users of Facebook and other social media sites.

Third: Research objectives:

The objectives seek answers to key and sub-questions that should not deviate from the theoretical and operational context of the research problem, which can be summarized as follows:

1. Figuring out how to confront the false news from the fake pages, especially in the light of the rapid spread, the huge volume and anonymous sources.
2. Highlighting the most important fake detection mechanisms on which the pages in question rely in revealing fakes of news.

Fourth: Research methodology:

The survey methodology has been adopted as the most appropriate because it meets the requirements and aims of the

study, provides access to the necessary data and information, and is one of the most widely used scientific courses in research and information studies.

Fifth: Research population:

The research population was represented by the specialized pages adopted within the course of the study and selected two pages: the page, Tech 4 Peace, which is a non-profit Iraqi page belonging to a group of information and communication technology volunteers, and the page, Matsda2sh; which is an Egyptian page on Egyptian issues in particular and Arab Affairs in general, belonging to a group of Arab and non-Arab youth from all over the world. The time limit was three months, from 1/3/2020 to 31/5/2020. This period witnessed a great spread of false news in light of the emergence and spread of the (COVID 19) pandemic, and the subsequent rumors of intimidation of this virus, especially in Arab countries.

The study used the All-encompassing method, collecting data from all the vocabulary of the research through the inventory of all publications dealing with the Arab Affairs, the number of publications on the Arab Affairs (Tech 4 Peace) (135) and the number of publications on the Arab Affairs. (120)

Sixth: Research tools

An analysis Questionnaire was designed for the contents of false news regarding the Arab Affairs to determine the mechanisms that were used to detect the falsehood in the publications of the two pages. The analysis Questionnaire included the categories (what was said?, and how was it said?), so the Questionnaire was designed through a set

of successive scientific steps and was valid for application.

Topic 2: Mechanisms for detecting false news on the Internet

First: False news detection mechanisms:

Verification of news in the digital environment is defined as: "Not to deal with anything as it appears, and to recognize some of the elements that may appear to be measurable and linked to data, such as the number of fans, shares, tweets and visits, with product reviews and clicks on ads" (Silverman, 2020).

Users are the first line of defense against false news, especially on social media, since news is easy to make but difficult to verify. It's up to them to discriminate and prevent the spread of this news. So a range of signs have emerged that users can use to discern whether or not news is false, including overtiles, (clickbait) headlines, and suspicious website areas that impersonate news sites such as DarkWeb, which impersonates known news site names, as well as spell errors in content, image processing with lack of author, sources and information (Lion Gu, 2019). For self-confrontation, post-truth politics and false news, many digital media are represented by electronic organizations and institutions around the world; initiatives to verify false news have begun, focusing mostly on exposing false news to encourage people to follow the accuracy and honesty of information such as Full Fact.org, Politifact, Snopes, Alaphilippe, et.al., 2019.

Second: Online fake news detection strategies:

False news has generally different prevalence patterns compared to real news. This feature focuses on social media users'

responses to that news. It, therefore, has the characteristics of the network, including the number of users affected, the density of the proliferation network, and the radius of the communication network (Mosinzova, 2018). A series of strategies had to be relied upon to uncover this news:

1. **User-based methods:** These methods rely on users' behaviors and interactions with published news to infer information on their own, providing a textual hint to uncover false news when analyzing it without identifying a particular user (Mosinzova, 2018).
2. **Web-based methods:** Web-based methods are extracted from user-news interactions by building specific networks in terms of attitude and communication, as well as other methods for detecting deceptions, including those based on reproduction, attitude, and spread to predict a news event through the credibility of social media publications (Wei, et al., 2019).
3. **Content-based methods:** These methods rely mainly on descriptive information directly associated with part of the news, which includes analysis of any type of news content. (such as title, basic text, images, confluence, video clips), as well as the use of news content techniques obtained from language and video labels to capture specific writing patterns and interesting titles, to identify false news and information that

has been deliberately created to mislead the public, and therefore extract language or visual marks from the source of the news, address, basic text, images or video, including the number of language marks.

4. Methods of using news reports and reports: These methods are used to identify and contain false news, as an online algorithm has been developed that answers what stories must be sent to verify the veracity of this news, and when (Hasan, et al., 2020).
5. Source credibility method: False news is less likely to be disseminated through reliable sources, and examination of the credibility of sources enhances the discovery of falsehoods. The credibility features of the source include the determination of the source's geographical location, the profile image, the self-report of political tendencies and the job name "Who Shares Face News." (2020).

The methods for detecting false news are divided into three categories (Hasan, et al., 2020):

1. Knowledge-based (by linking to known facts): a way to detect false news by retrieving information early to determine the validity of publications.
2. Context-based (through analysis of social media news): This is a method that requires large amounts of information

and disregard for actual news content. Context techniques make use of tags obtained from user identification files, publications and shares. These tags are therefore used to measure the characteristics and reliability of users.

3. To be based on analysis of the writing method: a method that detects widespread deception in the way false news is written to detect falsehood on social media.

Third: Methods of detecting false news:

There are a range of tools that are used to verify false news and seek to detect its falsity; whether in text, in pictures or in videos. Verification methods are divided into:

1. Text verification methods:

The disclosure of false news texts on social media websites is based on a range of mechanisms that can be used to verify the authenticity of everything posted on these sites, particularly Facebook (Younes, Mackintosh, 2017):

- a. Increasing scrutiny of proposed links that allow the possibility of reading relevant news texts.
- b. Increasing verification of exciting news titles to double their authenticity.
- c. Placing more emphasis on the sincerity of news texts because they are subject to a range of mechanisms, namely, the identification of signatures, writing

methods and official slogans with the personal audit of news reporters to verify their credibility.

- d. Use of FiBprogram; Which can be added to the web browser, which automatically evaluates the text of stories posted on social media and highlights false news.
- e. The possibility of providing a network of diverse sources, as news texts flow from a variety of reliable sources and in different formats.
- f. Falsifying false news by spreading its opposite without referring to it is one of the best methods of detecting false news. It can be countered by the method of destroying false news with false news that is larger in size and stronger than it is from the point of view of lying. In most cases, the presence of an environment devoid of accurate information is a reason for the spread, and therefore it must be revealed and support this environment with correct and reliable information to confront everything that is published (Al-Alimi, 2019).
- g. The detection of false news texts by digital means that monitor their publishers, strengths, weaknesses and backlash is an important method of detecting their falsehoods through the method of public participation in the validation of what is disseminated through social media, based on their interests in participation and disclosure, and the provision of free multimedia means to address

and monitor such news (Al-Azizi, 2019).

2. Image verification methods:

The most important tools and mechanisms for checking false images circulating through social media on a web site are to determine the similarity and location characterization of geographically defined images through specific programs such as Google Streetview, checking the number of license plates with the location of the news (Younes, Mackintosh, 2017), as well as a set of other mechanisms (Silverman, 2020).

- a. Findexif.com: An EXIF information detector tool.
- b. Foto Forensics: This site (erur level analysis (ELA)) is used to identify any manipulated parts of the image, looking for differences in quality levels within the image, and identifying areas that can be morphed.
- c. Google Search by Image: It is a search using images, as users can upload an image or enter its address via URL to find associated or similar images, as well as the sites and pages that used that image.
- d. Jeffrey's Exif Viewer: An electronic tool reveals information (EXIF) in images including (date, time, camera settings), and sometimes geographic location coordinates (GPS).
- e. JPEGSpoo: A Windows-only application that detects

all changes or changes in images, and can extract data such as image histories, camera type, lens settings, etc.

- f. TinEye: A reverse image search engine, which allows Internet users to verify the source of the image and its photographer, as well as to reveal the presence of images, morphed copies or high-resolution copies.

3. Video verification methods

Geographic location is one of the most important elements of the verification of false videos. The focus of the geographic positioning process is to track video evidence, such as landmarks, topography, rivers, bridges, etc., and then match them with existing maps and satellites to verify the location of video capture, through online map services, such as Google Maps or Google Earth. (Ghazail, 2017). The search for Twitterer's tweets is via the determination of their geographical location by inserting the code into this location's search entry (Geocode: x, y, zkm), with (y, x) being the coordinates of the point and representing the geographical area number on the longitude and width in decimal degrees of eight digits. These coordinates are easy to obtain from several websites. While (z) is the radius of the circle to be searched within (Khalifa, 2017).

Screenshot footage is selected to verify the validity of the false video, and then the reverse search step begins. There are two main reverse search engines: Google Engine; <https://www.google.com/imghp?hl=EN>,

and the TinEye engine <https://tineye.com/>.

The reverse image search feature, is one of the most useful means of verification, as it is also used with videos. This feature does not give information about the time a picture or video is taken, but rather helps to confirm whether the image or video is on the Internet, and when it is carried on the web (Gzail, 2017).

Finding the oldest or first source of video is one of the first steps in detecting the falsity of videos, by searching YouTube for the keywords of the video and using the filter (upload date). Going to quality options in the video to see its quality is also an important step to detect falsehood; if the quality is low, this indicates that the account holder does not own the original video but obtained a copy of it, as well as using a mechanism that matches the state of the shadows to the time when the recording was received, and the background and context confirmation mechanism in which the videos are contained in terms (floor, buildings, colors, noise) to verify the false videos (Adelaide, 2019).

Fourth: Social media platform initiatives to uncover false news:

The promoters of false news through social media posts publish false news stories. Although there are suspicious news sites; however, there are ongoing efforts to combat it. The extent to which this news is spread is also guaranteed to be shared by ordinary users who do not necessarily have an interest in publishing it (Turk, 2018). Therefore, Facebook, Twitter and YouTube regularly refuse to host content that is not compatible with their population standards content, and effectively censors speech not only by law,

but by Privacy Standards (Turk, 2018). Facebook has, accordingly, announced the conversion of the account algorithm (quality) in content regulation. Twitter has banned some accounts associated with misinformation and informed users who have been exposed and deceived. Some other platforms have urged collaboration with independent academics to assess the scope of fake news and design the effectiveness of interventions (Lazer, et al., 2018). Google has developed an initiative aimed at creating a common database to detect false accounts; with a view to improving information processing by sharing information with the actors behind it (Baptiste, et al., 2018).

Also, a method that relies on social media information is suggested, like user impressions, to find false information. (Tacchini, et al., 2017.). Another method of working on sub-problems to detect false news was relied on, which is known as categorizing the situation to find articles that agree, oppose or discuss a fact. (Thorne, et al., 2017), as well as using visual tags to classify false news (Yang, et al., 2018). In addition to adopting another approach that is still largely ignored; instead of mocking this news with relevant articles to provide more context and alternative views for the reader, the social media sites that host this news change the environment in which that false news is delivered, and that's what Facebook does with the newly released feature that presents it (related articles) immediately under false news. This calls for easy access to more information and true news (Alemanno, 2018). Thus social media sites have provided a free collection of tools that help verify false news, namely (AI

Jazeera Media Center for Training and Development, 2019):

1. **weetdeck.twitter.com**: One of the best tools used by journalists on the Twitter site which helps monitor and track important accounts and search lists of journalists or politicians.
2. **Storyful Multisearch**: This tool enables Google Chrome users to search 8 social media sites with a single button, as it is a part of the Chrome search engine.
3. **Wolframalpha.com**: For predicting the weather situation that accompanies the images and the morphed videos.
4. **Whois.net**: A search tool to verify the ownership of websites, as records databases can be searched to give accurate details of the disclosure of false news.
5. **Regex.info/exif.cgi**: Ascertain the data accompanying the image, such as: Date of capture, camera type, image profile, etc.
6. **Iztru**: Checks attempts to manipulate the image.

Fifth: Artificial intelligence technology and its role in reducing false news:

Artificial intelligence is defined as: "The art of making machines that perform as intelligent as people" (Ball, et al., 2018). Intermediate artificial intelligence, also called artificial general intelligence: "The intelligence used by the machine, which will be able to understand the world like any human being, has the capacity to carry many tasks independently. It is not currently found in real-world applications, and is only imagined in science fiction in theory. General artificial intelligence must

be able to combine intelligence such as human intelligence with thinking with the computational advantages of subpoenaing and calculating the number in a fraction of a second” (Ball, et al., 2018).

Artificial intelligence technology is employed as radar devices or early warning systems; monitor information threats via the Internet in the form of false news, rumors, etc., with a view to serving the beneficiaries from which they are exported, and identify artificial intelligence technology as the creator of the false news and the sites through which it has spread, and even direct users to refute the news (Mansour, 2019). Artificial intelligence algorithms build a rating of the worldwide news source reliability system, with the aim of having a transparent source of potential false news ratings, based on automatic identification of unwanted areas, supplemented by automated access for advertisers wishing to reach a permanent update of the list of unreliable sites (Alaphilippe, et al., 2019).

Measures to detect false news using robot-based artificial intelligence have also been implemented and suspended, even before they were activated. The Twitter site has banned multiple accounts from being used simultaneously. Facebook has announced the development of a tool to enable them to detect serial dissemination of messages and similar comments, and techniques are routinely used through manipulation campaigns (Baptiste, et al., 2018).

Topic 3: The mechanisms adopted by Tech 4 Peace and Matsda2sh in exposing false news:

First: The mechanisms adopted by the Tech 4 Peace page to uncover false news:

Table 1. shows the mechanisms adopted by the (Tech 4 Peace) page in detecting fake news

	subcategories	Frequency	(%)	Rank
1	mechanisms for detecting deception in texts	54	40	First
2	mechanisms for detecting forgery in videos	43	31.86	Second
3	mechanisms for detecting forgery in pictures	38	28.14	Third
Total		135	%100	

Table (1) shows the mechanisms adopted by the (Tech 4 Peace) page in detecting false news, that the category (mechanisms for detecting deception in texts) ranked first with the number of frequency amounting to (54) frequency and at a rate of (40%). This means that the number of fake news that the (Tech 4 Peace) page dealt with in its publications was in the form of texts, which is a logical result because there is an ease in promoting false news that depends on texts, unlike images and videos that require some skills in falsifying. The page used a set of detection mechanisms about falsity, represented by the direct communication mechanism, the writing style analysis mechanism, and the Yandex search mechanism. The category (mechanisms for detecting forgery in videos) ranked second with (43) frequency and a rate of (31.86%); which explains the page’s handling of fake videos that deliberately stir up opinion as a result of republishing old or fabricated videos using some technical skills to manipulate the content of the video with the aim of deceiving the following audience. A set of mechanisms were used to debunk deception , which were Google Maps,

video content investigation mechanism, video search mechanism in (citizenevidence.amnestyusa), video search mechanism in (Youtube Data Viewer), and video search mechanism in (inVID). Finally, the category (mechanisms for detecting forgery in pictures) came in third place with a frequency of (38) and a ratio of (28.14%); which gives an indication that the page has dealt with false images in its publications as a result of manipulating the content of the images with photoshop programs to deceive the audience with a truth that does not actually exist in order to avoid exposing them to the risk of rumors and fake news. A set of mechanisms were used to debunk forgery in pictures , such as Google Search by Image, TinEye Image Search, Image Content Investigation, and Bing Image Search.1

1. Sub-categories of false detection mechanisms in Arabic news texts on the Tech 4 Peace page:

Table 2. sets out the categories of mechanisms for detecting falsehoods in the text of the news on the Arab Affairs of the Tech 4 Peace page.

	Subcategories	Frequency	(%)	Rank
1	Direct connection mechanism	24	44.44	First
2	Writing Method Analysis Mechanism	20	37.04	Second
3	Yandex search mechanism	10	18.52	Third
	Total	54	%100	

Table (2) shows the categories of deception mechanisms in the news texts of the Arab affairs of the (Tech 4 Peace) page on Facebook. The category (Direct

Communication Mechanism) ranked first with a number of (24) frequency and a rate of (44.44%). This indicates that the Tech 4 Peace page is concerned with the mechanism of direct communication, which relies on the page's investigation team using its personal relationships to access the correct information, either by telephone or via social media, in order to know the background and details of the event with the evidence. Each member of the team works according to his or her competence and background to obtain the accuracy of the information and access it more quickly, as stated in the False Information Link (tech 4 Peace page, 2020). The category (writing method analysis mechanism) was ranked second with (20) frequency and with (37.04%). Which indicates the page's dependence on the writing style analysis mechanism, which is a method that relies on checking books, documents and correspondence to detect forgery and evidence of forgery here is in the signature or in the absence of official books from a issuing authority, or in the presence of many spelling errors or in writing in an informal way, such as carrying a type ironically, as stated in the fake news link (Tech 4 Peace page, 2020). Finally, the category (Yandex search mechanism) came in third place with (10) recurrences and a ratio of (18.52%), which means that the (Tech 4 Peace) page used the search mechanism in (Yandex), a Russian search engine specialized in detecting the falsity of texts, which depends on entering texts into this engine in order to access the original texts by searching for them, as stated in the fake news link (Tech 4 Peace page, 2020).

2. Sub-categories of Video Deception Mechanisms on the (Tech 4 Peace) page:

Table 3. shows the categories of mechanisms for detecting deception in the videos on the Arab Affairs of the page (Tech 4 Peace)

	Subcategories	Frequency	(%)	Rank
1	google maps mechanism	23	53.49	First
2	Video search mechanism in (Youtube Data Viewer)	10	23.26	Second
3	How to check video content	5	11.62	Third
4	How to search for videos at (citizenevidence.amnestyusa)	3	6.98	Fourth
5	Video search mechanism (inVID)	2	4.65	Fifth
Total		43	%100	

Table (3) of the categories of false detection mechanisms in videos on Arab affairs for the Facebook page "Tech 4 Peace" shows that the category (Google Maps Mechanism) was ranked first with 23 repeats and 53.49%. We note here the use of Google Maps to detect visible locations in videos and to tell the truth about their falsehoods. These require certain skills in knowledge of the apparent language in videos. The YouTube Data Viewer category was ranked second with 10 repeats and 23.26%; The page used the mechanism to detect false clips by searching for them in the YouTube app or the origin of the clip before changing or modifying, as stated in the False News Link (Tech 4 Peace page, 2020). It was then ranked as the third category (Video Content Investigation Mechanism), receiving (5) frequencies and (11.62%). Here, the Tech 4 Peace page used the mechanism to investigate within video clips possible connotations to combat falsehoods in the clip, such as shadows, floors, colors, car numbers, city names, or

the time of video recording in the morning or evening, and so on, as stated in the False News Link (Tech 4 Peace page, 2020). The category, video search mechanism (citizenevidence, amnestyusa) has the fourth ranking of frequency (3) and a ratio of (6.98%); This is a mechanism based on the inclusion of video addresses in the platform, which is a large directory of original video addresses, as stated in the False News Link (Tech 4 Peace page, 2020). Finally, the category **video search mechanism in inVID** is ranked fifth with two frequency of (2) and ratio of (4.65%), as stated in the False News Link (Tech 4 Peace page, 2020). All of the above-mentioned mechanisms rely on the principle of searching the video clip in platforms containing millions of previously published videos from which the origin of the fake videos can be inferred by searching each of these mechanisms until evidence of fabricating is obtained.

3. Subcategories of Detection Mechanisms for Deception in Photos on the (Tech 4 Peace) page:

Table 4. shows the categories of mechanisms for detecting deception in the pictures of the Arab affairs of the page (Tech 4 Peace)

	subcategories	Frequency	(%)	Rank
1	Google Search by Image	16	42.10	First
2	Image search mechanism in the TinEye engine	9	23.69	Second
3	Image Content Investigation Mechanism	7	18.42	Third
4	Image search mechanism in the Bing engine	6	15.79	Fourth
Total		38	%100	

Table (4) shows the categories of mechanisms for detecting deception in the

images of the Arab affairs of the (Tech 4 Peace) page on Facebook. The category (Google Search by Image) ranked first with a number of iterations of (16) and a rate of (42.10). %), which is a simple mechanism that anyone can use by entering the image link or uploading the image itself into the search engine (Google) after selecting the (images) box in the mentioned engine, and then it will be discovered when and where this image was taken, as stated in the fake news link (Tech 4 Peace page, 2020). The category (the image search mechanism in the (TinEye) engine ranked second with (9) frequency and a rate of (23.69%). This mechanism refers to the same idea that the search mechanism works in the Google engine. However, the TinEye engine specialized in detecting the forgery involved in images by the user entering the image or uploading it to this engine in order for the engine to hash it into fingerprints or a digital signature, i.e. converting it to (data) and then searching for the similar (data) appears in the search results, where it appears the most similar, the least and the least, and so on, as stated in the link to the news YEF (Tech 4 Peace page, 2020). Then came the third place in the category (the mechanism of investigating the content of the image), as it got (7) frequencies and a ratio of (18.42%); This mechanism in detecting deception depends on searching in the details and contents in the image, and from the similarities and descriptions of the places in these images. They are distinguished whether they are fake, as stated in the fake news link (Tech 4 Peace page, 2020). Finally, the category (Bing Mechanism) ranked fourth with (6) frequency and a rate of (15.79%). Immediate answers to many questions

related to the field of forgery detection, as the title of the image is entered into this engine in order to detect its falsity by specifying the correct information about the original image, as stated in the fake news link (Tech 4 Peace page, 2020).

Second: The mechanisms adopted by the (Matsda2sh) page in detecting fake news:

Table (5) shows the mechanisms adopted by the (Matsda2sh) page in detecting fake

	Subcategories	Frequency	(%)	Rank
1	Mechanisms for detecting forgery in texts	60	50	First
2	Mechanisms for detecting forgery in videos	35	29.17	Second
3	Mechanisms for detecting forgery in pictures	25	20.83	Third
Total		120	%100	

Table (5) of the mechanisms adopted by the page(Matsda2sh) in the detection of false news shows that the category (mechanisms for detecting forgery in texts) has been ranked first with frequency of 60 and ratio of 50%. We note here that the number of false news stories taken up by the page (Matsda2sh) in its publications took the form of texts, indicating the ease of promoting false news based on the form of text, as opposed to images and videos that require some technical skills to be falsified. The page used a set of mechanisms to detect the falsification of published texts, such as the online communication mechanism and the search mechanism (Yandex). The category (Mechanisms for detecting forgery in videos) was ranked second with frequency of 35 and ratio of 29.17%; This gives an indication of the page's handling of fake videos that deliberately mislead and deceive the following audience as a result of the republishing of old or morphed

videos or their content has been manipulated using some technical skills to manipulate and alter the content of the posted video. The page used a set of mechanisms to detect the falsification in the videos, namely *citizenevidence.amnestyusa*, *youtube Data Viewer* video search mechanism, *Google Maps* mechanism, video content investigation mechanism and *inVID* video search mechanism. Finally, the category (mechanisms for detecting falsification in images) ranked third with a frequency of (25) and a ratio of (20.83%). Here, we note that the page has taken up false images in its publications as a result of the modification, addition and change in the content of images by *Photoshop* or other software, manipulating images to mislead the public with a fact that does not exist at all. The page has used a range of mechanisms to detect the falsehoods in the images and is outdated. *Google Search by Image*, *TinEye*, *Image Content Investigation*, and *Bing Engine Image Search*.

1. Sub-categories of false detection mechanisms in Arabic news texts

Table 6 sets out the categories of false detection mechanisms in the text of the news on the Arab Affairs for the page

	Subcategories	Frequency	(%)	Rank
1	Direct connection mechanism	31	51.67	First
2	<i>Yandex</i> search mechanism	29	48.33	Second
3	Writing Method Analysis Mechanism	--	--	--
Total		60	%100	

Table 6 shows that the subcategories of the false detection mechanisms in the

news texts on the Arab Affairs of the Facebook page (*Matsda2sh*) are in the first category, with a frequency of 31 and 51.67%. We note here that the Facebook page (*Matsda2sh*) has used the mechanism of direct communication, which is based on the use of personal relationships by the page's investigative team, to try to reach out to the truth, whether by phone, via social media or in any form of communication, to obtain the correct information, as stated in the False News Link (*Matsda2sh* page, Facebook, 2020). The category (*Yandex* search mechanism) was second with a frequency of 29 and a ratio of 48.33%; Here, we note that the *Yandex* page used the search mechanism, which is a Russian search engine designed to detect falsehoods found in fake texts posted on Facebook and other social media sites that rely on inserting texts into this engine with a view to accessing the original texts, as stated in the False News Link (*Matsda2sh* page, 2020).

2. Sub-categories of fake detection mechanisms in videos on the page (Matsda2sh):

Table 7 shows the categories of false detection mechanisms in the videos on Arab Affairs for the page (*Matsda2sh*)

	Subcategories	Frequency	(%)	Rank
1	<i>Google Maps</i> Mechanism	15	42.86	First
2	<i>YouTube Data Viewer</i>	13	37.14	Second
3	Video Content Investigation Mechanism	3	8.58	Third
4	Video search mechanism	2	5.71	Fourth
5	Video search mechanism (<i>inVID</i>)	2	5.71	Fourth
Total		35	%100	

Table (7) shows the sub-categories of the mechanisms for detecting deception in the videos of the Arab affairs of the Facebook page (Matsda2sh). The category (Google Maps mechanism) ranked first with a number of a frequency of (15) and a ratio of (42.86%), which means the page used the Google Maps mechanism to detect the locations appearing in the videos and to show the real videos from the fake ones. This mechanism requires some skills in knowing the language that appears in the videos or other signs that can be inferred from the original video and are represented by the names of markets, stores, streets, traffic lights, etc., as stated in the fake news link (Musadaksh page, 2020). The category (video search mechanism in (Youtube Data Viewer) ranked second with (13) frequency and a rate of (37.14%), as the page used the mechanism to detect fake video clips by searching for them in the (YouTube) application by uploading the fake video link in The YouTube application or uploading its history to access the original video, as stated in the fake news link (Matsda2sh page, 2020). Then came in third place in the category (the mechanism of investigating video content) with frequency of (3) and a ratio of (8.58%), which indicates that the Matsda2shpage used a mechanism to investigate the details contained in the videos to find out the truth of the fake video through some of the signs in the video, which were represented by the weather, the time of recording, and others, as stated in the fake news link (Matsda2sh page, 2020). Searching for video in (citizenevidence.amnestyusa) ranked fourth with a frequency of (2) and a ratio of (5.71%), as stated in the fake news

link (Matsda2sh page, 2020). The same, as stated in the fake news link (Matsda2sh page, 2020 (

3 .Subcategories of Mechanisms for Detecting forgery in the Pictures on the (Matsda2sh) Page:

Table (8) shows the categories of mechanisms for detecting forgery in the pictures of the Arab affairs of the page (Matsda2sh)

	Subcategories	Freque ncy	(%)	Rank
1	Google Search by Image	16	64	First One
2	Image search mechanism in the TinEye engine	4	16	Second
3	Image Content Investigation Mechanism	3	12	Third
4	Image search mechanism in the Bing engine	2	8	Fourth
Total		25	%100	

Table 8 shows that the sub-categories of false detection mechanisms in the photos on Arab Affairs for the Facebook page (Matsda2sh). The category (Google Search by Image) ranked first with a number of (16) iterations and a ratio of (64%);. This suggests that the Matsda2sh Page used a mechanism to detect the falsehoods found in the images via the Google Image Entry, a simple mechanism that anyone can use to verify any image containing a fake, as stated in the False News Link (Matsda2sh Matsda2sh, 2020). The category (TinEye Engine Image Search Mechanism) was ranked second with a frequency of (4)and a ratio of (16%) which suggests that the page used the image search mechanism in TinEye's Image Detection Engine by inserting the image into this engine so that it could search for its original source, as stated in the False News Link (Matsda2sh Page, 2020). Image Content Investigation Mechanism was then ranked third in with a

frequency of (3) and a ratio of (12%). This gives an indication that the page has used this mechanism to detect the falsehoods in the images through the details and contents contained therein, such as the description of places and similarities in the images, as stated in the False News Link (Page Conflagration, 2020). Finally, the category (image search mechanism in the Bing engine) ranked fourth with a frequency of (2) and a ratio of 8%, as stated in the False News Link (Bing page, 2020).

Conclusions:

Based on the results of the analytical study conducted on the content of false news concerning Arab affairs in the Facebook site to determine the mechanisms for their detection and for the period 1/3/2020, 31/5/2020), a series of conclusions were reached and identified as follows:

1. The pages (the subject of the study) used the most popular and famous social networking site (Facebook) by creating pages for them that specialize in dealing with the content of fake news to expose its falsity, which leads us to conclude that this site provided them with the freedom to publish their investigations about the falsity of the content of the news and its initiatives to educate users to reduce the spread of fake news and gave them the status of Verification as it is a Verified page by Facebook.
2. The detection mechanisms in the pages (the subject of the research) varied, with their

limited use, since these mechanisms are common on the Internet, and we conclude from this that these mechanisms are as abundant as they are available, but they cannot absorb all the false content that is published on the network.

3. The results of the analysis showed that the two pages (Tech 4 Peace) and (Matsda2sh) used a set of mechanisms to verify false news scripts in the top ranks, as well as to address mechanisms to detect falsehoods in videos. However, the priority was to detect the falsity of texts, due to the ease and speed of detecting their falsity.

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