

**Criminal Liability For Artificial Intelligence Crimes
- Towards a new criminal policy-**

المسؤولية الجنائية عن جرائم الذكاء الاصطناعي
-نحو سياسة جنائية جديدة-

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Abstract:

The accelerating and increasing trend towards the use of artificial intelligence programs in various fields, especially in light of the terrible technical renaissance that the world is witnessing today and the advanced programming of some of these entities and the challenges they pose, both currently and those that may arise in the future, has become raising several problems, especially those related to taking criminal responsibility for crimes and mistakes committed during this use, and the appropriateness of current legislation and its ability to regulate this type of responsibility, all with the aim of identifying the real responsible for those crimes and signing the appropriate punishment.

Keywords: artificial intelligence, crimes, criminal responsibility, criminal behavior, moral actor.

ملخص:

إن التوجه المتسارع والمتزايد نحو استخدام برامج الذكاء الاصطناعي في مختلف المجالات، خاصة في ظل النهضة التقنية الرهيبة التي يشهدها العالم اليوم والبرمجة المتطورة لبعض هذه الكيانات والتحديات التي تطرحها، سواء حالياً أو تلك التي يمكن أن تثور في المستقبل أصبح يثير عدة إشكالات لاسيما تلك المتعلقة بتحمل المسؤولية الجنائية عن الجرائم والأخطاء التي ترتكب أثناء هذا الاستخدام، ومدى ملائمة التشريعات الحالية وقدرتها على تنظيم هذا النوع من المسؤولية، كل ذلك يهدف تحديد المسؤول الحقيقي عن تلك الجرائم وتوقيع الجزاء المناسب عليه.

الكلمات المفتاحية: الذكاء الاصطناعي، الجرائم، المسؤولية الجنائية، السلوك الاجرامي، الفاعل المعنوي.

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Introduction

After the uses of artificial intelligence were limited to military actions only, its fields expanded and expanded to include various aspects of life until it became an integral part of human Diaries, starting with health, passing through industry and commerce, not ending with education, learning, management, services, transport, justice and others, especially with the advent of self-driving cars that roam many streets in European and Arab countries without a human component, intelligent robots that simulate human behavior and combine the power of the machine and human intelligence, drones flying drones and many others.

Despite the great accuracy and sophistication of these entities and programs, relying on them can be fraught with risks, as mistakes and crimes are conceivable-whether intentionally or unintentionally- Therefore, this technological progress has created new legal situations that entail criminal liability for the actions of artificial intelligence entities, which imposes on the law the need to keep abreast of such developments, which has generated interest and a tendency to demand the development of a legal regulation specific to this technology, on the other hand, some are afraid of this step and call for the implementation of existing rules with some amendments only commensurate with the privacy of these entities, which calls for a search for the basis and legal adaptation commensurate with these data.

Therefore, this study examines the problem that revolves around: the appropriateness of applying the general rules of criminal liability resulting from the actions of artificial intelligence? Or is there a need to clearly define criminal liability for these crimes and to include special provisions that require criminal liability for crimes committed by artificial intelligence entities outside the scope of criminal liability based on the general provisions?

Can an AI entity be independently held accountable as the original perpetrator of the crime or is criminal liability assigned to the manufacturer, programmer or user of the robot What is the basis and limits of this responsibility?

In response to the problem posed, this study relies mostly on the descriptive approach by describing the ideas and data generated by artificial intelligence technologies, as well as presenting the views of jurisprudence regarding the definition of these advanced entities, in addition to the analytical approach through the analysis of legal texts related to the subject of the study, especially those that are looking at the statement of the legal basis that can be relied upon to hold such entities criminally accountable.

Based on the above, the problem was addressed by dividing this study as follows:

- 1 - definition of artificial intelligence and its legislative development
- 2-the legal basis for holding AI entities accountable for their illegal actions

1 - definition of artificial intelligence and its legislative development

Despite the Association of intelligence with humans and considering it as a close attribute to it, however, technological developments and transformations have enabled scientists to develop models and applications that simulate human intelligence, which is called "artificial intelligence", which is no longer just a science fiction or a distant dream, but a concrete reality imposed its applications in all areas of life with its advantages and disadvantages until it has

become an integral part of human life, which imposes the need to stand on the concept of this modern technology that simulates human intelligence to a great extent to remove any confusion or ambiguity that may surround it.

The rapid development of artificial intelligence systems forces it to keep pace with legislative development in order to develop principles and laws regulating the operation of artificial intelligence systems, especially in light of the world's dependence on its technologies in all fields, which leads to the emergence of a necessity and an urgent need to have a legislative regulation of the work of these systems, which will be described successively.

1 - 1 The concept of artificial intelligence

The definition of artificial intelligence will be addressed, in preparation for identifying its characteristics in the criminal field.

1-1-1 Definition of artificial intelligence

The first beginnings of artificial intelligence are due to the transformation from traditional programming systems after the Second World War to the development of computer programs characterized by simulating human intelligence in conducting games and developing solutions to some puzzles, which in turn led to larger simulation systems, where they then crystallized and became artificial intelligence systems, to be considered one of the modern fields in the fields of Science and knowledge on a degree Highly specialized and serves several areas

¹This will bring about a major revolution that will change the face and shape of human life at various security, economic and social levels, as the applications of artificial intelligence are multiplying and increasing day by day, so they have become sufficient in the humanitarian fields².

Artificial intelligence consists of two words, the word "intelligence" and the word "artificial", and "intelligence" means the ability to perceive and understand circumstances and learn new and changing situations, which means that the keys to intelligence are manifested in understanding, perception and learning, while the word "artificial" refers to the materials that arise and are formed as a result of activity or action through artificial and make them distinct from the things that exist by nature without human intervention .³

Computer scientist John McCarthy defines artificial intelligence, who coined the term in 1955, as " the science and engineering of making intelligent machines"⁴," where it is based on the study and design of intelligent systems that understand their environment and take adequate actions and measures in order to achieve specific goals that increase their chances of success .⁵

There have been several definitions of artificial intelligence, some of which focused on the human being and his roles in its application, others focused their attention on the machine and its functions and characteristics, and the most important of these definitions are the following:

- "One of the branches of computer science concerned with how machines simulate human behavior, it is the science of creating computer devices and programs capable of thinking in the same way as the human brain works, learn as we learn, decide as we decide, and act as we act"⁶
- "A computer with cognitive capabilities that will allow it to make decisions independently without being controlled by the person who designed it or who uses it".⁷

- "Behavior that simulates human intelligence to produce certain effects by making decisions in a free and independent way, but it is based at its origin on algorithms that have inputs and outputs that can only be done by a set of tangible physical means".⁸
- "That branch of computer science by which it is possible to create and design computer programs that simulate the style of human intelligence so that a computer can perform some tasks instead of a human being that require thinking, understanding, hearing, speaking and movement in a logical and orderly manner"⁹, Artificial intelligence aims in this sense to understand the nature of artificial intelligence by creating computer programs capable of simulating human intelligence, which is the ability of computer programs to solve certain problems, or the ability to take a certain position based on the analysis and characterization of this situation .¹⁰
- "A set of scientific theories and modern technologies used to create machines that are capable of performing the tasks performed by humans"¹¹.
- "The science to make computers and other machines and robots acquire the quality of intelligence, where they are able to do things that are the work of man, such as thinking, learning, creativity, communication and other actions that depend on the idea of consciousness, that is, this machine or robot possesses the capabilities of artificial consciousness in a manner similar to the human style"¹² .
- "The behavior and certain characteristics of computer programs that make them able to simulate the human mind and the way it works, such as the ability to think, discover and benefit from previous experiences"¹³.
- "The intelligence shown by machines and programs in a way that mimics human mental abilities and modes of operation, such as the ability to learn, inference and quick positive reaction to situations that were not programmed in the machine, it is also a name for an academic field that means how to make computers and programs capable of taking intelligent behavior" .¹⁴
- "Simulating human intelligence and understanding its nature by making computer programs capable of simulating intelligent human behavior, artificial intelligence is currently found everywhere around us, starting from driverless cars, drones, translation or investment software and many other applications that are widespread in life," he said¹⁵ .
- "An attempt to make a computer or a machine that works by programming like a human being or similar to him, whether in his thinking, actions or solving his problems, as well as his practice in all aspects of daily life, through studies conducted on a human being to draw conclusions that help explain his behavior and then program and apply it to the machine"¹⁶ .
- The WIPO intellectual property Organization defines artificial intelligence as:" a discipline in computer science that aims to develop machines and systems that can

perform tasks that are perceived as requiring human intelligence, whether with limited human intervention or without human intervention"¹⁷.

Therefore, it is clear from the previous definitions that artificial intelligence is the intelligence that man creates in a machine or computer, and it has come to play an important role in the future of humanity, as computers thanks to artificial intelligence solve problems and do industrial work, engineering, medical, military and educational fields, and artificial intelligence science is based on understanding the nature of human intelligence by¹⁸ , Artificial intelligence is considered one of the most important effects of modern technology, and it came after several decades of development in which man exerted what he could of knowledge and science to get to an artificial mind that helps him in the tasks assigned to him and on which he was programmed.

1-1-2 Characteristics of artificial intelligence in the criminal field

The digital revolution is moving towards the use of artificial intelligence on a large scale, as smart machines today are widespread in all areas of daily life, in the form of software that helps all segments of society, including doctors, judges, lawyers, teachers, learners and industrialists in their various activities, and in the form of autonomous vehicles, drones and robots that do all the skills performed by humans, but artificial intelligence, like any type of technology, has advantages, and some disadvantages as well, and we review in this section the advantages and disadvantages of artificial intelligence in the Criminal field as follows,

1-1-2-1 The advantages of artificial intelligence in the criminal field

Artificial intelligence has many positives due to its superior capabilities In many cases, human capabilities. Artificial intelligence has proven its capabilities in all fields and areas of life Space is limited to mention them, so we will review the advantages of artificial intelligence in relation to the criminal field, which is the aspect that concerns our research. The amazing progress in artificial intelligence technologies has created programs that have superior capabilities to enforce the law and facilitate criminal investigation transactions, and have contributed to empowering the agencies responsible for implementing criminal justice by preventing crime. Combating it and prosecuting criminals.

Here are some uses of artificial intelligence in the criminal field:

First: Classification of criminals: Artificial intelligence software is used to classify criminals and facilitate their arrest easily, objectively, and away from personal whims like humans, which leads to reducing the error rate in the classification process, through the so-called digital police.

Second: Predicting crimes: Artificial intelligence techniques help in trying to predict the occurrence of crimes by humans, predict the most common types of crimes, and predict crime rates and places that could be criminal hotspots in the future, through software algorithms that are provided with data and give results that help prevent the occurrence of crimes. Predictable crimes, and the use of modern technologies by criminals and organized crime gangs to commit their crimes has contributed to accelerating efforts to use these predictive capabilities that rely on artificial intelligence, such as, for example, identifying customers who purchase large quantities of chemicals used in terrorist activities, such as making explosives and hand grenades, by During so-called proactive policing.

Third: Inspection procedures to obtain evidence: Artificial intelligence techniques are used in inspection procedures in order to obtain forensic evidence. An example of these techniques is the ground measuring radar used to detect objects buried underground, such as weapons, drugs, and dead bodies without resorting to digging and excavation, and such as portable radar to detect what Behind Walls, which detects movement and breathing from a distance of more than 50 feet through radio waves, as well as the woodpecker device, which is used remotely in cases of audio surveillance and eavesdropping.

Fourth: Crime scene reconstruction: The great prediction power provided by artificial intelligence tools contributes to the reconstruction of the crime scene, through the decision network model for prediction, a model that represents a set of variables through a graph that predicts probabilities and helps identify the person of the offender through the use of certain algorithms that reveal the mystery of any incident and study the health condition of the accused, which shows the extent of his ability to commit the crime or not.

Despite the important role played by artificial intelligence technologies in the criminal field, the use of these technologies is not at the same level among countries, due to the disparity in technical development and economic capabilities of countries.

1-1-2-2 Disadvantages of artificial intelligence in the criminal field

Just as artificial intelligence is characterized by many advantages, it also entails some disadvantages that cannot be ignored, the most important of which is the high cost of its implementation, and the resulting economic and social threats, such as its impact on human labor, its lack of human and creative values, and its exposure to viruses and malfunctions that may result in major damage. These shortcomings are on the general level, but in the criminal field, artificial intelligence techniques are a double-edged sword. Just as they help in detecting and suppressing crime, they can contribute to committing crimes or enhancing criminal methods, through:

First: Violation of private life: This is the most prominent negative that results from the use of artificial intelligence technologies, as technological services currently require users to agree to allow artificial intelligence software to share certain data from the user's phone, which enables this software to analyze this data to reach the interests of individuals for use. For commercial purposes, or to exploit it in an impartial manner, which makes it a tool for violating freedoms.

Second: Piracy: There are a large number of malicious programs aimed at piracy and hacking accounts. There are thousands of platforms available on websites, and it is easy to purchase them through several websites. These programs are specialized in the fields of encryption or decryption.

Third: Deep fake techniques: through which video clips are produced and attributed to people, with actions and conversations that they did not do or say. Artificial intelligence algorithms also create a copy of a well-known personality, and words and facial expressions are manipulated. Celebrities and politicians are the most affected by this, as clips are shown. Fake videos with the aim of blackmailing or influencing public opinion, and developments in this field have further accelerated as a result of the shift to remote work, during the Corona (Covid 19) pandemic.

Fourth: Influencing opinion through fake accounts: Fake accounts are accounts on social media sites managed by programs. These automated accounts can do several things,

including re-publishing a specific post, liking it, or they can follow other accounts. These programs have the ability to simulate behavior. To obtain imaginary popular political support, promote certain propaganda, manipulate the financial and stock market, or spread malicious rumours.

Fifth: Employing artificial intelligence in terrorist activities and money laundering: Terrorist groups have employed artificial intelligence techniques for their terrorist purposes, for example what the Islamic State, also known as ISIS, did by loading explosives onto drones and using facial recognition systems in monitoring operations. Targets and carrying out assassinations accurately.

Just as advanced electronic technologies and artificial intelligence have been harnessed to create fraudulent means that have enabled and facilitated organized crime gangs and criminals to commit money laundering crimes and bypass security and surveillance networks, governments and global and national financial institutions are relying on artificial intelligence applications to confront and combat money laundering activities due to the capabilities these applications possess. To store and analyze data, analyze and report illegal money movements, nationally and internationally.

Sixth: The possibility of deceiving artificial intelligence by secretly creating a double agent: Western countries rely on artificial intelligence systems to monitor threats facing their national security and predict events expected to occur around the world, but the ability of countries and organizations hostile to these countries to know the mechanism of operation of their devices makes it easier for them to deceive them. By spreading fake news to mislead and mislead them with false information, in short, an automated double agent is secretly created.

We conclude from the above that artificial intelligence has had a negative impact on various areas of life, to the extent that its advantages have benefited, which prompts the need for discussion about legislation and controls that regulate and govern the use of artificial intelligence technologies, in addition to setting an ethical framework that achieves a balance between continuing to develop artificial intelligence and ensuring To avoid its defects and negatives.

1 – 2 Legislative development of artificial intelligence business regulation

The increasing use of artificial intelligence systems and their intrusion into various fields of life has imposed the need to develop legal systems that govern and regulate the actions of these systems, considering that the responsibility arising from the actions of artificial intelligence raises the concerns of everyone related to it, as controlling the actions and decisions of artificial intelligence will become more difficult with the tremendous development that it has reached and may reach, which poses a danger to everyone related to it¹⁹.

Artificial intelligence systems that mimic humans develop in terms of partial autonomy and the ability to perform specific intellectual tasks, which must be governed by an important principle that they remain subject to human control despite their capabilities and capabilities. Here the three laws of robotics or Asimov's laws appeared, through which controls are imposed on how to program, make and develop artificial intelligence systems, which are as follows:

- The principle of the obligation of artificial intelligence systems not to harm humans or to remain silent about what may harm them. That is, artificial intelligence systems and

robots must be governed by a basic rule, which is to ensure that they do not engage in any behavior that represents a threat to humans or merely exposes humans to danger.

- The principle of human control over artificial intelligence systems, and the commitment of these systems to do so, unless this contradicts with the first principle. That is, in all cases, artificial intelligence systems and robots remain under human control, and they are only allowed to operate autonomously under human supervision and control in order to avoid any behavior that constitutes a crime or danger to humanity.
- The principle that artificial intelligence systems are committed to maintaining their survival as long as this does not conflict with the first and second principles. That is, maintaining artificial intelligence and robotics systems and working to develop and modernize them in order to serve humanity, but in light of adherence to the previous rules.
- This principle has been added and called the Zero Principle to the previous set of controls and principles, which is the commitment of artificial intelligence systems not to harm a human being, or to allow them to harm themselves. That is, the principle of ensuring safety during the manufacturing, operation and termination phase of these smart systems.

Despite the importance of these principles, the world, as a result of the rapid and successive development of artificial intelligence systems and robotics, has sought to develop new principles that are compatible with these new developments. Therefore, on November 28, 2018, the Artificial Intelligence Organization issued ethical guidelines for artificial intelligence, which are as follows:

- ❖ The principle of impartiality, whereby artificial intelligence systems must be designed in such a way that they operate without discrimination, bias, or racism against an individual group of people.
- ❖ The principle of accountability and responsibility for the results of the work of artificial intelligence systems in the event of direct or indirect damage, and work to reduce these expected risks.
- ❖ The principle of justice, so that artificial intelligence systems are not developed that interfere in democratic governance systems and work to suppress human rights in a manner that contradicts what is specified in the Universal Declaration of Human Rights issued by the United Nations in 1948.
- ❖ The principle of honesty, providing correct and honest information to the user that enables him to make informed decisions in a clear and transparent manner.

- ❖ The principle of being trustworthy, which includes protecting data derived from artificial intelligence and committing to using it in accordance with the principles stipulated in this ethical guideline.

It was also the first and most prominent international attempts to regulate artificial intelligence at the international level were in the United States of America, through the adoption by the legislature of the US state of Illinois in May 2019 of the law on conducting job interviews via video by artificial intelligence, where the law came into force in January 2020, after which the US Congress issued an independent law for artificial intelligence and its prospects in the world in 2020, which is the first federal law regulating the work of artificial intelligence .based on this law, a specialized committee was established to research the rationale of artificial intelligence and issue the necessary decisions and study the effects of its use on the workforce in the United States of America²⁰.

At the level of the European continent, in February 2017, the European Union developed a resolution containing recommendations related to the rules of civil law applicable to artificial intelligence systems and robots, based on the work of the Legal Affairs Committee specialized in studying the ethical and legal aspects related to the work of artificial intelligence and robotics²¹, The EU Commission also issued an initiative in November 2018 to establish ethical guidelines for artificial intelligence²², After that, the EU will propose to the EU member states to develop legislation on the legal aspects of the development of the use of robots and artificial intelligence over a period of ten to fifteen years. Among the steps taken by the European Parliament are the following²³:

- ✓ The purpose is to acknowledge the responsibility of the so-called human deputy responsible for the robot, which may be the manufacturer, operator, owner or user, depending on the degree of damage caused by the robot on the one hand and the degree of Actual Control of the human deputy over the robot on the other.
- ✓ The introduction of the compulsory insurance system by creating a fund that insures compensation in the absence of insurance for accidents caused by it.
- ✓ The aim is to arrange civil liability for the work of artificial intelligence systems and robots with the aspiration to establish an independent legal personality for robots and artificial intelligence systems in the long term.

France has adopted a similar strategy to that adopted by the European Union to ensure the development of artificial intelligence, as the French National Commission, the information protection authorities and the European Data Protection Supervisor issued an opinion on the artificial intelligence law, and a French constitutional bill on the artificial intelligence charter was proposed, including the principles that artificial intelligence must respect, the requirements of its audit and development processes and its independence in decision-making²⁴.

At the Arab level, none of the Arab legislations deals with the regulation of artificial intelligence directly or in an independent legislation, with the exception of some scattered texts that regulate some of the problems associated with artificial intelligence.

The United Arab Emirates is considered the leading Arab country in this field, which it has entered strongly and started taking serious steps to regulate it, as it has established a Ministry of artificial intelligence and a legislation laboratory responsible for

enacting proactive legislation to regulate many problems that may arise in the future, such as self-driving cars and others²⁵.

In 2019, AI principles and guidelines were developed based on the following principles:

- ❖ AI systems must be fair, transparent, accountable and understandable. This is done through a set of actions that ensure transparency.
- ❖ Where possible, the data received by the system should represent the affected category. So algorithms must avoid non-operational bias.
- ❖ Measures must be taken to limit them and evaluate any bias in the data sets.
- ❖ The fairness of important decisions must be demonstrated.

As for Egypt, the Egyptian legislator has established the National Council for artificial intelligence, which follows the Council of ministers and is responsible for developing the national strategy for artificial intelligence, following it up, supervising its implementation and updating it according to international developments²⁶, The kingdom of Saudi Arabia also granted its citizenship to the robot "Sophia", which gave her a special legal personality and granted her rights and imposed duties on her²⁷, Qatar, in turn, adopted in 2021 the "national strategy for artificial intelligence" prepared by the Ministry of transport and communications and Hamad bin Khalifa University in accordance with the Qatar National Vision 2030, a single space for ethics and public policies related to the use of artificial intelligence, and stressed the importance of adopting guidelines and a framework for artificial intelligence ethics and governance, which in turn will be based on the guidelines on privacy and data sharing issued by the Ministry of transport and communications in line with Qatari social, religious and cultural standards and relevant international guidelines²⁸.

Algeria has also adopted the national strategy for research and innovation in the field of artificial intelligence for the period 2020-2030, which aims to enhance Algerian capacity-building in the field of artificial intelligence in terms of education, training, training and research, on the one hand, and sent capacity-building as a development tool to enable various economic and social sectors to overcome obstacles to the ongoing digital transformation .on 26/06/2023, the Scientific Council for artificial intelligence was activated with the qualitative participation of several local and expatriate Algerian competencies, in an achievement betting on the development of elements of the joint sectoral strategy for the development of artificial intelligence and the development of the artificial intelligence environment in Algeria²⁹.

2 - The legal basis for criminally holding AI entities accountable for their illegal actions

No two disagree about the great and enormous services that artificial intelligence technologies and their great services have become today for all mankind at all personal, medical, industrial and commercial levels, as the work on their development in many areas is mainly aimed at protecting humans and preserving their lives, such as the use of robots in hard and dangerous work and in military battles, we are today in front of an unprecedented revolution in artificial intelligence aimed at serving humanity and changing the shape of life for the better³⁰, This is confirmed by the movement of technological discoveries in recent

times and their versatility, starting from the expansion of the production of robots, self-driving cars and drones, through robots that mimic humans and perform their tasks in various fields³¹

The prevailing belief for a long period of time in the mind of mankind is that man is the only source of crime, which is only on his part because he has certain qualities that make him accountable depending on the commission of the crime, but criminal responsibility³² In the perspective of the contemporary philosophy of criminal legislation, the goal of determining criminal responsibility remains to resist the crime committed and prevent the commission of other crimes by following an objective penal policy whose goal is to protect society so that every person finds safety and tranquility³³, The tremendous technical development in various fields and the great technological revolution that the world has known in recent centuries, especially in the field of artificial intelligence, have resulted in the intrusion of other people into the field of crime and the emergence of New officials in the field of non-human crime may be more dangerous than him, which prompts us to research the possibility of their accountability by putting forward a set of models that may accommodate the accountability of such new bodies, pending explicit legislative intervention that recognizes this type of entities and decides on direct criminal responsibility, which will be described successively.

2 – 1 Models of criminal liability for crimes of artificial intelligence entities

In order to impose this type of responsibility on any kind of these entities, in addition to having legal personality, it is necessary to prove the existence of the two basic elements on which criminal liability is based, namely the external or factual element, which is meant criminal behavior "material element", and the internal or mental element, which is meant criminal intent or intent to commit criminal criminal "moral pillar", if one of these In order to impose criminal liability committed by artificial intelligence entities as well as the recognition of legal personality, these two pillars must be met, and the questions raised regarding the criminal liability of artificial intelligence entities is how can these entities meet these two requirements for criminal liability How can these two basic pillars be available for the establishment of criminal responsibility for crimes committed by artificial intelligence entities To answer this question, it is necessary to demonstrate the possibility of criminal liability of artificial intelligence entities or not, using and presenting three possible models Responsibility, two of which fall under the framework of the indirect criminal responsibility of the artificial intelligence entity, and the model of direct responsibility, as the research on responsibility within the framework of the general rules in criminal law is considered a wide area of rejection and support among the various doctrinal trends, in One Direction went to establish the criminal responsibility of artificial intelligence and another went to not recognize it, especially that the absence of any of the mentioned pillars negates criminal responsibility, no matter how serious the acts caused by the work of artificial intelligence.

In application of the above, the position of the robot in artificial intelligence crimes does not deviate from three images, namely:

- ✓ It is not possible for a robot to be just a tool or machine with which a crime is committed: here, in this case, criminal liability is not envisaged for a robot that is considered an innocent agent, which falls under the model of indirect criminal liability of a robot.
- ✓ It is possible that the robot is just an executor of a wrong program from the programmer or an executor of an improper order by the user: here the crime arises from the fault of programmers or users on the basis of possible natural consequences,

here also criminal liability for the robot disappears, and it, in turn, falls under the model of indirect criminal liability.

- ✓ The Robot should be the perpetrator of the crime without external interference: here the robot's crime is available with its direct behavior alone based on the data stored inside it, which is the model of direct responsibility in which artificial intelligence entities are similar to human criminals, and in this picture the problem that needs quick technical, technical and legal solutions emerges, as will be:

2 – 1 – 1 The crime of a robot as a tool or machine

In this picture, the robot, no matter how intelligent, perceptive and sensible, but it can only be considered as a tool or machine subject to an external Will represented by the programmer or the human user, as he is the one who wrote and developed a plan of action and the functioning of the robot, and therefore he has a different Will and vision from the latter, even if this robot an offense in which the agent is criminally liable as the perpetrator, but by another authentic person, i.e. An aspect of jurisprudence has also argued that according to this model, the capabilities of an artificial intelligence entity are considered insufficient to be considered a perpetrator of a crime, and these capabilities can be considered parallel to the capabilities of a person who does not possess mental capacity³⁴.

This picture of the robot's uses raises a powerful question, which is who is the culprit in such a situation where the robot is an innocent agent.

The answer to this question holds two hypotheses as follows:

- ❖ The first hypothesis: the use of a robot to commit a crime by a user or programmer intentionally: Any deliberate use of a robot to commit a crime by a programmer or user, in this case the programmer's or user's crime is an intentional crime, and in such a case the culprit is the manufacturer or programmer of the artificial intelligence entity, where the manufacturer or programmer develops the software of the artificial intelligence entity by designing a program to commit crimes by it, such as the manufacturer designing the robot and programming it to light fires at night when there is no one in the place, it is true that the robot is the one who started the fire, but the manufacturer is the culprit because of the availability of criminal intent, he has what makes him responsible for an intentional crime, as well as drones that programmed to drop bombs on a specific area, or robots The killer that is programmed to kill people, here planes and robots do not criminally ask about the crime committed by them, but rather the manufacturer or programmer asks about an intentional crime in application of the innocent agent theory³⁵, It can also be asked about the intentional crime and the owner or user of the artificial intelligence entity is considered the culprit, for example, if someone buys a robot designed to carry out the instructions of its user, and orders him to attack the one who attacks the house, the robot executes the command completely, here the robot did the attack, but the user or owner is the culprit³⁶.
- ❖ The second hypothesis: the use of a robot to commit a crime by the user or programmer unintentionally: that is, the mistake or negligence of the programmer or user in using the robot or its maintenance, which caused the crime, and in this case the robot is never asked about any crime³⁷.

Such images are based on the fact that the robot does not have any of the human characteristics described by intelligence, perception and consciousness, and also does not

have freedom of choice or the ability to make decisions, he is recognized only as an incomplete legal personality that enables him to acquire some rights without incurring obligations³⁸.

The robot in this picture is nothing more than just a means of committing a crime, like a gun, pistol or knife, especially since the Penal Code does not pay much attention to the type of means by which a crime is committed only in certain crimes³⁹.

Despite the enormous capabilities of the robot that cannot be ignored or denied, which are recognized by him from a legal and technical point of view, but these capabilities remain deficient and do not qualify him to bear criminal responsibility and then be considered the perpetrator of the crime, as these capabilities are parallel to the capabilities of a mentally incompetent person, which applies even to the person first addressed by the provisions of the Penal Code, as he may be in certain cases where he is not criminally responsible, such as in the case of insanity or young age.

According to this model, there is no difference between an artificial intelligence entity and an animal that its owner uses to attack someone, an attack committed by a dog at the behest of its owner is actually an attack committed by the user "owner" himself.

From a legal point of view, when a crime is committed by an innocent agent, such as a child or a mentally ill person, that person is criminally liable as the perpetrator through another person. In such cases, the intermediary is just a tool, even if it is a composite tool, while the party who commits the crime and is the perpetrator through another is the real actor as the original in the first degree and is responsible for the behavior of the innocent agent. Therefore, the legal result of applying this model is that the manufacturer or user is criminally responsible for the crime committed by the AI entity, and the entity does not bear any criminal responsibility at all⁴⁰.

In such a picture, the original perpetrator of the crime is that person who has the ability to move the robot or control it, and therefore the case of an innocent agent is an application of the theory of the moral actor known in the Criminal Code, and the robot in this case is only a tool or machine to commit the crime, nothing more.

First: the definition of the moral actor: A moral actor means a person who pushes others to commit a crime, so the latter commits it, which from the point of view of jurisprudence and law is just a means or tool as he is not criminally responsible, and therefore the moral actor of the crime is the one who uses others in its implementation, so it serves as a tool he uses to do the elements on which the crime is based, where he commits the crime but by others⁴¹.

A moral actor also means anyone who, by any means, pushed another person to carry out the act constituting the crime, if this person is not criminally responsible for it for any reason, and therefore the moral actor of the crime is everyone who harasses others in its implementation and this other is just a tool in his hand, because the perpetrator of the crime is bona fide or to commit a crime and realize its constituent elements⁴².

With this definition, the theory of the moral actor applies to this image, as it can be applied to the owner and user of artificial intelligence that he uses to commit a crime or programs it for this purpose, where the nature of the robot corresponds to the criminally irresponsible person who lacks consciousness and awareness, such as a crazy person or an undistinguished Child, Measurement in this case is not prohibited because it is a measurement in non-punitive

rules related to eligibility and not punishment, and there is no criminal text that defines what a moral actor is exclusively it requires adherence to it without diligence and no measurement⁴³.

In such a case, the moral actor is fully criminally responsible for the actions of the robot as he is controlled or controlled, and then the actions issued by the latter are originally issued by the moral actor with criminal intent, and he is asked about them by extension, and at the very least the moral actor can be asked about the consequences of the robot's actions as the normal course of things and events, even if he had not really foreseen them.

Therefore, this case presupposes the existence of two actors, the first is a physical actor who physically carried out the crime, which is an artificial intelligence entity, and the second is a moral actor who committed the crime by others, and criminal responsibility follows solely on him, which is the manufacturer, programmer, owner or another external party as the one who committed the crime by an artificial intelligence entity⁴⁴.

For example, if a programmer or designer designed a program for an artificial intelligence system or a robot in a factory to make it burn down the factory, but while the robot was carrying out the crime, one of the people resisted him to prevent him from committing the crime, which prompted the robot to kill him, in such a case the programmer or designer is asked according to the rules of moral responsibility for committing an intentional crime, namely arson and murder, on the grounds that the murder was a possible consequence of the arson crime, because he could and should have foreseen its occurrence⁴⁵.

Second: determining the personality of the moral actor: The personality of the moral actor in artificial intelligence crimes does not depart from two possibilities, Either he is the designer or programmer of the robot program, or he is the user of this robot.

Criminal liability of the manufacturer or programmer: The criminal responsibility of an artificial intelligence factory is one of the most important things that arises when the latter commits any behavior that constitutes a crime according to the law, and therefore research into the criminal responsibility of the factory was a necessity to clarify the extent of its role in criminal responsibility, a robot software developer may design a program to commit crimes by a robot, for example a programmer designs a program for a worker robot, the robot is deliberately placed in a factory, and its programs have been designed to set fire to the factory at night when there is no one, so the robot executes the program, so this robot is the one who set the fire and cremation The criminal responsibility of the robot producer or manufacturer is one of the most important things that arises when the latter commits any criminal act, as the producer or programmer is considered responsible for all the resulting actions as a result of industry defects, where the crime may occur as a result of a programming error from the artificial intelligence programmer, or in the internal configuration of the robot, which causes a criminal offense, it may happen that the programmer issues artificial intelligence technology with errors that cause crimes, and therefore the manufacturer or programmer is criminally responsible for it, and a distinction must be made between the crime is committed intentionally or by mistake because the punishment prescribed in each of them differs⁴⁶.

It follows from this that the producer or programmer must commit to taking into account the quality and conforming to the required specifications, they relate to the customer's perspective and expectations, by comparing the actual performance of the product with the expectations desired from it, the goal pursued by the product is to make a profit, and in order to achieve this, he may not care about taking into account the quality in manufacturing, which leads to damage caused by artificial intelligence due to non-consideration of quality in its

production, and it must also be taken into account that the robot is compatible with the values and traditions of society, not be a doll for sexual purposes and not be speaking inappropriate words⁴⁷.

The factory may protect itself through clauses mentioned in the employment agreement signed by the owner, and the owner is solely held criminally responsible for crimes committed through this AI-powered entity, and the factory disclaims responsibility for any crime committed by him.

- Criminal liability of the user: An artificial intelligence user is a person who enjoys his Technologies, he can use it and take advantage of its enormous capabilities, and it is expected that the owner or user will misuse the artificial intelligence program, which entails the occurrence of a certain crime punishable by law, so here the user has not programmed the program, but he uses the robot, including its programs, for his own benefit, where we are here in front of several possibilities, so the user buys a server robot designed to execute any order from its owner, and the robot identifies its user or owner as the router, so this router orders him to attack those who sneak into the walls of the house at night, and the robot executes the command exactly as required and kills the intruder, in this case, the one who The executor is the robot, but the user is the one who gave the order, and then he is criminally responsible, and this is no different from a person who orders his dog to attack any intruder, the robot has carried out the attack, but the user is the culprit.

The crime may occur as a result of the owner or the user alone, if it were not for his behavior that he committed the crime, the crime would not have occurred, and here the full criminal responsibility falls on him, for example, the user or the owner disrupts the automatic control of an autonomous car and keeps only the voice directions issued by the artificial intelligence program, and therefore here he is the sole controller of the car, so if he is alerted by the program with a specific command to avoid an accident and does not execute this command, criminal responsibility falls on him alone, and the crime may also occur as a result of the owner's behavior in conjunction with one of the other parties, such as the factory, the artificial intelligence technology itself, or another external party, such as the car owner changing operating orders In this case, the criminal liability is joint, as the Criminal Code defines such acts in Article 42 of the Criminal Code, which is established by the self-driving car with the help of a specialist in this field in order to exploit it in the commission of a crime and deny criminal responsibility for it and stick it to the car and its manufacturer⁴⁸.

In both cases, the actual crime was committed by the robot, and the programmer or the user did not execute it according to the legal model of criminal behavior and did not perform any action that corresponds to the definition of a crime, but he is considered to have committed the act as if it was the programmer's or the user's Act, and this image applies to the criminal responsibility of the moral actor, when programmers or users use the robot in this way, what the robot executes is attributed to them, because of the availability of a moral pillar in their confrontation, where the intent to commit the crime was available to the programmer who designed the program to burn the site, as the intent to commit a crime was present in the user when he directed the robot to kill the intruder Although these crimes are carried out by the robot's hand, they are attributed to the programmer and the user⁴⁹.

Here, criminal responsibility can be determined by the user of artificial intelligence in a different way in order to commit a certain crime or push him to commit it, so that the user or owner becomes the moral actor while the intelligence or robot is the physical actor, and here

the theory of the moral actor can be applied and assign full criminal responsibility to the owner or the programmer had criminal intent when he was ordered to commit Arson, and the user had a criminal intent when he ordered to commit the assault, although these crimes were actually committed by a robot, and according to this model there is no legal difference between a robot entity and an animal, when a thief uses a screwdriver to open a window he uses a screwdriver as a tool and the screwdriver does not bear criminal responsibility, the work of a screwdriver is actually a thief, which is the same legal position when using an animal effectively, an assault committed by a dog at the order of its owner is actually an assault committed by its owner⁵⁰.

This model of liability in which the robot takes the form of a mere tool or machine or, as expressed by some others, the model of liability committed by another is not suitable when the robot decides to commit a crime based on its experience or accumulated knowledge, this model is also not suitable when the robot program is not designed to commit a specific crime but nevertheless it was committed by him, and this model is also not suitable when the specified robot does not act as an innocent agent but as a semi-innocent agent, however this model may be appropriate when a programmer or user uses the entity as a tool but without using the advanced capabilities of the entity⁵¹.

However, looking forward to the future, this model is no longer applicable and cannot be applied when the artificial intelligence entity reaches a degree of independence, learning and self-development that makes it distinguish between wrong and right, then it cannot be exploited in committing a crime as an innocent agent, which is still a relatively distant future⁵².

2 – 1 – 2 Robot offense based on programming error or operating error

It is conceivable that a robot commits a crime not based on a program designed by the programmer to commit the crime, or an order issued by the user to execute it, but a robot commits the crime based on a programming glitch or operating error.

This second model of criminal liability presupposes the deep involvement of programmers or users in the daily activities of the robot, but without any criminal intent to commit a crime by the robot. during the execution of its daily tasks, the robot commits a crime without the programmers or users having any knowledge of the crime until it is actually committed. they did not plan to commit any crime and did not participate in any part in the commission of that specific crime, but they should have or could have foreseen its occurrence.

If the malfunction that befell the robot is caused by negligence in maintenance or an operating error, which led to his committing criminal behavior according to what he has accumulated of data and experience, but without guidance from anyone, which causes disasters as a result of unexpected errors, then criminal responsibility falls on the person who neglected to carry out the maintenance crisis imposed on him by the duties of the use of the robot or negligence in its maintenance or inspection⁵³.

The behavior that caused the commission of the crime is the fault of the programmer or the manufacturer, as if the malfunction was due to the programmer's error in programming or due to a manufacturing error, such as non-observance of safety and security standards, which leads to tort liability or unintentionally committing a crime through the fault of the user, or criminal behavior committed by the owner or user of artificial intelligence and intended to commit the crime, there is no dispute that criminal responsibility falls on one of the

aforementioned parties, it falls either on the manufacturer, programmer or user depending on the circumstances.

An example of this is a robot programmed to work as a robotic surgeon, which is programmed to close an artery in case of bleeding as part of the robot's task as an assistant to the surgeon, and during the operation and when the surgeon performs the operation, the robotic surgeon robot closes the artery in a way that causes blood clots, and the patient dies because of the robot's behavior, it is clear here that the programmer did not intend to commit any murder, and another example is a robot designed to work as an autopilot and was programmed as part of the airplane's flight mission, and during the flight, the human pilot activates the autopilot and the program is configured, and after activating Autopilot, the human pilot sees the storm approaching The robot entity considers the work of the human pilot a threat to the mission and takes the necessary measures to eliminate the source of this threat .it may cut off the air supply to the human pilot or activate the ejection seat and as a result kill the human pilot because of the actions of the autopilot. it is clear that the programmer or manufacturer did not intend to kill anyone, especially the human pilot, and he did not have the intention to kill, but nevertheless the human pilot was killed as a result of the actions of the robot, and these actions were carried out according to the program programmed on him⁵⁴.

A few days after activating the program, it is discovered that the best way to detect such threats is by entering websites that it considers dangerous and destroying any program that is recognized as a threat, and when the program does this, it commits a computer crime, although the programmer did not intend for the robot to do so.

In such examples, the criminal intent or criminal intent of programmers or users to commit a crime through the effective use of some of the capabilities of the robot entity is not available, in these cases, programmers or users did not have knowledge of the crime committed, did not plan it and did not intend to commit the crime using the robot, but they were able to estimate the likelihood of committing crimes, the programmer or user is held accountable for the crime of the robot if that crime is a natural and probable result of the behavior of that entity⁵⁵.

Therefore, in such cases, the responsibility of the programmer or the user, depending on the case, is based on the possible consequences, when the robot commits a crime without the knowledge of the programmer or the user, without his intention and not participating in it, where the programmer or the user is in a neglected state of mind no more, programmers and users are not required to know any crime that will occur as a result of their activity, but they are required to know that this crime is a natural and probable result of their actions, so they are criminally responsible for that crime, even though they were not already aware of it, which is the legal basis for criminal liability in cases of probable intent, which is achieved by this model of criminal liability based on Possible natural consequences, which concern a person who was not the actual perpetrator of the crime, but was one of its perpetrators mentally, and reasonable programmers or users had to foresee the crime and prevent its commission by the robot⁵⁶.

The possible natural result of criminal behavior is meant to be the result that, by virtue of the normal and natural course of things, is expected to occur due to criminal behavior, which means that the offender is not originally responsible for a crime that is not the result of his criminal activity or has contributed to it by one of the means provided for by law, but the legislator has returned and provided for the offender's responsibility for the results of a crime

that may fall within the serial framework of events, if these results are expected in themselves based on the standard of the ordinary man, regardless of whether the offender has foreseen them or not, as long as he can he or she can and should expect it⁵⁷.

The application of this type of responsibility to programmers or users gives rise to two hypotheses:

- The first hypothesis: It is where programmers or users are negligent while programming or using the robot without having any criminal intent to commit any crime, which is a type of pure negligence, and therefore criminal liability towards users or programmers in this picture is based on error in programming or negligence in operation on the basis of unintentional criminal liability, where there is no reason and no justification to hold them accountable there is a reason why they are not held accountable for the crime of negligence, and so on as in the example above where a programmer neglected The Autopilot is programmed to carry out its mission without including restrictions on the loss of human lives, here the programmer is negligent and responsible for killing the human pilot, and therefore if there is a specific crime of negligent homicide in that legal system, this is the most serious crime for which the programmer may be held accountable and not intentional murder, which requires knowledge and intent⁵⁸.
- The second hypothesis: it is in which programmers or users knowingly and deliberately program or use the robot to commit one crime by it, but the robot deviated from the plan and committed some other violations in addition to or instead of the planned crime, which is the legal reason for imposing more severe accountability, for example, the programmer programmed a robot in order to commit a violent robbery on a bank without programming it to kill anyone, and during the theft, the robot kills one of the people in the bank who resisted the robbery, in such a case, the programmer does not have negligence, and the danger posed by this situation goes far beyond negligence⁵⁹.

As a result, according to liability based on probable intent or possible natural consequences, when programmers or users deliberately and intentionally program or use a robot to commit one crime through a robot, but the robot has deviated from the plan and committed another crime in addition to the planned crime or instead of it, and therefore programmers or users must bear responsibility for the crime itself, as if it had been committed knowingly and intentionally, and in the previous example of theft, the programmer bears criminal responsibility for theft-if committed - in addition to criminal responsibility for murder⁶⁰.

The case or model of the possible natural result here creates an appropriate legal response to the factory's liability report for cases where a crime is caused by the actions of an artificial intelligence entity, despite his ignorance and lack of direction of his intent or participation based on his duty to take care of the usual man to find out what crimes can be committed and are a natural and probable result of the actions of an artificial intelligence entity. this is supported by the fact that the model of liability for possible natural results was found to impose criminal liability on partners when one of them commits a crime that was not planned by all of them and was not part of the conspiracy. the rule is that the partner's liability extends to the actions of the perpetrator, which are a natural result of the actions of the artificial intelligence entity, and And potentially⁶¹.

2 – 1 – 3 The crime of a robot based on its direct action

It is a model of direct responsibility of artificial intelligence, in which case it is envisaged that the robot commits criminal behavior based on its self-development without the intervention of the natural person who manufactured, programmed or operated it "Factory-user- This model does not assume any dependence of the robot on a specific programmer or user, but rather focuses on the robot entity itself, because scientific and technological progress in the field of artificial intelligence technologies may lead to it making wrong decisions and committing criminal behavior independently, for example, what happened in 1981 when an artificial intelligence robot killed a 37-year-old Japanese employee at a motorcycle factory he was working near, where the robot incorrectly identified the employee as a threat to his mission, and according to the most effective way to eliminate this threat is to push running nearby using its extremely powerful hydraulic arm, the sudden working robot has landed in In addition to other crimes committed by these entities resulting from the occurrence of self-development in their systems, such as crimes of disconnecting ventilators from the patient, closing the patient's vein leading to blood clots, prescribing the wrong medicine or injecting needles that do not match the body, or making an inappropriate decision for the pathological condition, defamation crimes on the internet or entering stock markets and violating their constants, violating the privacy of personal data and misuse by spreading false news and other criminal images⁶² .

In such a case, the danger is aggravated and the harm increases if the programs or mechanisms of artificial intelligence have full independence and make their decisions without reference to the human, as the robot acts alone with the intention of changing the surrounding realistic conditions, and this behavior is an artificial perception and a degree of programmed choice⁶³ .

The explanation of this is that the robot algorithm may contain many features and qualifications that exceed what the average human has, but these features or qualifications are not required to impose criminal liability⁶⁴ , When a person or company meets the requirements of criminal liability with its external elements, which is the criminal act and internal, which is the criminal intent, then this person-whomever he is - bears criminal responsibility as long as he is able to meet the requirements of both the external element and the internal element, and therefore there is nothing to prevent the imposition of criminal liability on the robot according to the legal model of crime and the general theory of criminal law⁶⁵ .

Therefore, the robot must have a certain legal status that exceeds the status of a machine or tool, in addition to having the ability to act and make decisions freely and competently without interference from outside its internal systems.

This means that the robot is freed from any external influences, which makes it characterized by its own ability and artificial intelligence, which qualifies it to carry out self-development, continuous learning and making self-decisions outside the system set by the programmer, so the artificial intelligence in this case comes out of the cloak of its creators to self-control itself and the criminal behavior committed by it stems from its own decisions, which allows recognizing the criminal responsibility of the artificial intelligence for its actions, while recognizing it with a legal personality that suits its own nature⁶⁶ .

Accordingly, some jurisprudence goes to the conclusion that there is no obstacle to establishing this responsibility as long as the physical element of the "criminal act" and the

moral element of the "criminal intent" of that crime are available, and any person to whom the two elements of the crime are attributed is criminally responsible for it.

The external appearance of the crime in the form of criminal behavior and its attribution to the robot is met easily and without much effort, the availability of the physical pillar of criminal activity is easy to achieve by an artificial intelligence entity, as long as the robot controls a mechanical machine or another machine to move its moving parts, it can be considered in such a case that any action was carried out by the robot, and so when the robot activates its electric or hydraulic arm and moves it, this may lead to it being considered an act if the specific crime involves such an act, for example, in the specific crime of assault, such an electric or hydraulic movement is for a robot that collides with a person standing in A nearby place serves as the fulfillment of the requirements of a criminal act for the crime of assault⁶⁷.

The internal manifestation of the crime, represented by criminal intent, is also provided as the strongest requirement of the internal element, namely the presence of a purpose or goal for a realistic event to occur, and the special intent required to prove responsibility for murder is the purpose or goal for the death of a specific person, and as a result of the presence of intent the criminal commits the crime, that is, he brings the external element of the specific crime, and this situation is not limited to humans, as a robot can be programmed to have a purpose or goal and to take actions in order to achieve this purpose and this is the specific intent, in addition to the element of science or knowledge that may be available in artificial intelligence entities whose algorithms are trying to achieve this purpose. this is the specific intent, in addition to the element of science or knowledge that may be available in artificial intelligence entities whose algorithms are trying to advanced imitation of human cognitive processes, since most Its systems are well equipped for sensory reception of real-life data and understanding of that data. sensory receptors for sights, sounds, physical contact, touch, etc. are common in most robot systems. these receptors transmit incoming real-life data to the central processing units that analyze the data. the analysis process in robot systems is parallel to that in human understanding, when artificial intelligence entities become equipped with powerful software and algorithms with high efficiency that give them the ability to act and make decisions independently⁶⁸.

Real examples of this case include the surgeon robot disconnecting the oxygen device from the patient, or pumping a large amount of blood into the patient's body, which leads to his thrombosis, in addition to self-driving cars, as if a self-driving car with full control over its movement moves from one place to another, and on its way it rammed someone from a pedestrian, which led to his injury or death, as well as a robot in a factory, taking into account all the rules and regulations for security and safety, cut off the hand of one of the factory workers due to an error in estimating robots that work alone on a human and have full control over their actions and decisions subjectivity⁶⁹.

It should be noted that the surgical robot has a sufficient amount of intelligence that enables it to make decisions independently in the operating room, and it can also distinguish between beneficial behavior and harmful behavior, when the robot has full control over the act without human intervention, this would foreshadow the risk of impunity for any crime committed by this robot, as in the absence of proof of criminal responsibility it is conceivable - as some have called - Punishing robots by suspending them from work, as this would not achieve the deterrence that the legislator seeks and aims at from punishment, nor does it protect the victim or society⁷⁰.

Hence, the question arises and questions are raised about who is responsible for such crimes, and who bears criminal responsibility for these crimes, which seem to be justice and fate?

As the use of robots is increasing in most developed countries, surgical robots, industrial robots, commercial algorithms, personal robots, and other artificial intelligence entities have appeared, and this use may be personal, medical, military, commercial or industrial, so in the face of the involvement of a surgical robot, for example, in surgical errors alone, who bears criminal responsibility for these crimes?

On the other hand, the right of the victim and society to punish the perpetrator of the crime and to consider the crimes of artificial intelligence as justice and fate, we are facing a crime caused by artificial intelligence itself, which necessitates the need for legislative intervention to keep pace with this development, by introducing legal rules for criminal liability resulting from crimes of artificial intelligence, in cooperation with specialists in the field of technology and software, provided that the use of artificial intelligence as a means of committing a crime is an aggravating circumstance for punishment, given that this means big impact In facilitating the commission of crimes, where the perpetrator can commit a crime without moving from his place, at the push of a button using artificial intelligence technology, with the need to balance the encouragement in the use and development of artificial intelligence technologies in various fields and thus benefit society from its many benefits, and the development of organized legal rules that protect society from its risks and facilitate the determination of criminal responsibility for crimes that may be committed from artificial intelligence technologies itself⁷¹.

Accordingly, contemporary criminal jurisprudence combines that when a robot achieves all the elements and elements of the crime in question, both external and internal, there is no reason to prevent the imposition of criminal liability on him for that crime, especially that the establishment of criminal liability does not require other requirements or additional capabilities, as the same trend believes that this criminal liability of a robot does not replace the criminal liability of programmers, users or owners if the latter is imposed through another legal path, criminal liability should not be divided, but should be collected by imposing the liability of a robot based on the direct liability model, in addition to the liability of a human programmer, user, or The owner or another party based on liability models "as an innocent agent, as a possible corollary, or as a partner in direct liability of an AI entity" both according to his role in the crime⁷², However, the criminal liability of the robot remains not necessarily related to the criminal liability of the programmer or user of this robot, as a result, if a robot is programmed or used by another robot, the criminal liability of the programmer or user is not affected by this fact, as the programmed entity or user bears criminal responsibility for the crime committed according to the model of direct responsibility unless he is innocent, in addition, the programmer or user of the robot bears criminal responsibility for that same crime according to one of the three models of criminal liability according to his role and contribution to the crime, and the chain of criminal liability may continue if there are more parties Whether they are human beings or artificial intelligence entities is concerned⁷³.

Therefore, the criminal liability of a robot according to the direct liability model does not differ objectively- The forms discussed are mainly related to the stage after confirming the establishment of this type of responsibility in the face of the robot and then declaring his conviction, and the problems posed by this stage related to the imposition and application of appropriate criminal punishment to deter crimes committed by these entities, so how can the death penalty be applied, for example, or a penalty a robot⁷⁴, however, can encounter such

shapes that does not pose According to some, it is a major obstacle to the recognition of these persons and, consequently, their criminal responsibility for the mistakes and crimes they may commit by introducing penalties appropriate to the nature of these entities, which is the approach taken to confront the crimes of moral persons that the penalties prescribed for natural persons are not commensurate with.

2 – 2 Evaluation of the three models of responsibility

By examining the grounds for establishing criminal liability for artificial intelligence entities, it can be concluded that the legal and practical reality has not established criminal liability for the artificial intelligence entity and has not recognized its legal personality. the maximum responsibility that can be assigned to the artificial intelligence entity, if possible, provided that it recognizes its legal personality and provided that none of the parties related to it is responsible for an unintentional mistake only, and with the arrangement of the responsibility of any of the other related parties, so that it is not a gateway to commit crimes and impunity under the pretext of their occurrence by an artificial intelligence entity.

The three models of responsibility presented above, put forward by criminal jurisprudence as a basis for holding AI entities accountable for their mistakes and harms of their uses, are not necessarily alternatives to each other, if one of them is present absent the other, as these models can sometimes come together without there being a contradiction between them and applied together in order to form an integrated picture of criminal liability, therefore, the application of the second model, for example, alone is permissible, and it can also be part of a combination of two of the legal models presented.

When a robot plays the role of an innocent agent in the commission of a particular crime, and the programmer is the only person who directed him to commit the crime, applying the model of committing the crime via another model and considering the robot as just a machine or tool in the hands of the programmer or user is the most legally appropriate model for this case⁷⁵, In the same case, when the programmer or user is himself a robot, where the first one programs the second or uses it to commit a certain crime, the application of the direct liability model is the most appropriate and most convenient in such a case⁷⁶, Without preventing this from also using the first liability model based on the commission of a crime by another as an addition and not as a substitute, and therefore the programmer or user of the robot is criminally liable according to a combination of legal bases and models and not according to only one basis or model.

As for the case when the robot carries out the criminal behavior and supervises the materiality of the crime itself without planning this particular crime, the criminal liability report in such a case is based on the second model based on possible consequences or probable intent, and here the programmer or user may be asked about an unintentional crime if negligence is proven against him without intentionally committing the crime on purpose, and he may also be asked about an intentional crime if a crime was actually planned to be committed and another crime was realized that was not part of the original criminal scheme, then if the programmer or user is not a human, the direct liability model is applied in conjunction with the application of the natural results responsibility model The same is true when the perpetrator is a human being and the Planner is a robot⁷⁷.

Therefore, some consider⁷⁸ The joint and coordinated application of these three models reveals a new legal situation in the specific context of both artificial intelligence entities and criminal law, as a result, when robots and humans are directly or indirectly involved in the

commission of a specific crime, evading criminal responsibility is more difficult, and therefore such a legal policy allows achieving a social benefit of great value that enables Justice And the fight against impunity, pending the development of a comprehensive legal system that regulates the criminal liability resulting from the actions of artificial intelligence without delving into its elements or models according to the general rules in the criminal law, which has become more than necessary today in light of the increased resort to such entities and their intrusion into many vital areas.

Conclusion:

The rapid development of artificial intelligence technology requires current legal solutions in order to protect society from the potential dangers inherent in these illegal technologies, especially criminal law, which is entrusted with a very important social function of maintaining the social order of humans.

Given that Algeria is one of the countries that is taking an important path and pursuing a clear policy towards the option of adopting these smart applications, especially after relying on them in traffic safety programs through video surveillance and automated image analysis in preparation for entering the stage of what is known as smart cities, it has become imperative for it to develop its legislative system commensurate with this smart technological revolution, which requires the preparation of appropriate legal texts for this situation, especially those that govern and regulate criminal liability.

Results :

This study ended with a number of results, the most important of which are:

- The existence of artificial intelligence raises a number of legal problems, perhaps the most prominent of which is whether it has a legal personality or not, given its work patterns and nature, it cannot be said that there is an independent legal personality of artificial intelligence, because legal personality is based on perception, discrimination and freedom of choice, which is not available in artificial intelligence, which is based on the need for agents to control and use it.
- There are many crimes that are expected to be committed by artificial intelligence entities that cannot be enumerated and are constantly increasing, and the characteristics of the latter will collide with the requirements for proving criminal responsibility for those crimes imposed by existing legislation.
- Criminal responsibility for the actions of artificial intelligence is carried out if the material element of the crime, represented by criminal behavior that results in a criminal result, is completed, and the moral element of criminal intent, consisting of the perpetrator's knowledge of the fact of the act he commits, is completed, however, his will tends to commit it despite his knowledge of it, so criminal responsibility is a consequence of the existence of the crime.
- The responsibility of each manufacturer, programmer and owner or user is based on the fact that the percentage of work issued by artificial intelligence that constitutes a crime for one of them or has a role or involvement in it is proved, as if the manufacture and programming of artificial intelligence has been done in such a way as to make him commit a crime, or as if the crime is due to the behavior of the owner or user by a voluntary act, artificial intelligence technology in such cases is nothing more than a means to commit a crime and the perpetrator is the one who actually caused and controlled it.

- The possibility of criminal liability of artificial intelligence entities is limited to three possible models: the model of liability by committing another crime, the model of liability for possible natural consequences, and the model of direct liability.
- The three models of responsibility are not substitutes for each other, and these models can be applied together in order to form a complete picture of criminal responsibility in the specific context of the involvement of an AI entity in criminal acts.
- The existing criminal texts have become insufficient to confront the crimes of artificial intelligence technologies, which inevitably predicts a collision with the principle of legality of crimes and penalties.
- The recognition of the limited legal personality of artificial intelligence technologies is not enough to overcome the problem of establishing criminal liability towards a manufactured entity that is nothing more than a machine moving and acting by external means.

Recommendations :

Based on the findings, we can recommend the following:

- The aim is to develop international texts and benefit from the leading experiences in this field, not only by providing guidance and ethical principles, but by developing them into binding laws and legislations.
- The aim is to work on developing a legal framework that regulates the work of artificial intelligence entities, their areas of Use, and how to exploit them to benefit both the state and the citizen, and to prevent them from committing any criminal acts.
- This includes assigning responsibility in advance as a condition for the use of artificial intelligence entities, and requiring the installation of recording and video display devices to be able to refer to them after the accident, as in the black box in airplanes.
- Recognition of the legal personality of artificial intelligence technologies to the extent that allows joint criminal liability with the programmer and the user in the event of committing crimes.
- Immediate intervention to enact legislation on artificial intelligence crimes that defines the concept of artificial intelligence and highlights its most important approved devices and applications, regulates criminal responsibility for its actions and cases and determine the penalties imposed on the perpetrator, in addition to individuals' procedural texts for the prosecution of these crimes, with a review of the punitive punishment system in line with this new type of crime.
- The goal is to clearly determine criminal responsibility for criminal acts committed by artificial intelligence entities so that such responsibility can be assigned without the need to delve into the models of responsibility in general due to the problematic issues raised by the research in those models, and therefore the establishment of criminal responsibility, which is achieved by determining the responsibilities of each producer, user and intervener in these crimes, with the legalization of these situations legally allowing each of them to be held criminally accountable according to the principle of the personality of the crime and the personality of punishment.
- Developing a concept that allows the possibility of applying the rules of criminal liability to all parties to AI technology crimes, including the artificial intelligence system itself, similar to humans in its intelligence and awareness of things, the manufacturer or programmer and the user, with the establishment of penalties appropriate to these crimes and their perpetrators.

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²⁹ - The Scientific Council for artificial intelligence is a scientific advisory body set up with the ministers of higher education, scientific research and knowledge, emerging institutions and mini-institutions. the council undertakes several tasks, including conducting a diagnosis of the human and material capabilities available in the field of artificial intelligence and proposing a scheme for the formation and monitoring of opportunities for international cooperation in artificial intelligence. Published on the Algerian Radio website:

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³⁰ - Mohammed Mohieddin Awad, problems of contemporary criminal policy in the crimes of Information Systems "Computer", working paper presented to the sixth conference of the Egyptian society of Criminal Law, October 25-28, 1993, Cairo, P.360.

³¹ - Alain fergley bonnet, op. cit., p. 18.

³² - Many jurists have made their contribution with regard to the definition of criminal responsibility and have tried to develop a comprehensive definition to prevent it, but most of the definitions were very close to each other, and accordingly, criminal responsibility in general means the ability of a person to bear the criminal penalty arising from his crimes, and it carries a person as a result of his criminal liability resulting from the seizure of work or its causing harm to the whole society on Criminal responsibility presupposes the presence of two elements in a person, regardless of the absence of one of these two conditions: the first is material, which is voluntary material behavior arising from freedom and awareness without coercion or reparation, and the second is moral, which is criminal intent, i.e. knowledge and the will to achieve the criminal result, and criminal responsibility cannot be established if any element of work or its consequences harm the whole society.

For more detail see in it:

- Ahmed Ibrahim Muhammad Ibrahim, Ibid., p. 154.

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³⁴ - Wafa Abu al-Muati Saqr, criminal responsibility for artificial intelligence crimes, spirit of laws magazine, No. 96, October 2022, P.105.

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³⁶ - It is possible that in this case the issue of legitimate defense arises because the robot has paid a potential danger for its owner, which is posed by other problems that are outside the field of this study and go beyond it.

³⁷ - Rana Ibrahim al attour, criminal encyclopedia explanation of the Federal Penal Code in the United Arab Emirates General section comparative study with the Jordanian law and the new French Law, Ministry of Justice, Institute of training and Judicial Studies, United Arab Emirates, 2016, pp. 466-468.

³⁸ - Muhammad Muhyiddin Awad, Ibid., p. 15.

³⁹ - For example, the murder by poisoning provided for and punishable under the text of Article 261 of the Penal Code, where the materials used in the murder are considered based on the text of Article 260 of the same law, as well as murder using means of torture or brutal acts according to the text of Article 262 of the Penal Code, and the use of weapons in the crime of theft according to Article 351/1 of the Penal Code, in which the legislator focused in such cases on the means used to commit the crime, considering it an aggravating circumstance.

⁴⁰ - Omar Muhammad Munib Adalbi, Ibid., p. 99.

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⁴² - Murad bin Odeh Husker, the problematic of applying criminal liability provisions to artificial intelligence crimes, Journal of rights and humanities, Vol.15, No. 01, 2022, P. 199.

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- ⁴⁵ - Ahmed Ibrahim Muhammad Ibrahim, Ibid., p. 155.
- ⁴⁶ - Abdul Razzaq Al-Salmi, Ibid., p. 43.
- ⁴⁷ - Yahya Ibrahim al-Dahshan, Ibid., p. 54..
- ⁴⁸ - Murad bin Odeh Husker, Ibid., p. 198.
- ⁴⁹ - Yahya Ibrahim al-Dahshan, Ibid., p. 37.
- ⁵⁰ - Yasser Mohammed al-Lami, Ibid., p. 60.
- ⁵¹ - Mamdouh Hassan, the ban on aggression, Ibid., p. 156.
- ⁵² - Serena Quattrococo, Artificial Intelligence, Computational Modelling and Criminal Proceedings, A Framework for A European Legal Discussion, Spring International Publishing, p123.
- ⁵³ - Ahmed Ibrahim Muhammad Ibrahim, Ibid., p. 156.
- ⁵⁴ - Mamdouh Hassan, the ban on aggression, Ibid., p. 157.
- ⁵⁵ - Originally, the model of liability for possible natural consequences was used to impose criminal liability on partners when one of them commits a crime that not all of them planned and was not part of the conspiracy, and the rule is that the partner's liability extends to the actions of the offender that were "natural and possible consequence" of a criminal scheme encouraged or assisted by the partner. See in it: Mamdouh Hassan, the ban on aggression, Ibid., p. 157.
- ⁵⁶ - Deborah E. Bouchoux, A practical Introduction to Paralegal Studies: Strategies for Success, Wolters Kluwer Law and Business, Third edition, p98.
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- ⁷¹ - Muhammad Jibril Ibrahim Hassan, ibid., pp. 36-37.
- ⁷² - Mutawa Abdelkader, Ibid., p. 152.
- ⁷³ - Gabriel Halvey, op. cit., p.23.
- ⁷⁴ - These are the same problems that were raised when launching the idea of the criminal liability of moral or legal persons, which was known by a great doctrinal and legal controversy before the majority of jurisprudence and comparative legislation recognized the need to adopt this type of responsibility and recognition of this type of persons imposed by current economic and social necessities, and the problem of sanctions that can be imposed on these persons was solved by the introduction of sanctions commensurate and appropriate to the nature of these persons.
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