Artificial intelligence as portrayed in International and Egyptian Drama

A psychological perspective

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Introduction

Artificial intelligence is a dominant part of our daily life nowadays, we can see this in our smart phones which have several software programs that help us in many aspects of our lives. Artificial intelligence has evolved in lots of fields recently and became a basic demand for our community like other developed nations. For this reason, our government established faculties specialized in AI to prepare our nation for the near future. Drama as always reflects this interest in AI. And although other nations began to reflect AI in drama as a main factor for its science fiction genre earlier than us, Egyptian drama recently responded to this community interest. The artificial intelligence and especially robots are one of the main subjects discussed in almost every mass media platform nowadays all over the world, but only recently Egyptian drama began to tackle this subject in two of the most popular and famous series, one of two series is a thriller and a Science fiction television drama series entitled "The end" which was premiered on ON E- Network 2020.The other one is entitled "A robot is in our house" which is a comedy series premiered in February 2021.

More recently, an Egyptian movie called "Mousa" was produced in 2021 and premiered in August of the same year.

When it comes to the American movies and series, we find this subject of the Artificial intelligence and robots are a dominant subject in science fiction genre from very long ago. Sackman, J (2022) confirms that "when discussing the greatest movie robot characters of all time, we're often reminded of Peter Weller's iconic portrayal of a robotically enhanced Detroit police officer from RoboCop (1987) and the sequel, RoboCop (1990)"(para.1). Wicclair (2018) mentioned that Humans is also a British science fiction television series set in what appears to be present-day London. What makes it science fiction is that in London and worldwide, there are robots that look like humans and can mimic human behavior. The series raises several important ethical and philosophical questions about artificial intelligence and robotics, which should be of interest to bioethicists. Mubin, Wadibhasme, Jordan and Obaid (2019) found that the depiction of emerging technologies in science fiction media (sci-fi) has played a key role in the advancement of technology in the real world. As a medium of expression and creativity, visions portrayed in sci-fi film and television have been incorporated by computer science researchers in various domains, for instance, as inspiration for novel user interfaces or innovative gesture interaction in the field of Human-Computer Interaction (HCI). Alamalhodaei and Bellan (2021) mentions that, in the real world, Tesla company owned by Elon Musk is developing a 5'8" Tesla Bot, with a prototype expected sometime next year. The news comes during Tesla's inaugural AI Day, which was streamed on the company's website. The bot is being proposed as a non-automotive robotic use case for the company's work on neural networks and its Dojo advanced supercomputer. Interestingly, Musk is imagining this as replacing much of the human drudge work that currently occupies so many people's lives — not just labor but things like grocery shopping and other everyday tasks. He waxed about a future in which physical work would be a choice, with all the attendant implications that might mean for the economy.

Who knows if anything will ever come of this humanoid robot, but we shall remain entertained by Tesla updates until such time as we can buy one of these things in a store and take it home to buy our eggs for us. Now that's an AI utopia. (Alamalhodaei and Bellan, 2021, para 7).

Research Problem

This study aims at comparing between the Egyptian and International dramas in how they dealt with the subject of Artificial intelligence, especially robots and how different the robotic characters were portrayed in each culture through conducting a content analysis study for a sample of movies and series, Egyptian, American and British.

Another purpose of this study is to discover the psychological respective of how humans and robots interact together in the future world where conscious robots live among humans in everyday life as we can watch in science fiction series and movies.

Also, our current study tries to know the status quo of AI in both dramas, Egyptian and international and in the real world nowadays and to what extent they differ from each other, by conducting in-depth interviews with scientists and experts in the field of AI.

The importance of this study

1)AI is a very recent field in mass media studies in Egypt, only very few studies have tackled this issue up till now.

2)Audiences in general usually obtain their general knowledge from what they watch in movies and series, so it is important to analyze how AI is portrayed in drama, especially in Hollywood with its dominant influence all over the world.

3)This study compares between how AI is screened in Egyptian and International drama and the status quo of AI in our real life as the academics, professors and experts of AI sees it.

The research methods used in this study

Both content analysis and in-depth interviews were used in this study. First, content analysis was used to analyze the portrayal of AI and especially robotic characters in 4 series and 11movies.This makes the number of the overall sample 15 dramatic works.

2 of the series were Egyptian which are "the End" and "A robot is in our house", one British series entitled "Humans" which was presented in 3 seasons, and one American episode of a series entitled "How I Met your mother", while the title of this particular episode was "robots versus wrestlers".

As for the movies in this content analysis sample, it consisted of 11 movies, only one movie was Egyptian and the rest of the 10 movies

were American films.

To comment on the results of the content analysis in this study, in-depth interviews with 8 experts, academics and professor were conducted from January the 3rd till February the 1st through phone calls and personal meetings to compare between AI and robots in drama and in real world.

The theoretical Framework

As so many people around the world especially her in Egypt has no access or direct experience with robots, but they constantly watch them on TV, then Social Learning theory maybe the suitable theoretical framework to approach this study.

A comparative approach will be used in this study (mainly cross-national).

Generally speaking, "comparative analysis performs several important functions that are closely interlinked. More specifically, comparative analysis enhances the understanding of one's own society by placing its familiar structures and routines against those of other systems (understanding); comparison heightens our awareness of other systems, cultures, and patterns of thinking and acting, thereby casting a fresh light on our own political communication arrangements and enabling us to contrast them critically with those prevalent in other countries".(Esser and Vliegenthart, 2017,para.1).

Similarly, people living in different countries and within different cultures are able to communicate on a personal level via email, phone, or Skype with members of the same family or cultural group. (Bonfadelli,2017).

Kohn (1989) created, with great vision, another model for international comparison which he called the 'transnational model.' It treats countries as loci of border-transgressing trends. Two sub-approaches can be distinguished here. The objective of the first sub-approach is to investigate transnational phenomena and how they can be observed in different countries. The comparative research question is thus, "How do transnational or transcultural phenomena show up in different countries?". This sub-approach acknowledges the producers, the products, and audiences are no longer primarily defined by membership to national communities. Instead other forms of belonging come to the forefront. (Esser,2014).

Moving to the social learning theory, we can find the mirror theory of broadcasting which explains not only the emotional involvement of the audience but also the popular appeal and universality of the medium.

theory primarily focused on experiential and first-hand knowledge as sources for the development of schema, newer developments have considered the role of media in contributing to the development of schema about knowledge with which one has no first-hand experience. For example, Bachman and Illouz argue that even though children have no direct knowledge of love based on their direct experiences in romantic relationships, they have developed schema about such relationships through alternative sources, such as the media. Indeed, they argue that media may be one of the most powerful sources of schema development not only because of its content but because of its narrative structure. (Barrett 2013).

Schema is simply a mental template of a person's knowledge about people, situations and objects. The schemata is constructed by previous experiences. They are helpful because they simplify reality into expectations about a certain groups and situations. Schema helps organize information and aid in predicting the outcome of situations. Television can create or reinforce schemata. Script theory also can manage expectations about media. In America, a story whether on television or in print usually follows a generic formula. The formula is introduction to the characters, a problem or conflict and then a resolution of the conflict. This organization helps the brain process the information it's taking in. (Srambeau. 2010).

Past differential reinforcement may have indirect consequences through its influence on the formation of various cognitive elements such as attitudes, beliefs and anticipated rewards and punishments that, in turn, have an effect on individual involvement in misbehavior. Finally, vicarious differential reinforcement is implicated in imitation, another principle learning mechanism. (Charles R. Tittle 2012).

The reflective-projective theory

Empirical inquiry and objective analysis indicate broadcasting is an electronic mirror that reflects an ambiguous image of society in which each member of the audience sees by projection his own vision of himself and society. To the degree that we are enabled to see a

common reflection of society and induced to project a similar image of the relationship between the citizen and society, we build a common culture which will unite our country and, perhaps, eventually the world. (Loevinger 1969)

The prosocial potential of media models has been demonstrated through serial dramas that were produced for developing communities on issues such as literacy, family planning, and the status of women. These dramas have been successful in bringing about positive social change, while demonstrating the relevance and applicability of social cognitive theory to media. (Vinney 2019).

Innovations that are difficult to understand and use receive more reluctant consideration than simpler ones. When television models new practices on the screens in virtually every household, people in widely dispersed locales can learn them. (Bandura 2001), AI is one of the innovations that are difficult to understand and use especially in our Egyptian community for many ordinary people, but drama with its movies and series can facilitate this understanding of these new technologies and give it the popularity it needs.

Story-telling and narrative are fundamental to human experience &. As children, we are immersed in stories and learn to approach the world via narrative frameworks. As adults, we order events and find meaning by assimilating them to more-or less familiar narratives. AI-based narrative art explores narrative meanings by generating, modeling and understanding narrative structures and meanings. (Mateas 2002)

Given that the media conveys not just behaviors but also attitudes, values, and beliefs, other theories have been put forth which attempt to understand how media influences the cognitive processing of cultural knowledge. For example, schema theory focuses on the ways in which new knowledge is processed, stored, and retrieved in the mind. It is theorized that the brain organizes material into schemata, abstract cognitive constructs, which are then drawn upon to process new information that is received. The mind seeks similarities between new information received and existing schema, which may necessitate the re-arrangement of new knowledge to fit with established schema. New or altered schema only result when new elements which contrast with existing knowledge are frequently and consistently encountered. Thus, schema theorists contend that media messages are processed by incorporating new knowledge within existing organizational

frame- works, essentially serving to reinforce what one already knows. (Barrett 2013)

The purpose of our current study is to know what kind of stereotype AI in general and especially robots are portrayed with in drama, to be able to identify the existing schema of this subject and therefor how audiences may perceive it.

Schema theory is basically using past experience and knowledge, whether acquired from real life or from the media, to manage expectations about groups of people or how to react to situations. The creators of media use this to their advantage because by using common schemata in their mediums, they can approximate the viewers reactions to the commercial, television show or magazine article. (Srambeau. 2010).

The research questions

1)The research questions of the content analysis part of the study:

The main two research question in this content analysis part of this study, as follows:

1-How are robots portrayed in both the Egyptian and International dramas, are they the same in the two cultures?

2-How do humans and robots especially conscious robots interact with each other, and what psychological perspectives are resulting from such an interaction, or how this interaction is affecting humans lives psychologically and mentally?

2)The research questions of the in-depth interview part of the study:

This part of the study tries to explain the results of the content analysis study by conducting eight in-depth interviews with experts, academic and professors specialized in AI mainly in computer science faculties and engineering faculty, the major of mechatronics, the main three questions addressed to the experts were:

1-Is the portrayal of AI in general and specifically robots in drama is correct from a scientific perspective?

2-Does the interaction between humans and robots reflected in science fiction drama really exists or may exist in near future?

3-What do experts, academics and professors in AI recommend that creators of drama can do to enhance the portrayal of AI in their upcoming movies and series?

And to first answer the two main research questions of the content analysis study, there are sub-questions categorized as follows:

First: The shape and features of the robot:

1-What is the shape of the robots portrayed in the Egyptian and International dramatic works?

2-Who created or manufactured the robots portrayed in the Egyptian and International dramatic works and what were their motives to create robots?

3-How do robots appear in most of the Egyptian and international dramatic works?

4-Is the dramatic work whether it's international or Egyptian show conscious robot?

Second: The types of interaction or the relationship between humans and robots (A psychological perspective):

1-Do robots threaten the lives of human beings in drama? Or are they always helpful to humans in the dramatic works?

2-How many violent scenes is there in the Egyptian and international dramatic works between robots and humans?

3-Is there a confrontation between humans and robots in the Egyptian and international dramatic works? Is the conflict inevitable between humans and robots in drama?

4-How is the character of the scientist who created the robot portrayed in drama?

5-How do conscious robots think and behave as portrayed in international and Egyptian drama? How do humans treat conscious robots? Do conscious robots typically simulate or imitate people's feelings, emotions and desires? Do conscious robots which look like children in drama follow the psychology patterns of real children? Do International and Egyptian drama call for equal rights with humans for conscious robots? How do humans feel about conscious robots? What are the main characteristics of the relationship between humans and conscious robots as portrayed in international and Egyptian drama?

8-What are the good traits that make conscious robots highly evaluated morally and ethically?What are the bad traits that make conscious robots dangerous and like enemies to humans?

Third: The difference between International and Egyptian dramas in portraying robots:

1-What kind of dramatic genre are robots constantly presented in both the Egyptian and International dramatic works?

2-Do dramatic works both the Egyptian and International give their audiences an accurate scientific data about robots and the Artificial intelligence in general?

3-What is the timeframe for the events in the Egyptian and international dramatic works that deals with the robots and the AI in general?

4-What is the conclusion of the story of the Egyptian and international dramatic works that portray robots?

5-What are the general and common themes in both the Egyptian and international dramatic works?

Operational definitions:

The unit used in this study to analyze these dramatic works is the main robot character or characters in the series or movies.

First: The shape and features of the robot

Robots in dramatic works generally differ in shape and bodily features maybe according to the production date of the dramatic work itself and how the producers , the writer and directors of these works imagine or visualize robots based on what they acknowledge from the scientific research published and the technology we see and use nowadays in everyday life, sometimes robots in movies and series appear to be in a very primitive shape as if it's a machine but it is with heads, eyes, hands and legs, although it is still look like a machine or even just as a computer device, for example in movies such as the iconic movie entitled "Star Wars" with its seven editions, in this movie which was first released 1997 the two main robotic characters C-3PO and R2-D2 looked like machines but only with heads, eyes, hands and legs like normal human beings and they also were talking machines, they responded and answered other people's questions in an automatic way.

In the American movie which is called "2001: A Space Odyssey "which was produced 1968, the robot was just like a machine or a huge computer device, but it also was a talkative machine which understood and responded to the main characters in this movie, the space astronauts.

Recently, the robots appear in our Egyptian and International dramatic works exactly like human beings in series such as the Egyptian series "The End" and the British series entitled "Humans".

Second: the types of interaction or the relationship between humans and robots (A psychological perspective)

This will be the main part of our current study, as there is a dominant theme in most American and international dramatic works especially recently and when the science fiction began to present conscious robots almost as human beings, and as a result to this new trend of presentation, the confrontation between humans and robots becomes inevitable.

From the very beginning in the American movie the "Robocop" which was first premiered in 1987, we saw how robots could harm people, not only physically but also kill them brutally. The robots in this movie appeared to be half humans and half robots in their outer or physical shape.

In "Robocop" movie for example there were lots of violent scenes that involves the interaction between robots and humans especially when robots go out of control and their manufacturers no longer have any control over them.

In most cases the confrontation between humans and robots in American and international movies and series are not peaceful. Even in comedy dramas, robots are not always helpful to humans, for example in the Egyptian comedy series "A robot is in our house" and due to the misunderstanding that always occur in communicating with robots ,there are always things that goes wrong and robots become not helpful devices at all but on the contrary they turn to be burdens on people or human beings.

There is tendency in some Egyptian and international dramatic works to portray the scientist or the AI expert who creates or manufactures

robots as an insane person or crazy people who behave and talk in an abnormal way, for example in the Egyptian series "The End", the AI expert looked like a mentally disordered person and the same applies on the character who invented the conscious robots in the "Humans" series , the man was also behaving totally out of control.

When it comes to conscious robots, here we can clearly recognize the phycological perspective, the dramatic works that dealt with humane-like conscious robots try to re-understand and re-examine the human nature, for example robots doesn't lie, they always tell the truth whatever the consequences are, and this is of course unlike human in many cases.

Also, robots do not sleep or dream unlike humans، and when dealing with conscious robots, humans come to understand themselves much better, why do we lie, how can we fall in love and when do we get the feeling of hatred, and what is the purpose do we have in life.

Because of these differences and similarities at the same time, science fiction dramatic works see that the confrontations and the conflict between robots, especially conscious robots and humans are inevitable.

So, in many cases there are violent scenes in these dramatic works between robots and humans even there is terrorist attacks on one another in series like "humans".

To resolve the conflict between humans and conscious robots, the science fiction "Humans" series, for example calls for equal rights in society between humans and conscious robots and that they must life in peace and coexist.

The idea that human beings fear the most is for the conscious robots to reproduce or to give birth, because in this case the humans will no longer have the upper hand over the machines as we see in the American movie "The Blade Runner".

But as we see the hostile relationship between humans and conscious robots in many dramatic works nationally and internationally, we also get to know conscious robots who are extremely loyal, generous, loving and caring for humans and this leads to great friendships between humans and some conscious robots.

On conclusion, robots especially conscious robots make humans think about themselves as if they were looking in a mirror, they inspire people to look inside and see who they really are psychologically and mentally wise.

Third: the difference between International and Egyptian dramas in portraying robots

In this part of the study we are making a comparison between two different cultures regarding how do they represent artificial intelligence especially robots, taking into consideration that the international drama especially Hollywood has dealt with AI and robots long ago before Egyptian drama recently began to make the same subject a main theme in some of its series and movies. This study seeks to know what kind of dramatic genre is most used in international and Egyptian drama when portraying artificial intelligence and robots, is it comedy, science fiction or tragedy as it gives an indication whether this subject is taken seriously or lightly in this culture.

The amount of scientific data and information given to audiences in both international and Egyptian drama about AI and robots is it greater in one and lesser in the other or are they both the same, and why.

And because Egyptian cinema and drama is known to adapt lots of ideas and themes from international dramatic works especially American cinema, this study aims to investigate what are the general and common themes in both the Egyptian and international dramatic works like the grand electricity shutdown and the radiating regions and even the same decoration, this study aims to investigate is it a coincidence or is it an adaptation? Like the Egyptian series of "The End" produced 2020 and the American movie of "Blade runner" which was premiered in 20017 because it is very obvious that they share almost the same themes and ideas.

The sample of the content analysis study and its description:

The sample of this study is a purposive sample, all the movies and series, whether Egyptian, American or British in this sample revolved around a main robot character and dealt with the concept of artificial Intelligence in one way or another.

Table (1): The title, production date, nationality, number of episodes and Duration of the Series in this sample

Title	Production date	Nationality	Number of episodes	Genre	Duration
1-The End	2020	Egyptian	30	Sci-fi television drama series	1050 minutes
2-Arobot in our house	2021	Egyptian	20	Comedy Science fiction	700 minutes
3-How I met your Mother: "Robots versus wrestlers"	2010	American	episode 22 season 5	Comedy Science fiction	22 minutes
4-Humans, season one	2015	British	8 episodes	Sci-fi television drama series	342 minutes
5-Humans, season two	2016	British	8 episodes	Sci-fi television drama series	350 minutes
6-Humans, season three	2018	British	8 episodes	Sci-fi television drama series	352 minutes

That makes the total duration of the series in this study sample 2,816 minutes which is approximately 47 hours.

Table (2): The title, production date, nationality and duration of the movies in this sample

Title	Production date	nationality	Genre	Duration
1-Mousa	2021	Egyptian		
2-2001: A Space Odyssey	1968	American	*An epic drama of adventure and exploration*	*142 minutes*
3- Star Wars	1977	American	Science fiction	121 minutes
4- - The Terminator	1984	American	Action Science fiction	107 minutes
5- Robocop	1987	American	Action Science fiction	102 minutes
6-The Matrix	1999	American	Action Science fiction	136 minutes
7- Artificial Intelligence	2001	American	Action Science Drama	146 minutes
8- I, Robot	2004	American	Action Science fiction	115 minutes

9-Transformers	2007	American	Action Science fiction	144 minutes
10- Avengers: Age of Ultron	2015	American	Action /adventure	141 minutes
11- Blade Runner 2049	2017	American	Science fiction thriller	163 minutes

That makes the total duration of the movies in this study sample 1,317 minutes which is approximately 22 hours.

The total duration of the series and movies in this study sample is 69 hours.

Literature review

The literature review of this study will be divided into two sections, the first one describes how AI in general and specially robots were previously portrayed in International dramas, specifically the classical movies of Hollywood.

The second section will be concentrated on AI applications that uses drama or story-telling in its main system.

AI and robots as presented in Hollywood production:

The field of AI is the modern incarnation of an age- old quest or dream, the dream of building an image of the human in the machine. It is this dream, fueled by science fiction representations of AI such as Hal 9000 or Commander Data, that is the initial inspiration for many researchers entering the field. This dream is not just about modeling rational problem solvers, but about building machines that in some sense engage us socially, have emotions and desires, and, through our interactions with them, tell us something about ourselves. (Mateas 2002).

This first sci-fi movie which is entitled Metropolis and produced 1927, gave a peep into very advanced machinery. It changed everyone's collective perception of the future at that time. Also, it put forth the scenarios around human and machine interactions. Above all, it inspired and molded the attitude of humans towards real and imaginary creations of AI. You can see the ideas *of* Metropolis influencing many recent films and shows like Black Mirror, Blade Runner, etc. (Jackson 2019).

In movies, robots are often extremely humanlike. Although these

robots are not yet reality, robots are currently being used in healthcare, education, and business. Robots provide benefits such as relieving loneliness and enabling communication. Engineers are trying to build robots that look and behave like humans and thus need comprehensive knowledge not only of technology but also of human cognition, emotion, and behavior. This need is driving engineers to study human behavior toward other humans and toward robots, leading to greater understanding of how humans think, feel, and behave in these contexts, including our tendencies for mindless social behaviors, anthropomorphism, uncanny feelings toward robots, and the formation of emotional attachments. (Broadbent 2016).

For someone unfamiliar with robots, the first thing to understand is that almost all the robots we see in science fiction are very much a fantasy. Even the robot in the film *Robot & Frank* (Ford 2012), which looks much like the real robot Asimo, made by Honda, has been given far greater abilities in the film than are possessed by the real Asimo. Typical robots that you might see in many robot labs across the world range from simple wheeled robots to mechanical arms, aerial drones, robots that look like animals, and robots that look like humans. (Broadbent 2016).

A humanoid robot can play a crucial role in the perception of robots before and after short-term interactions. Although speech is the most common mode of communication in film, and is an intuitive way to interact with robots, the research reported in this paper also suggests that tactile interaction is important to the way people perceive and interact with robots. Even with better representation in cinema, improved sensitivity to gender and racial issues will still be important to promote fairness in the bold new future of cyborg cinema. (Schofield 2018).

The idea of dangerous, inhumane artificial intelligence taking over the world is familiar to many of us, thanks to cautionary tales such as the Matrix and Terminator franchises, But what about the more sympathetic portrayals of robots? The benevolence of Arnold Schwarzenegger's Terminator character in the later movies of the franchise may have been the exception in older portrayals of AI, but human-like machines are often represented more positively in contemporary films. Think of Ex Machina, Chappie or A.I. Artificial Intelligence. This shift is very likely representative of a wider shift in

how we think about these technologies in reality. (Lorrimar 2017).

Robots in movies: good, bad, terrifying From Wall-E to Terminator, films have shaped the way we see our technological future, for today is Star Wars Day. George Lucas's original space opera trilogy has been key in directing our imaginations when thinking of a potential robotic future. Through C-3P0 and R2-D2, Star Wars gave us droids that ooze personality, bravery and wit, even though only one of them can speak (in more than 6m dialects, no less). They made us believe that robots could be our friends and allies, rather than the mere slaves or mortal enemies so often depicted in film. To help mark the occasion, which coincided with the FT series Robots: Friend or Foe? we've put together the following list of other films that altered how we view our relationships with robots. Robot & Frank (2012) © FT In this quirky, clever little film, an ageing cat burglar is given a robot nurse to help manage daily life during the early signs of dementia. What follows is a fun, bittersweet caper that shows how technology might rescue a society struggling to cope with an ageing population, and offer a convenient escape from the guilt of abandoning the elderly to solitude. (Noble 2016).

Mentions the role of actor Will Smith in the motion picture 'I, Robot.' How the robots in the film are portrayed by actors whose expressions are digitally replicated on the faces of computer-created characters. (Winters 2004).

The film industry has given us many onscreen representations revolving around artificial intelligence for decades. Well, the AI characters — big to small, anthropomorphic to robotic, and evil to good — have always stunned us. AI has been the center of attraction for filmmakers since the era of the silent-motion picture started. (Jackson 2019).

We live in a time when science fiction can quickly become science fact. Within a generation, the Internet has matured from a technological marvel to a utility, and mobile telephones have redefined how we communicate. Health care, as an industry, is quick to embrace technology, so it is no surprise that the application of programmable robotic systems that can carry out actions automatically and artificial intelligence (AI), e.g., machines that learn, solve problems, and respond to their environment, is being keenly explored. (J. 2018).

AI applications that uses drama or story-telling in its main system (Interactive drama or the Interaction between robots and humans:

The field of Artificial Intelligence (AI) has shown an upward trend of growth in the 21st Century (from 2000 to 2015). The evolution in AI has advanced the development of human society in our own time, with dramatic revolutions shaped by both theories and techniques. However, the multidisciplinary and fast-growing features make AI a field difficult to be well understood. (Liu 2018).

There is a specific AI-based art piece, an interactive drama called *Façade*, an interactive drama is a dramatically interesting virtual world inhabited by computer-controlled characters, within which the player experiences a story from a first- person perspective. *Façade*, the first published interactive drama system that integrates character (believable agents), story (drama management) and shallow natural language processing into a complete system. *Façade* was publicly released as a free download in 2003. (Mateas 2002).

A side of applications and another form of interaction between humans and robots in real live has happened when Professor Hiroshi Ishiguro created the Robot Actors Project at Osaka University to experiment with robot presence and robot control in theatre situations. Since then, the challenge of being in direct contact with live audiences has enriched our understanding of communication between humans and robots and between humans via robots. Today, the Robot Actors Project seeks to demystify the idea of fictional robots by familiarizing the public with the current state of robotics and experiments. A stage play with robots is not just a matter of how to construct realistic androids like animatronics for movies; it is about creating dramatic situations. In a laboratory, a robot is always a robot, but on stage a robot becomes an actor. (Pare 2012)

Research on people's interactions with and social reactions towards socially interactive robots is necessary to shape the ethical, societal and legal perspectives on these issues, and facilitates the design of responsible robotics and the successful introduction of robots into our society. it seems nothing is intrinsically wrong with human–robot relationships as long as we can develop robotic systems that effectively deliver what users believe to be appropriate care behavior. (A. 2016).

The use of AI which had been limited to the movies only has now

penetrated our personal lives. Siri, Alexa, logo generators, and many other technologies have become an integral part of our lives. AI, in many circumstances, is a boon but there is no denying in the fact that it may create mayhem. (Jackson 2019) .

Social intelligence in robots has a quite recent history in artificial intelligence and robotics. However, it has become increasingly apparent that social and interactive skills are necessary requirements in many application areas and contexts where robots need to interact and collaborate with other robots or humans. Research on human-robot interaction (HRI) poses many challenges regarding the nature of interactivity and 'social behavior' in robot and humans. The first part of this paper addresses dimensions of HRI, discussing requirements on social skills for robots and introducing the conceptual space of HRI studies. In order to illustrate these concepts, two examples of HRI research are presented. First, research is surveyed which investigates the development of a cognitive robot companion. The aim of this work is to develop social rules for robot behavior (a 'robotiquette') that is comfortable and acceptable to humans. Second, robots are discussed as possible educational or therapeutic toys for children with autism. The concept of interactive emergence in human-child interactions is highlighted. Different types of play among children are discussed in the light of their potential investigation in human-robot experiments. The paper concludes by examining different paradigms regarding 'social relationships' of robots and people interacting with them. (Dautenhahn 2007).

Credibility and Reliability

Credibility:

After conducting an extensive review of the literature to determine how AI and robots were portrayed in international dramas, the researcher created operational definitions and exposed it to a number of experts** in the academic field of mass communication, broadcasting and drama to ensure that the definitions are accurate and measures what is exactly needed for this particular study and to do some modifications if needed to the operational definitions of this current study.

Reliability (Codebook Implementation):

The coding team comprised one faculty member (the researcher

herself) and one Master student who is an assistant teacher in the broadcasting department in the faculty of Mass Communication MSA University***. The Master student watched two movies and one television series as a sample from the whole study sample which consisted of 15 dramatic works. The two movies were the Egyptian movie "Moussa" and the American movie "The Blade Runner 2049", and as for the series it was the Egyptian series which is "The End".

The reliability between the two coders in this study was measured through using the Holsti equation which measures the consistency amongst coders in light of the accordance between the coders according to the following equation. (Salah 2020).

Holsti consistency= 2T\ N1+N2

T is the cases in which the coders accord.

N1 is the cases of categories that coder 1 has coded.

N2 is the cases of categories that coder 2 has coded.

Holsti=2 (57) \63+63=114\126=0.90

This ratio assures that this measure is clear and applicable.

Results and discussions of the content analysis study and the in-depth interview

1) Results and discussions of the content analysis study:

First: robots shapes and outer features:

Table (3): The shape of the robots in Egyptian and International Drama

The Shape of the robots	human like		more like a machine		A combination of both or other shapes		Total	
	N	%	N	%	N	%	N	%
Egyptian Drama	4	%25	1	%12.5	0	0	5	%17
International Drama	12	%75	7	%87.5	5	%100	24	%83
Total	16	%55	8	%28	5	%17	29	%100

The total number of robots which appeared in the 15 Egyptian and international dramas were 29 robots, only five robots were the main characters in the three Egyptian drama and the other 24 robots in this sample appeared in American and international series and movies which reflects the gab in dealing with AI in the two cultures.

In total, 55% of the robots in this study's sample both in the Egyptian and International dramas were human like, in the second category

comes the robots which is more like machines, the least category was the "A combination of both or other shapes" with the percentage of 17%.This means that the general impression that audiences will get, is that robots will be their competitors, and that they may exceed them in power and strength because they are machines in the shape of humans.

Humanlike robots appeared more in international drama with the percentage of 75% ,maybe this is because science fiction in Hollywood is very advanced and tries to predict the future of robotics, but still there is a high percentage of robots which appear in American and British dramas are more like a machine as we can see in the real world now.

However, in considering the increased use of robots, many people have concerns about deception, privacy, job loss, safety, and the loss of human relationships. Human–robot interaction is a fascinating field and one in which psychologists have much to contribute, both to the development of robots and to the study of human behavior. Robots in science fiction movies are often humanlike. They experience emotions, express opinions, and have motives, and we relate to them easily. Few of us have seen robots in real life, and our ideas about them are often informed by what we see in movies. The further we go down the path toward making and interacting with artificial humans, the more truths we learn about ourselves. (Broadbent 2016).

The more that fiction portrays robots as just like us, experiencing "human" emotions that arouse our sympathy, the more likely we are to accept the existence of such beings in real life. Granted, the Deckard and K we see on screen are not really near-human machines, but very real human actors. Our sympathetic response to the character may have more to do with the real humanity of the actor. Even so, the positive response we have to his human portrayal may just carry over to an artificial counterpart, provided it could appear equally human. Whether such machines could actually approximate human characteristics so closely is another question.

It's a question that may have enormous bearings on how we would ultimately respond to the existence of human-like machines. Robotics researchers talk about a phenomenon they call the "uncanny valley", which describes how as robots become more human in appearance, our empathetic responses to them increase. But this only happens up to a point. Once a robot appears almost (but not quite) human,

our response quickly shifts to one of revulsion. Only when a robot is indistinguishable from a human being, do we return to a more positive response. (Lorrimar 2017).

RoboCop (1987) © Reuters Paul Verhoeven's grubby take on a society in crisis has some markers from other films. The melding of man and machine makes us wonder how much of our humanity we would trade for survival, and — more broadly — whether we would embrace a strict, rule-based society in an age of chaos. (Nobel 2016).

Table (4): Who created robots in Egyptian and International Drama

Who created the robots	Scientists		Natural super power		Unknown		Total	
	N	%	N	%	N	%	N	%
Egyptian Drama	3	%30	0	0	1	%25	4	%22
International Drama	7	%70	4	%100	3	%75	14	%78
Total	10	%56	4	%22	4	%22	18	%100

From the data in this schedule, one can conclude that 56% of the robots on this study were created by scientist, only 22% of the robots in this sample were created by a natural super power, the same percentage which is 22% the audience could not tell who invented or created the robots in this dramas both the Egyptian and the International.

In international dramas, robots were mostly created by scientists with the percentage of 70%, this percentage is only 30% when it comes to Egyptian dramas because international drama shows more interest in the scientific aspects when dealing with AI and robots.

Also super powers has a percentage in international drama whereas this percentage is zero in Egyptian drama reflecting the culture and believes of people in these societies.

Sometimes the creators or inventors of robots in drama are not mentioned or known in movies and series. In the Egyptian series of "the end" for example a robot created another robot.

Table (5): The personality of the creator of the robot or the AI expert in drama:

The personality of the creator the robot	Normal person		Insane person		Total	
	N	%	N	%	N	%
Egyptian Drama	2	%33	3	%50	5	%42
International Drama	4	%67	3	%50	7	%58
Total	6	%50	6	%50	12	%100

Both Egyptian and international drama tend to portray the creators or manufacturers of robots and the AI experts in general as an insane people who talks and behaves in a weird way, for example the hero of the Egyptian movie entitled "Mousa" which was premiered 2021 was born with a psychological problem, he was very shy and coward and lacks communication skills with other people.

In another scene in the Egyptian series "The End" the AI expert was totally insane, he talked and behaved like a crazy person imagining that he sees and hears things that no one else can see or hear, that's why the percentage of the category "Insane person" in Egyptian drama in this sample is higher than the category of "Normal person" by 50% to 33%.

But this percentage in the International drama in this sample is 67% for the category of "Normal person" and only 50% for the category of "Insane person", this maybe reflects the differences between the two cultures and the stereotype of science and scientists in each culture.

It is almost the same in some of the international dramas, for example in the British series "Humans" the creator of the conscious robots was a scientist with an abnormal personality, he created the first conscious robot to look exactly like his wife who committed suicide after suffering from her husband's madness.

Table (6): Robots Attitudes towards humans in Egyptian and International Drama:

Robots Attitudes	Negative		Positive		Neutral		Total	
	N	%	N	%	N	%	N	%
Egyptian Drama	0	0	5	%33	0	0	5	%17
International Drama	6	%100	10	%67	8	%100	24	%83
Total	6	%21	15	%51	8	%28	29	%100

From the data shown in the above schedule, we notice that there weren't any negative attitudes directed from robots towards humans in the three Egyptian dramas in this sample, the five robot characters in these series and movie had positive attitudes towards humans. Even in the movie "Mousa" the robot harmed and killed only those evil people in order to save innocent ones.

In comparison to this, in international dramas, we saw many robots having a negative attitude towards humans, mostly in the series of "humans", in this series we watched evil conscious robots who hate humans and want to destroy them in order to rule the world instead of human beings.

As we can see in the above table, the positive attitude robots have towards humans come in the first place in both Egyptian and international dramas with the percentage of 51% of the total robot characters in this sample, and this means that the audience will take impression that robots' attitudes towards humans are generally good.

2001: Space Odyssey (1968) © FT Whether HAL 9000 — the sinister red light that looms over our hero — counts as a robot is debatable, but what he lacks in hardware, he makes up for in menace. Director Stanley Kubrick was one of the first to frighten us with a world ruled by AI, and show how robots could be used as agents of control masquerading as servants. (Noble 2016).

But what about human's attitudes towards robots? One of the researches presented an exploratory study that surveys 287 people from a wide range of ages and cultural backgrounds on both their attitudes towards robots and which of 12 fictional films portraying robots they have seen. Our preliminary findings suggest a relationship between overall movie watching and NARS scores (more robot movies seen correlates with more positive attitudes towards robots), and between certain positive portrayals of robots and NARS scores (Bicentennial Man, Moon, and Wall-E contribute to more positive attitudes). (D. Riek 2011).

In social robotics research the attitudes of users are often characterized as neutral. We assume that this is due to the fact that existing research regarding attitudes towards robots lacks the opportunity to measure ambivalence. In one of the current experiments (N = 45), we show that a neutral and a robot stimulus were evaluated equivalently when using a bipolar item, but evaluations differed greatly regarding self-

reported ambivalence and arousal. This points to attitudes towards robots being in fact highly ambivalent, although they might appear neutral depending on the measurement method. To gain valid insights into people's attitudes towards robots, positive and negative evaluations of robots should be measured separately, providing participants with measures to express evaluative conflict instead of administering bipolar items. Acknowledging the role of ambivalence in attitude research focusing on robots has the potential to deepen our understanding of users' attitudes and their potential evaluative conflicts, and thus improve predictions of behavior from attitudes towards robots. (Stapels 2021).

An opinion survey of 878 college students examined attitudes about the suitability of robots for various occupations in society and how these attitudes varied by the robots' appearance. Factor analyses revealed three primary attitudes: Robot-Liking, Robotphobia and Cyber-Dystopianism, and three occupational niches: social-companionship, surveillance and personal assistants. Attitudes varied depending on subjects' gender, religion, perceived competence with technologies and engagement with virtual reality environments and avatars. The analysis of relationships between subjects' attitudes and perception of suitable occupations indicated that Robot-Liking is positively related with social companionship and surveillance occupations, whereas Robotphobia is negatively correlated with the three occupational niches. (Katz 2014).

Second: the types of interaction or the relationship between humans and robots (A psychological perspective):

Table (8): Kinds of threats posed by robots on humans

Robots threaten humans	Replacing them in workplace		Robots harm or kill people		Other kinds of harm		Total	
	N	%	N	%	N	%	N	%
Egyptian Drama	1	%25	2	%15	2	%29	5	%21
International Drama	3	%75	11	%85	5	%71	19	%79
Total	4	%17	13	%54	7	%29	24	%100

As we can see from the data demonstrated in the above schedule,

the highest percentage goes for robots harm or kill people 54%, we watched lots of scenes in this sample in which robots are harming and killing human beings even if those people deserve to be killed because they are evil ones, but robots killing people in movies and series can give the audience a reason to refuse the existence of robots in workplace and in other places that are or will be using AI and robots in the future.

We can also see that there are other different types of harm that is slightly less than the killing that robots commit in dramas at the expense of human beings, like robots making vital mistakes as we watched in "humans" series when a robot which was babysitting some children and left them alone without any supervision which led to a huge harm and injuries to those children.

On the contrary to this finding that robots in drama are usually harmful of human beings, in real life robotics in combination with rapidly improving technologies like artificial intelligence (AI), mobile, cloud, big data and biometrics will bring opportunities for a wide range of innovations that have the potential to dramatically change service industries. The purpose of one of the studies was to explore the potential role service robots will play in the future and to advance a research agenda for service researchers. Design/methodology/approach – This paper uses a conceptual approach that is rooted in the service, robotics and AI literature. (Wirtz 2018).

Some technologists have recognized the important role that science fiction plays in shaping public attitudes towards technology and are therefore imploring writers to stop producing dystopic fiction – of which there has been a glut in recent years, particularly of the teen variety. (Lorrimar 2017).

Metropolis (1927) © FT Film critic David Thomson says Fritz Lang's silent film has "come to stand for cinema's attempt to be the macabre soothsayer of modern times" — making it a vital early chapter in how we perceive the threat of technology. One key theme in particular, a world riven by fears that robots will replace workers, endures even today. (Noble 2016).

Table (9): Confrontations between humans and robots:

Confrontation between robots and humans	peaceful Confrontation		violent Confrontation		Total	
	N	%	N	%	N	%
Egyptian Drama	2	%22	3	%12.5	5	%15
International Drama	7	%78	21	%87.5	28	%85
Total	9	%27	24	%73	33	%100

The confrontations between humans and robots as portrayed in International and Egyptian dramas is highly violent with the percentage of 73%, producers and directors of the dramas in this sample tend to show lots of violent scenes in those movies and series between robots and human beings especially when robots go out of control or when those robots are conscious and don't want to be slaves anymore for the human beings. This is again is a bad effect on the image of robots and AI in the imagination of most audiences who do not have direct contact with robots or didn't see them except for in drama.

There is a big gap between robots in drama world and in real life, because from the scientific perspective, the main idea of converging AI and Robotics is to try to optimize its level of autonomy through learning. This level of intelligence can be measured as the capacity of predicting the future, either in planning a task, or in interacting (either by manipulating or navigating) with the world. Robots with intelligence have been attempted many times. Although creating a system exhibiting human-like intelligence remains elusive, robots that can perform specialized autonomous tasks, such as driving a vehicle, flying in natural and man-made environments, swimming, carrying boxes and material in different terrains, pick up objects and put them down do exist today. (Perez n.d.).

The "uncanny valley" that exists between machines that appear "almost-human" (and provoke revulsion) and those that appear "fully human" (and therefore do not arouse a negative response) may have evolutionary significance. We are conditioned to associate beings that look almost like us but seem "defective" in some way with the threat of infectious disease, or inheritable genetic disorders. Or it may just be the psychological discomfort of seeing something that appears human move like a robot – humans are good at sorting things in our surroundings into categories, and we can experience a sense of

"eeriness" when these categories conflict. (Lorrimar 2017).

Table (10): Violent scenes between robots and humans

Robots and human's violent scenes	Robots attacking humans		Humans attacking robots		Robots and humans attacking each other		Total	
	N	%	N	%	N	%	N	%
Egyptian Drama	5	%24	8	%44	11	%34	24	%34
International Drama	16	%76	10	%56	21	%66	47	%66
Total	21	%30	18	%25	32	%45	71	%100

In this sample, we can find a total of 71 scenes in the movies and series both Egyptian and international in which robots and humans are attacking each other. Robots are attacking humans with a high percentage of 76% in international drama.

The conflict between robots and humans is reflected clearly in scenes were humans and robots are attacking each other with a percentage of 66% in international drama, this makes audience believe that robots can be of great danger to humans because most of these scenes were very violent that can't be forgotten easily especially from kids and adolescents' minds.

This idea of the uncanny valley only really comes into play when we consider the possibility of the benevolent humanoid robot, we are seeing more often in fiction today. We don't have to deal with emotional dissonance when it comes to malevolent machines – we recoil at their uncanny almost likeness, but we also hate them for trying to control or destroy us. But benevolent "almost-human" robots evoke conflicting affections in us: we have feelings of friendship and camaraderie toward them, yet at the same time we revile them, feeling that they shouldn't be so like us. So, if roboticists ever achieve a sufficient approximation of human likeness in their products, they may find a welcoming public. If robots appear and act human enough, and are benevolent, we can accept some of their lesser human traits. After all, we've been cheering on these machines in fiction for years. (Lorrimar 2017).

Table (11):Kinds of help offered by robots to humans

Robots help offered to humans	Robots help humans at home		Robots help humans in work place		Robots help humans in other places		Total	
	N	%	N	%	N	%	N	%
Egyptian Drama	2	%29	1	%17	5	%42	8	%32
International Drama	5	%71	5	%83	7	%58	17	%68
Total	7	%28	6	%24	12	%48	25	%100

Even though we may see robots that help people at public places nowadays like in some libraries and factories and also in space stations, we don't normally see in our everyday life robots which help humans at home or in workplaces. This align with the Egyptian dramas in this sample with the percentage of 29% for robots helping humans at home and only 17% for robots helping humans in work place. This is maybe because Egyptian drama is still new with dealing with AI and robots.

In this sample of movies and series, we can see that the highest percentage of the kinds of help offered by robots to humans in international drama are at home with the percentage of 71% and in workplace with the percentage of 83%.This is maybe because lots of the International drama in this sample is science fiction drama where we can imagine future based on scientific research and data available.

Generally, in both Egyptian and International drama in this sample, we watched robots help people in other places rather than homes and workplaces like the main character robots in the American movie "Star Wars" which helped people in space ships and stations and that's why the category of "Robots help humans in other places" is 48%.

Although robots are sometimes helpful of people in dramatic works, but in real life, robots cannot be our Aristotelian friends since they genuinely lack mutuality and reciprocity, even if this is perceived as such by human users. Thus, we need to ensure that human–robot relationships will not replace their human counterparts in social relations, as Sparrow and Spar- row rightfully fear. (A. 2016).

Scientific research provide some findings concerning the services that robots can and will provide human beings with, for example, one research study provides a definition of service robots, describes their key attributes, contrasts their features and capabilities with those of frontline employees, and provides an understanding for which types of service tasks robots will dominate and where humans will

dominate. Second, this paper examines consumer perceptions, beliefs and behaviors as related to service robots, and advances the service robot acceptance model. Third, it provides an overview of the ethical questions surrounding robot-delivered services at the individual, market and societal level. Practical implications – This paper helps service organizations and their management, service robot innovators, programmers and developers, and policymakers better understand the implications of a ubiquitous deployment of service robots. (Wirtz 2018). Given that the origin of the "robot" comes from efforts to create a worker to help people, there has been relatively little research on making a robot for non-work purposes. However, some researchers have explored robotic arts since Leonardo da Vinci. One research describes selective projects in each genre, core procedure, possibilities and limitations within the aesthetic computing framework. Then, the paper discusses implications of these robotic arts in terms of both robot research and art research. (Myounghoon 2017).

Table (12): Conscious robot's thoughts and behavior

Conscious robots think and behave	Just like humans		Totally different from humans		Sometimes like humans and sometimes like machines		Total	
	N	%	N	%	N	%	N	%
Egyptian Drama	0	0	0	0	1	%17	1	%8
International Drama	7	%100	0	0	5	%83	12	%92
Total	7	%54	0	0	6	%46	13	%100

Conscious robots were 20 out of the total sample of this study which were 29.

The star and the co-star of the Egyptian series entitled "The End" were conscious robots.

54% of the conscious robots shown in this sample of movies and series were totally like humans, their appearance looked exactly like human beings and also their behavior was typically human.

There were not any conscious robot in this sample who were totally different from human beings whether physically or in their behavior and this is maybe frightening to audience who see that if there will be conscious robots in the future, there might be no need any more for real human beings and that robots may replace humans in workplace and social life.

Table (13): Humans treatment of conscious robots

Human's treatment of conscious robots	With honor and respect		With hatred and fear		Normally		Total	
	N	%	N	%	N	%	N	%
Egyptian Drama	0	0	1	%10	0	0	1	%6
International Drama	5	%100	10	%90	0	0	15	%94
Total	5	%31.25	11	%68.75	0	0	16	%100

As we can see in the above schedule, humans commonly treat conscious robots in movies and series with hatred and fear with a high percentage of 68.75%. This is clear in the British series entitled "Humans", as there are lots of situations where people want to get a revenge on machines which killed or threatened the lives of their relatives or beloved ones.

We saw a master scene in the movie entitled "Artificial intelligence" where people are having an annual festival where they enjoy getting rid of conscious robots in front of cheering people who wants to destroy all conscious robots.

Table (14): Do conscious robots typically simulate people's feelings, emotions and desires?

Conscious robot's feelings, emotions and desires	typically simulate people's feelings, emotions and desires		Totally different from humans		Sometimes like humans and sometimes not		Total	
	N	%	N	%	N	%	N	%
Egyptian Drama	1	%9	0	0	1	%17	2	%9
International Drama	10	%91	5	%100	5	%83	20	%91
Total	11	%50	5	%23	6	%27	22	%100

According to the data in this table, we can see that conscious robots typically simulate people's feelings, emotions and desires with a percentage of 50% both in Egyptian and international dramas.

Secondly comes the category of "sometimes like humans and sometimes not" with percentage of 27%, and the less percentage of 23% which is "Totally different from humans".

The remarkable thing here is that in the Egyptian movies and series no robot was totally different from humans whereas 5 conscious robots were totally different from humans concerning their feelings, emotions and desires.

Computer scientists and engineers have conducted most of the research in this area over the past 20 years, investigating the construction of robots and testing them with humans. However, psychologists have made some important contributions to both theory and methods. Because psychologists have expert knowledge in understanding human behavior, building theoretical models, conducting social science research, and constructing valid and reliable measures, they have much to contribute. Greater involvement by psychologists will help to shape the future development of robots in socially acceptable ways. (Broadbent 2016).

Table (15): Children's conscious robots

Children's conscious robots	typically follow the psychology patterns of real children		Totally different from human's children		Sometimes like human's children and sometimes not		Total	
	N	%	N	%	N	%	N	%
Egyptian Drama	0	0	0	0	0	0	0	0
International Drama	2	%100	0	0	2	%100	4	%100
Total	2	%50	0	0	%50	%100	4	%100

Only in international dramas whether American or British, we watched conscious robots in the shape of children, like in the American movie entitled "Artificial Intelligence" and in the British series entitled "Humans".

In both these two dramas the children conscious robots were 50% typically follow the psychology patterns of real or human being children and 50% for the category of "Sometimes like human's children and sometimes not".

The category of "Totally different from human's children" didn't find any match from the movies and series of this sample.

The idea of robots reproducing or giving birth in international science fiction drama is the most worrying or frightful idea for humans as this means that humans will no longer having the upper hand on robots by creating and programming those machines and that robots are equally empowered just like human beings and that they are their counterparts or partners in this life .

Table (16): Drama's call for equal rights with humans for conscious robots

Drama's call for equal rights with humans	Drama calls for equal rights		Drama doesn't call for equal rights		Total	
	N	%	N	%	N	%
Egyptian Drama	0	0	2	%100	2	%67
International Drama	1	%100	0	0	1	%33
Total	1	%33	2	%67	3	%100

From the data in this schedule, we can see that drama whether it is Egyptian or International do not call for equal rights for conscious robots with humans with the percentage of 67%, and only 33% of the movies and series in this sample called for equal rights between human and robots.

Only one British series which is entitled "Humans" is calling for equal rights between humans and conscious robots, whereas the three dramatic Egyptian works in this sample didn't call for any equal rights with conscious robots, maybe this because there is only one dramatic work which is "The End" contained two characters which were conscious robots but this series also didn't ever call for equal rights with conscious robots.

Table (17): The main characteristics of the relationship between humans and conscious robots

The main characteristics of the relationship between humans and conscious robots	Love and compassionate		Hate and animosity		A combination of both		Total	
	N	%	N	%	N	%	N	%
Egyptian Drama	0	0	2	%100	2	%15	4	%27
International Drama	0	0	0	0	11	%85	11	%73
Total	0	0	2	%13	13	%87	15	%100

In movies and series of this sample that dealt with conscious robots, the relationship between humans and robots was mainly a combination of both love and compassionate and hate and animosity with a total percentage of 87% in both Egyptian and International dramas.

Pure love and compassionate relationship between humans and conscious robots were not found at all in this sample and this gives an impression to audiences that conscious robots will never be our partners in the future, rather than being our competitors.

Table (18): The good traits that make conscious robots highly evaluated morally and ethically

Good traits of conscious robots	Honesty		Braveness		Loyal		Total	
	N	%	N	%	N	%	N	%
Egyptian Drama	1	%17	1	%11	1	%20	3	%15
International Drama	5	%83	8	%89	4	%80	17	%85
Total	6	%30	9	%45	5	%25	20	%100

Robots don't lie, this is why "Honesty" gets a high percentage in the good traits that make conscious robots highly evaluated morally and ethically, because people can lie whereas robots mostly couldn't. In Egyptian drama conscious robots are honest with the percentage of 17% and they are honest in International drama with the percentage of 83% which is a very high percentage. The total percentage of the trait "Honesty" in both the Egyptian and International dramas are 30%.

Because robots are made from metal and they are machines that can work harder than human beings, they are also brave and even though conscious robots have feelings that simulate people's feelings, but they are usually braver than human beings and don't fear lots of things that human beings usually fear like jumping in water even if they are not programmed to swim.

Conscious robots in Egyptian movies and series are brave with the percentage of 11% while they are brave with the percentage of 89% in the International drama.

Conscious robots are loyal to their primary users with the percentage of 20% in the Egyptian dramas and they are also very loyal in the International movies and series with the percentage of 80% like we saw in the British series "Humans" where some of conscious robots were more loyal to their primary users more than they are loyal to their own kind or other conscious robots.

Her (2013) Spike Jonze's wistful love story about a man who falls for his operating system may not include any physical artificial intelligence manifestations, but that is sort of the point. Samantha, deftly voiced by Scarlett Johansson (who recorded over Samantha Morton's original track), is charming, smart, emotional and insightful, all the things we still assume will separate us from machines. (Noble 2016).

Table (19): What are the bad traits that make conscious robots dangerous and like enemies to humans?

Bad traits of conscious robots	Dishonesty		Cowardness		Disloyal		Total	
	N	%	N	%	N	%	N	%
Egyptian Drama	0	0	1	%100	0	0	1	%8
International Drama	7	%100	0	0	5	%100	12	%92
Total	7	%54	1	%8	5	%38	13	%100

Even though robots can't lie, some conscious robots can deceive or manipulate people especially those conscious robots in the British series "Humans". They do this because they see human beings as their enemies who treat them like slaves, so they compete with them in order to conquer them and rule the world instead of human beings. This is why we find a percentage of 54% of dishonesty, it is all concentrated in International drama with the percentage of 100%.

Comparing the data in this schedule with the previous schedule, it is emphasized that braveness is the most dominant trait that characterizes conscious robots' behavior as only one robot in the Egyptian series the "End" showed cowardness because it was trying to protect itself from being known that he is a robot and not a human being.

Disloyalty was also a bad trait for conscious robots that gets the percentage of 38% in both Egyptian and International dramas in contrast with the good trait loyalty which got the percentage of only 25%, this is considered to be an indication from drama that there is a history of hostility and there will be a great conflict between human beings and conscious robots.

Third: the difference between International and Egyptian dramas in portraying robots:

Table (20): The type of genre of the drama with robots as main characters

Dramatic work gene	Comedy		Tragedy		Science fiction		Total	
	N	%	N	%	N	%	N	%
Egyptian Drama	1	%50	1	%100	1	%8	3	%20
International Drama	1	%50	0	0	11	%92	12	%80
Total	2	%13	1	%7	12	%80	15	%100

In the schedule above, we can notice that both samples, the Egyptian

and the International contained one comedy series which was the Egyptian series "A robot is in our House" and the American series "How I met your mother". This means that in both cultures some people think that robots are something that we could laugh about and were irony can take place like the event in the series "How I met your mother" where there was an event called "robots versus wrestlers", in this event people celebrate human beings' triumph over machines. As sarcastic as this could be, but it shows how afraid people are of these machines and robots which drama generally portray it as our future rivals or the rivals of humanity in general.

In this sample, there was only one tragedy drama which is the Egyptian movie "Mousa" and it was not purely tragic, but it also can be classified as a science fiction. Only one Egyptian series that was classified as science fiction drama compared to 11 International dramas in this sample. This reflects the big gab in the two culture.

Table (21): Date of production of the dramatic work with robots as main characters

Dramatic work production date	2000 Before		2010-2000		2010 After		Total	
	N	%	N	%	N	%	N	%
Egyptian Drama	0	0	0	0	3	%43	3	%20
International Drama	5	%100	3	%100	4	%57	12	%80
Total	5	%33	3	%20	7	%47	15	%100

A gap between the two cultures is very clear here, in the above schedule we can see that Egyptian drama only began to produce series and movies concerning AI and robots starting from 2020, before this date there wasn't any Egyptian drama that discussed AI or portrayed robots whereas American drama has dealt with the issue long ago, in this sample we find 5 dramas produced before 2000 and this represents 33% of this sample,

Three International dramas were produced from 2000-2010 with the percentage of 20%. At last comes the International dramas which were produced after 2010 which was 4 movies and series with the percentage of 47%.

This result reflects the two things, first is that the Egyptian drama was very late in following the science updates especially in AI and

robot's technology. The second thing is that there is a huge gap between Egyptian and International cultures in this concern.

Table (22): Dramatic works providing audiences with accurate scientific data about robots and the Artificial intelligence in general

Dramatic work gives accurate scientific information	Yes		No		Sometimes		Total	
	N	%	N	%	N	%	N	%
Egyptian Drama	1	%17	0	0	2	%25	3	%20
International Drama	5	%83	1	%100	6	%75	12	%80
Total	6	%40	1	%7	8	%53	15	%100

Based on the data in this schedule we can observe that most of the Egyptian drama didn't give enough scientific information to their audiences regarding the AI and computer sciences and technology.

As we can see only one Egyptian series has included a big amount of scientific information which was the series entitled "The End", in one of its scenes we saw an expert in AI who talked a great deal about the history of robots and how did they evolve, how did they gain consciousness, and the conflict that took place gradually between human beings and robots, this conflict that led to the banning of conscious robots after a destructive war between humans and robots.

The two other Egyptian dramas "Sometimes" provided audiences with accurate scientific data about robots and AI in general with the percentage of only 25%, and this is a very low percentage when we know that the first Egyptian robotic movie which is entitled "Mousa" had a main two characters who were an AI professor and expert and one of his students, so there was a tremendous chance and space to add some specific information in this regard but the writer, director and producer of the movie did not seize this opportunity maybe because they think this will make the movie dull or the audience would be bored because of this scientific details.

The cultural gab is present in this result too, because the International drama contained scientific data with percentage of 83% for the series and movies that provided audience with specialized scientific data in AI and computer sciences technology, and a percentage of 75% for the category of "Sometimes" provides audience with specialized scientific

data in AI and computer sciences technology. These are very high percentages when compared with the Egyptian drama.

Table (23): The timeframe for the events

Dramatic work timeframe for the events	Present time		Future		Unknown		Total	
	N	%	N	%	N	%	N	%
Egyptian Drama	2	%22	1	%17	0	0	3	%20
International Drama	7	%78	5	%83	0	0	12	%80
Total	9	%60	6	%40	0	0	15	%100

When we look at the percentages in the above schedule, we can that 22% of the timeframe of Egyptian drama in this sample was mostly in present time not the future with the percentage of 22%, and only one series which was "The End" which its timeframe was the future.

On the contrary, most of the timeframe of International drama in this study's sample was in future with the percentage of 83%, and this is maybe due to big production that International drama is capable of in the fields of decoration, shooting, graphics and special effects and so on of the artistic different fields.

The Egyptian drama is still on its first steps in the Science fiction production.

Table (24): The conclusion of the story

The conclusion of the story	Robots are good		Robots are bad		Robots are sometimes good and sometimes bad		Total	
	N	%	N	%	N	%	N	%
Egyptian Drama	1	%14	0	0	2	%33	3	%15
International Drama	6	%86	2	%100	4	%67	12	%85
Total	7	%47	2	%13	6	%40	15	%100

Comparing between Egyptian and International drama in this sample, we can learn that robots are good in only one movie which was the movie entitled "Moussa", the inventor of this robot used it to save innocent souls and to rescue kidnapped children, and also to get revenge on murderers of his late father, the means was pretty marvelous, but the robot "Moussa" killed and injured many people in this process. Although these people were pure evil but still, we see a robot attacking and killing human beings. The final impression or

conclusion the audiences can get out of watching the movie "Moussa" is that this robot is a hero.

As for the International drama in this study, we notice that 86% of the robots were good ones, and this is especially noticeable in the English series "Humans" which portrayed some of its robots as very friendly, loving and caring for humans.

Egyptian drama in this sample didn't contain any pure bad robots, compared to the International drama which contained pure bad or evil robots with the percentage of 100%.This means that if there is any pure evil robots we can only watch it in some International dramas but we don't watch any of these pure evil robot characters in Egyptian dramas up till now.

We can conclude that 47% of the whole sample describes robots as good in general, and only 13% describe them as bad, most importantly that 40% of this sample however Egyptian or International portrays robots just as human beings in nature which is not completely good neither completely bad.

Table (25): General and common themes

General and common themes	The grand electricity shutdown		The radiating regions		The same decoration		Total	
	N	%	N	%	N	%	N	%
Egyptian Drama	1	%33	1	%50	1	%50	3	%43
International Drama	2	%67	1	%50	1	%50	4	%57
Total	3	%42	2	%29	2	%29	7	%100

There were common themes that were found in both Egyptian and International dramas like the grand electricity shutdown that hit the world in the science fiction dramas such as the Egyptian series "The End" and the American movie "The Blade Runner. Also, we learned about the radiating regions in both the previous dramas mentioned earlier, these radiating regions as we see was created after the war that emerged due to the sever conflict between humans and robots, the theme of the radiating regions has the same percentage in both Egyptian and International dramas with the percentage of 50%.

Because "The blade runner 2049" movie was first premiered 2017 and the Egyptian series "The End' was produced in 2020, one can tell that the second one is an adaptation of the first one specially that the Egyptian drama is still very new to the science fiction genre in general

and specially the topic of AI and robots.

Blade Runner 2049, long-anticipated sequel to the original 1982 Blade Runner film, is a part of this shift. The ability of science fiction to inspire technological innovation is well-known. A lot of science fiction writers are scientists and technologists (Arthur C Clarke and Geoffrey Landis are two examples), and ideas from science fiction have sparked more serious scientific research (touch screens and tablet computers are common examples). But science fiction serves other purposes too. It can be a tool for exploring the social and ethical implications of technologies being developed now – a fictional laboratory for testing possible futures. It can also prepare us to deal with certain technologies as they arise in the real world. (Lorrimar 2017).

Results and discussions of the in-depth interviews with experts, academics and professors of AI:

To discuss the comments of the AI experts, academic and professors, we can present their responses to the three main questions of the study as follows:

1-Is the portrayal of AI in general and specifically robots in drama is correct from a scientific perspective?

Dr.Eslam said:" Before I begin any of my sessions or lectures on AI, I advise my students or trainees to forget any information they learnt from drama or movies because it will be very misleading.

While Dr. Ahmed Fawzy thinks that portraying AI in movies and series most of the time in one way which is in the shape of robots is considered a shorthand, because AI is much wider than this, there are cameras with AI that can detect which person has Corona virus and which one hasn't. Drama writers tend to simplify AI for audience, that's why the always portray it in the shape of human like. As for the robots in shape of humans, we can use it in places that is difficult for humans to be in like sending robots to space for example.

Dr.Ehab sees that Drama always show us that AI are only robots, but the fact is that AI is found in many software programs that are used intensively today in many devices that we use.

Dr. Ahmed Badawy also sees that what we in science fiction drama about humanoid robots does not exist in real life up till now, but what is usually found nowadays is a chat box in a computer which interacts with humans in a way that is very similar to the human nature or that mimics human intelligence.

Dr. Farid Ali says that AI is existed intensively in social media platforms, anyone of us talks about anything or any subject, we immediately find advertisements about this thing or subject on our social media platforms. This is because of the AI which has the ability and capability of analyzing our behavior and chats and talks on all the social media platforms that we use like, Facebook, YouTube and Instagram. The machine with intelligence spies on people to know what they like and what they need to advertise about these targeted subjects.

In Dr. Farid Ali point of view drama reflects 100% of the reality when it comes with AI and the future of AI. War robots do exist but not fully used up till now. Dr. Ahmed Bahaa sees that we can't call the AI science fiction movies and series a science fact instead because we watched so many inventions like tablets for examples in old science fiction movies and, now they became not only real but also old inventions.

2-Does the interaction between humans and robots reflected in science fiction drama really exists or may exist in near future?

Dr. Ahmed Fawzy comments on this question and says: AI is just like a baby or a young child, you can teach the machine whatever you want to teach it and make it act as you wish, you can also and always stop the machine if you think it will go out of control.As long as the human intelligence is superior than the machine intelligence the thing will never go out of control. Dr. Ahmed Fawzy confirms that it is possible for the humans and machines will merge together in one way or another.

First of all, when talking about AI in Drama, Dr. Ehab recommended that audiences should watch movies like Ex Machina as a very important movie to watch in this respect.

Dr. Ehab also mentioned the important argument published recently in New York times between Elon Musk Tesla Company founder and

the president of Facebook Mark Zuckerberg about making something resembling human intelligence, which is the AI, but they argued over ethical issues that AI while developing, we might lose control over it. Mark Zuckerberg sees that we can reach something like holistic intelligence, this means that we have to do whatever it takes to let AI develop and evolve by any means. Elon Musk contradicted this idea of Mark Zuckerberg saying that this way you are like a baby with a big toy and that AI is a dangerous tool, we must use cautiously and machines must have certain limits and this development of AI must be controlled and observed tightly. Mark Zuckerberg loses in this argument with Elon Musk after conducting an experiment to develop face book in which he made a set of intelligent agents which are robots in the shape of software moving in the network of face book. As for robots or AI in general replacing humans in workplaces, Dr. Ehab said that we must teach our children to think in a comparative way or what he called comparative thinking in which we can paraphrase any problem and put it in a model which can be understood by a machine. For this purpose, we must prepare our children for jobs that are not created yet.

As for conscious robots Dr. Ahmed Badawy assures that scientists are working at the time to produce conscious robots.

Most of the robots today doesn't look like humans, as we can see there are drones and self-driving cars which are robots but not in the shape of humans.

There are also robots that are used intensively in surgeries and in very deep down in seas and oceans which are places humans can't reach. Dr. Ahmed Badawy agrees that what we watch nowadays about conscious robots in drama could really exist in the near future.

Dr. Ahmed Bahaa said that he watched movies and series about robots like the American series "Mr. robot" staring the American Egyptian star "Rami Malek", in one of his sessions at MSA University in 2019 to raise awareness regarding using the AI, Dr. Ahmed Bahaa warned the attendees that if we are not cautious enough we will be surprised with the conflict that will emerge between humans and machines or robots. Dr. Ahmed Bahaa confirms us that the conflict between robots and machines is inevitable. Although AI can change human's world for a better place, there is another side to this coin which is the evil use of the AI, because we are not all angels, some humans can be very

dangerous and evil and use AI in a bad way.

The good use of AI is dominant prevailing in health sector nowadays, in drugs technology for example, AI can also help blind people in their daily life, scientists also invented an AI technology that can make blind people regain sight. But this good side of the coin of AI is not reflected enough in drama, as Dr. Ahmed Bahaa says.

There is a very important expression used in the field of AI which is called responsible AI, the international ISO organization has called for adopting this term or expression of responsible AI worldwide.

The prominent AI engineer Elon Musk the owner of TESLA company signed with another 85 scientists in the field of AI a document that assures the responsible use of AI worldwide, this document was sent to Antonio Guterres the Secretary-General of the United nations.

There was also an international call for the United Kingdom to stop manufacturing the war robots.

Dr. Amgd said:" this debate about whether robots harmful to human beings or not has been existing from very long ago, I watched so many movies regarding this debate like Star wars and terminator. A Czechian screen writer has invented the word "Roba" in one of his plays and it meant the servant, in his play robots were servants to humans.In the real world there was a debate science 2001 in the field of AI after the nine eleventh events in the United States of America, this debate was concerned with should robots be autonomous and take a decision of their own?This debate has ended in favor of the industrial military section which gave the machines or the robots the right to be armed and above all of this to take its own decision based on the information it is fed with.

There are robots in the American military with a reconnaissance camera and this robot is with anti-aircraft missiles, this took place in Afghanistan.

Those robots used by CIA in Afghanistan were linked to satellites with a video link to be oriented to the certain spots which the CIA sees as dangerous areas were terrorists hide and needs to be hit.

Dr.Eslam contradicts with the above, he sees that there will be no conscious robots in the nearest or even in the far feature, robots are only machines which do whatever they are ordered to do, they have

no independent will. Dr.Eslam advised us to search the word "robot" in Google, and to look this word up in Wikipedia under the section of "robots in popular culture". In this section we can find thousands of fictional movies which dealt with robots in different genre like suspense, comedy and science fiction. Finally, Dr.Eslam refused completely the idea in the film "Blade runner 2049" that robots can reproduce or give birth to another robots, and commented sarcastically that this idea is impossible to be realized now, in the future or even in the very far future.

According to Dr. Farid Ali drama tend to portray a negative picture to robots' conflict and confrontation with humans while it can give positive perspective on AI by showing people through series and movies how AI can play an important role in our daily life in fields like health, pharmaceutical purposes, like trying medicines before their trial on people, and also detecting crimes and preventing them before happening. As for the conflict between robots and humans like the one we always watch in movies and series, Dr. Farid Ali sees it's not that easy, because to manufacture robots or any other machines with advanced technology, we need lots of resources like chips which is hard to find nowadays.Science fiction can be a reality as history taught us this fact. Dr. Farid confirms that the idea that robots will replace people or humans in workplace is not true or accurate, in Dr. Farid Ali opinion AI will change the forms and types of work but not remove it at all.

The problem that Dr. Farid Ali sees is not the robots or the AI, the real problem from his point of view is the evil humans that use hacking to change the course of a self-driving car or hacking of a drone or any other device with AI.

Dr. Farid Ali also confirms that everything in this world have two sides just like a coin, likewise the AI is a coin that have two interfaces, one is bad but the other is surely a good one.

To conclude all of the above, Dr.Farid Ali said that to mimic the human mind is not an easy thing to do. Science speaking, Dr. Farid said that there are two types of AI, one we call structured AI and the other one is called unstructured AI. The first one is a machine that follows an exact model, just like the decision tree, the robots here deal with certain rules to reach an exact end.

Whereas the unstructured AI is called the Black Box, this type of AI we can fear a little bit of it because humans can't sometimes deal

with it in a 100% correct way, the robot looks at millions of numbers and equations but we can't exactly decide the exact and right output or the decision that the robot will take. In this case the robot doesn't rebel or go against human wishes, it just doesn't understand the whole model. A good example for this unstructured AI is the self-driving cars, sometimes this car sees a picture that can't translate it into numbers or it can translate it into wrong numbers and that could cause accidents to occur in self-driving cars and cause to prevent this kind of AI to be used in a large scale. Dr. Farid said that there is one scene in lots of dramas which he can relate to scientifically which is when a robot starts repeating the same exact words he said once again or over and over again, that is because there are some inputs that it was not trained on.

Dr. Reda Abdel Wahhab said that it is impossible for humans and robots to be merged in the short run, referring to the science fiction movie called "The blade Runner 2049", but it could be a possibility on the long run because we watched many ideas in past from this genre that turned to be a reality after being screened on TV or cinema.

In Dr. Reda Abdel Wahhab opinion, science can never reach full resemblance of humans because we can't add spirit to a machine or a robot, so there will never be a robot who behaves and feels exactly like a human being.

Dr. Ehab confirms that AI is an important priority to the top or the highest level of the Egyptian government, this why AI is now a significant part of our education system and also in our Egyptian drama recently.

The normal Egyptian citizen will not be well aware of AI except from the drama, this why the majority of ordinary people will get the naïve side of the AI picture and this is not good especially in our Arabic society. Dr. Reda confirms that machines can feel and can develop a feeling, but a great part of what are humans are is their spirit and that part we can't put into machines. The bioelectronic mating has already begun in some fields like the physical therapy in which a robot conducts this process not a doctor, also in some prosthetic devices that disabled persons use, in Japan for example robots are used to help elderly people, there is a robot to carry old people who could not walk.

Dr. Reda Abdel Wahhab sees that the bioelectronic mating will occur in about 30 or 40 years like we watched in "The Blade Runner 2049" which is an American movie. Dr. Ahmed Bahaa emphasized that

the computer or machine vision is a technology that enables AI to understand humans, and that lots of intelligences services all over the world nowadays use AI in a wide scale.

There is a big question mark on whether these autonomous robots are in favor or maybe harmful in the future for the man kind. from Dr.Reda's point of view this big and important question this debate will go on for years to come.

By the year of 2025 the one third of the American military equipment will be autonomous.In Dr.Reda's opinion Drama reflects reality in the issue of autonomous robots, but as for the biological interference between humans and robots as we watched in the American movie "The blade runner 2049", Elon musk the prominent owner of Tesla is maybe one of the engineers working to achieve this goal in the future.Dr. Reda said he once watched a movie, a science fiction movie which predicts future in a very exact and accurate way, so he believes that drama is a mirror for the reality.

3-What do experts, academics and professors in AI recommend that creators of drama can do to enhance the portrayal of AI in their upcoming movies and series?

Dr. Ahmed Fawzy recommends that drama must tackle the positive aspects in AI instead of the negative ones like the conflict or the confrontations between humans and machines which is the general theme in the drama in this sample.

Dr. Ahmed gives a good example of science fiction movies with one entitled "interstellar" which was premiered which is based on scientific facts and scientists cooperated with script writes to make it very interesting but still gives very accurate and correct scientific information.

Dr.Ehab says that, a broad, the ones who are responsible for screen writing for science fiction are mostly scientists.

Dr. Ahmed Badawy recommends that drama writers should let go of their imagination even if it goes to the evil part or the worst situation and confrontation between humans and robots, because this part can show us the ethical problems and bad consequences of this confrontation and make us prepare ourselves to face these problems in

the future.

Dr. Ahmed Badawy also recommends that drama should present the positive aspects of AI in our world like the remote surgeries that professor Sir Magdy Yacoup conducts in several parts of the world from his place using the techniques.

Dr. Ahmed Bahaa recommended that TV series like ER for example can be rescreened in a new version that could show how AI can be used in a good way to safe human's lives. Dr. Ahmed Bahaa ended his talk by recommending that if AI should be responsible, then drama also ought to be very responsible by presenting both sides of the coin of AI, the positives and the negatives, the good side and the bad one.

Dr. Amgd recommended that we must not prevent any movie or series from being screened in fear of it gives incorrect or false information about robots or any other scientific subject, on the contrary this drama in many ways can be a field where this debate about autonomous robots can take place to discuss the consequences of this subject.

Dr.Eslam recommended that media in general and especially drama should correct some concepts and information in fiction movies about robots to give the audience the correct data and right picture in the field of AI and robots.

Dr.Eslam also recommended that some movies and series should not be screened especially to the younger audiences to prevent or avoid constructing this wrong picture in our children heads about AI and robots.

Conclusion and recommendations of the study:

1-Egyptian drama creators should Concentrate more on producing series and movies that belong to science fiction genre, especially AI to create awareness among audiences of the importance of AI in our everyday life.

2-Drama producers, directors and writers all over the world should create dramatic works that show the positive side of AI and its beneficial uses in fields like health, education and other aspects of our daily lives.

3-Researchers in the field of mass media should conduct more studies about AI and how it can be helpful in our work and research studies.

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* The experts, academics and professors in AI are:

1)In depth interview with Dr. Eslam Sharawy in the 3rd of January 2022:

Dr.Eslam Sharawy lecturer in the Faulty of Computer Sciences University of MSA:A phone call for 15-20 minutes.

2)In depth interview with Dr. Amgd Bayomy in the 8th of January 2022:

Dr. Amgd Bayomy lecturer in the Faulty of Engineering/ Mechatronics Department University of MSA:

A phone call for 15-20 minutes.

3)In depth interview with Dr. Ahmed Bahaa in the 10th of January 2022:

Dr. Ahmed Bahaa Ph.D., Microsoft Regional Director, and MVP The Head of the Board of Trustees' Advisor – MSA: A phone call for 30

minutes.

4)In depth interview with Dr. Ahmed Badawy in the 13th of January 2022:

Dr. Ahmed Badawy Assistance Professor in the Faulty of Engineering/ Mechatronics Department University of MSA: A phone call for 15 minutes.

5)In depth interview with Dr. Ehab Emam in the 22nd of January 2022:

Dr. Ehab Emam lecturer in the Faulty of Computer Sciences University of MSA: A meeting for 30 minutes.

6)In depth interview with Dr. Ahmed Fawzy in the 25th of January 2022:

Dr. Ahmed Fawzy Associate Professor in the Faulty of Engineering/ University of MSA and the director of Huawei Academy in the MSA University: A phone call for15 minutes.

7)In depth interview with Dr. Farid Ali Moussa in the 31th of January 2022:

Dr. Farid Ali Mousa is an Associate Professor in the Faulty Computer Sciences, University of: A meeting for 20 minutes.

8)In depth interview with Dr. Reda Abdel Wahhab in the 1st of February 2022:

Dr. Reda Abdel Wahhab is a Professor in the Faulty of Artificial Intelligence, Cairo University: A phone call for 20 minutes.

**<u>The experts are:</u>

1-Professor Dr. Amany Fahmy dean of the faculty of Mass Communication, MSA University.

2-Assistant Professor Dr. Eman Mosharaffa head of the Broadcasting department, faculty of Mass Communication, MSA University.

3- Professor Dr. Ibtesam El-Gendy, Broadcasting department, faculty of Mass Communication, Cairo University.

4- Professor Dr. Maha El-Tarabishi, head of Journalism department, faculty of Mass Communication, MSA University.

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