أهمية الذكاء الاصطناعي في مجال القانون الجنائي المغربي: ما أثره على الحماية القانونية للمعطيات الشخصية؟

# The importance of artificial intelligence in the field of Moroccan criminal law: What impact on the legal protection of personal data?

**Nadia Hamouti**

Professor at the Faculty of Legal, Economic and Social Sciences at the University Sidi Mohammed Ben Abdellah – Fez

**Abdelaziz Elbouzidi**

PhD student at the Faculty of Legal, Economic and Social Sciences – Sidi Mohammed Ben Abdellah University – Fez

**الملخص:**

في مواجهة البيئة الأمنية التي تأخذ مكانًا متزايدًا في اللاوعي الجماعي لدينا، تطورت العديد من الخطابات لصــالح "الحلول التكنولوجية". في الواقع، نحن نرى في كل تطور تكنولوجي جديد الحل الأمثل لمشكلة موجودة من قبل. ويبدو أن فكرة الاضطرار إلى "محاربة مخاطر القرن الحادي والعشرين بأسـلحة القرن الحادي والعشـرين" تبرر الاسـتخدام المكثف لأجهزة الذكاء الاصطناعي، فقد استخدمت هذه الخطابات لغرضـين متكاملين. من ناحية، لإثارة الخوف من الخطر الشامل وغير المرئي في نهاية المطاف، ومن ناحية أخرى، لتعزيز الثقة في الذكاء الاصـــطناعي للعيش في مجتمع خال من الجريمة (مجتمع مثالي). إن المجتمع الذي تكتمل فيه العدالة من خلال الخوارزميات الإلكترونية التي تعيد ضــبط القرارات بشــكل أكثر عدالة، دون التحيزات التمييزية الموجودة في أدمغة القضـــاة الموهوبين بالحساسية الإنسانية، في نهاية المطاف، فإن التدخل في الحق في حماية البيانات ممكن ويمكن تبسيطه، بل وتشجيعه و معززة في المسائل الجنائية. ومن ناحية أخرى، فإن استخدام الذكاء الاصطناعي لمعالجة البيانات باستخدام أسلوب التعلم الذاتي في الجانب الجنائي يزيد من هذا التدخل. ومن هنا تم فهم حالة الطوارئ القصوى في هذا السياق وأخذت بعين الاعتبار الحاجة المشتركة لقواعد صارمة تحكم الذكاء الاصطناعي، ولا يزال هذا الأمر مستمرا إلى اليوم في معظم التشريعات، بما في ذلك التشريع الجنائي المغربي.

الكلمات المفتاحية: الذكاء الاصطناعي، البيانات الشخصية، العدالة، العدالة الجنائية.

## Abstract

Faced with a security environment that is increasingly taking a place in our collective unconscious, many discourses have evolved in favor of "technological solutionism". In reality, we see in each new technological development the perfect solution to a pre-existing problem. The idea of having to "fight the dangers of the 21st century with 21st century weapons" seems to justify the massive use of artificial intelligence devices, These speeches were used for two complementary purposes. On the one hand, to arouse fear of an omnipresent and ultimately invisible danger, and on the other hand, to strengthen confidence in artificial intelligence in order to live in a crime-free society (an exemplary society). A society in which justice is perfected through electronic algorithms that reset decisions more fairly, without the discriminatory biases found in the brains of judges gifted with human sensitivity, Ultimately, intervention in the right to data protection is possible and can be simplified, even encouraged and strengthened in criminal matters. On the other hand, the use of artificial intelligence for data processing using a self-learning method in the criminal aspect amplifies this intervention. From this, the state of extreme emergency in this context was understood and the common need for strict rules governing artificial intelligence was taken into account, and this still continues today in most legislation, including the Moroccan criminal legislation.

## Keywords:

Artificial intelligence, personal data, justice, criminal justice.

## Introduction:

The use of personal data by technological devices to control behavior that breaks social rules is part of a broader movement of digital transformation aimed at sanctioning behavior that breaks the law. This digital transformation is increasingly taking place through the use of automated and self-learning devices, such as artificial intelligence.

The use of the term artificial intelligence is sometimes wrongly extended to include any computer technology that simplifies work performed by humans. It is therefore appropriate to give an appropriate definition to this non-modern term[1]. The birth of artificial intelligence dates back to the 1950s, when the idea of a universal machine appeared notably in the writings of Alan Turing[2]. In August 1955, the term "artificial intelligence" was used by John McCarthy and Marvin Minsky[3]. In 1956, the computer was designed according to the plans of Alan Turing and the idea was developed that a computer could reproduce the brain, that is, artificial intelligence, and then this idea began to be implemented[4]. From the 1980s, to simplify the implementation of this type of system, it was decided to apply it to specific and real cases, which led to the emergence of expert systems. In 1997, for example, the Deep Blue chess program beat the world champion[5]. In 2016, a new program, called Alphago, currently owned by Google, managed to beat Deepblue at the game of GO[6]. In addition to the perfect

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[1] فهيل عبدالباسط عبدالكريم، دور التكنولوجيا الرقمية في تحقيق العدالة الجنائية: الفرص والتحديات، مجلة جامعة دهوك، المجلد ٢٥، العدد: ٢ (العلوم الإنسانية والإجتماعية) ٢٠٢٢، ص ٩١٠. https://doi.org/10.26682/hjuod.2022.25.2.47

[2] Alan Turing, "Computing Machinery and Intelligence", Philosophical journal Mind, 1950. In this work, he studies the possibility for a machine to be conscious or not. Alan Turing particularly focused on introducing intelligence into machines.

[3] John McCarthy, Marvin Minsky, A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence, August 31, 1955, http://raysolomonoff.com/dartmouth/boxa/dart564props.pdf . See also: Yannick Meneceur, Artificial intelligence and fundamental rights, in Patrick Gielen and Marc Schmitz, Dematerialized assets and forced execution, Ed. Bruylant, November 2019, p. 94.

[4] In 1956, the English computer called " Deuce " was designed according to plans by Alan Turing. Yamina Bouadi, Intelligence artificielle, justice pénale et protection des données à caractère personnel, Mémoire de recherche Faculté de droit, de sciences politiques et de gestions, Université de strasbourg, 2019-2020.

[5] Deep Blue Computer (English: DEEP BLUE) – is a supercomputer specializing in chess by adding specific circuits developed in the early 90s of the last century, produced by IBM. It uses comprehensive parallel processing technology to solve problems.

[6] Go is of Chinese origin, the oldest combinatorial strategy game. Go is a game played on a board divided by nineteen straight lines and nineteen lines intersecting them at right angles. During the game, two players take turns placing stones of two colors. Each player controls the stones of one of them on the line segments, and on a normal board there are 361 of them. The two players compete to surround the largest diameter, defined by stones of the same diameter color. Although the rules of the game are simple, they require internal strategy

communication operation of this feat for the quality of Google's learning devices, Alphago's victory demonstrates the speed with which this software is developed while surpassing human capabilities in an unprecedented way in logic games whose combinations are infinite[7].

So, AI has been around since the mid-20th century, but recently, continued growth in data has been observed and the definition of AI is expanding to include more and more tools. AI was recently defined by the European Commission for the Efficiency of Justice (CEPEJ)[8], in its 2018 ethics charter, as: "a set of sciences, theories and techniques whose aim is to reproduce by a machine cognitive abilities of a human being. Current developments aim to be able to entrust complex tasks previously delegated to a human to a machine[9]."

As for criminal justice, its aim is to protect the interests of society and victims by punishing crimes, searching for the perpetrators and initiating prosecutions. This justice must therefore respect a certain number of rules and stages linked to procedural measures (Code of Criminal Procedure) and at the end of this procedure, the criminal judge issues a legal decision. Some define criminal justice as a series of interrelated measures implemented by official authorities against perpetrators and for the benefit of victims and witnesses since the crime occurred, including the stages of filing a criminal complaint, investigation, accusation, trial and execution. It is also about punishing the perpetrators, treating them, reintegrating them into society and rehabilitating the victims, while striving to establish social reassurance. Criminal justice can be defined as a set of means, methods and practices adopted by the State for the social control of society, the aim of which is to reduce and mitigate crime while deterring perpetrators, and ensuring earnestly striving to give them a fair trial under the rule of law[10].

About our topic regarding the concepts of artificial intelligence and criminal justice and their connection to personal data, we find that the complexity of these tasks in particular is due to the enormous amount of data that humans have to process at using artificial intelligence devices. In fact, we live in a "world of data"[11], the use of which is uniform when it comes to preventing and suppressing criminal acts.

From the above, the concept of artificial intelligence used in the concept of criminal justice can easily refer and refer us, on the one hand, to technologies that involve intentionally committed criminal acts, in particular cybercrime, on the other hand, a debate has also been observed in Europe regarding discussions of criminal offenses committed unintentionally due to biases found in artificial intelligence devices such as self-driving cars. These two very important topics in terms of AI and criminal justice. On the other hand, these subjects will not

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and a person can spend a lifetime studying them without achieving a complete understanding. https://ar.wikipedia.org/wiki/%D8%BA%D9%88

[7] Yamina Bouadi, Intelligence artificielle, justice pénale et protection des données à caractère personnel, OP, P 3.

[8] The Commission was established in 2002 and includes experts from 47 Council of Europe member states.

[9] CEPEJ Ethical Charter, P 77.

[10] محمد الأمين البشري، نظام العدالة الجنائية، القيادة العامة لشرطة الشارقة الإمارات، مركز بحوث الشرطة ١٩٩٧، المجلد ٦، العدد ٢، ص ٨٩.

[11] Adrien Basdevant, Jean-Pierre Mignard, L'empire des données, essai sur la société, les algorithmes et la loi, Ed. Don Quichotte, 2018, P 10.

be addressed as part of our study dedicated to the use of artificial intelligence devices which assist criminal justice, particularly in the prevention and repression of criminal offenses.

The use of artificial intelligence devices in the field of criminal justice focuses on crime prevention, judicial investigations and criminal trials, but more particularly within authorities concerned with the prevention and repression of criminal offenses. Furthermore, the processing of data in the criminal context is not new, it is closely linked to the prevention and repression of offenses. For example, data regulation is included in a paper version in alphabetical order as part of the processing, although today this concept tends to direct our minds exclusively to the digital and automated domain.

The use of personal data by self-learning algorithmic systems is not without risks for individual rights and freedoms, including the right to protection of personal data, and this right is anchored in the notion of the right to life privacy and private life. The protection of privacy is contained in several international texts listing fundamental rights in Europe, notably in Article 8 [12]of the European Convention on Human Rights, since 1950 (ECHR), or Article 7 [13]of the Charter of fundamental rights of the European Union, since 2000. Over the years, the protection of personal data has been included in Article 8 of the European Convention on Human Rights, within the framework of the protection of life private[14]. It should be noted that, as part of the evolution of international laws and agreements, this right has also been regulated by the Constitution of the Kingdom of Morocco in the first paragraph of article 24 of the second title relating to fundamental rights and freedoms[15].

## Research objective:

One of the goals of scientific research is to achieve scientific knowledge and facts applicable to reality. The importance of this research therefore lies in the fact that it addresses artificial intelligence through the provisions of criminal law, in particular the law relating to the protection of personal data. Obviously, no one can deny that artificial intelligence has come to provide people's daily physical and mental lives, as it is widely used by millions of human beings every day, especially on life support processes. decision-making in various fields, such as transport, medicine, finance, environment, sustainable development, public policy and private life... etc. This research has therefore highlighted what artificial intelligence is and what is its relationship with criminal law and specifically with personal data that the legislator has incriminated and imposed criminal sanctions.

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[12] **Right to respect for private and family life**: 1- Everyone has the right to respect for their private and family life, their home and their correspondence. 2- There can only be interference by a public authority in the exercise of this right to the extent that this interference is provided for by law and that it constitutes a measure which, in a democratic society, is necessary for security national security, public safety, the economic well-being of the country, the defense of order and the prevention of criminal offenses, the protection of health or morals, or the protection of the rights and freedoms of 'others.

[13] Everyone has the right to respect for their private and family life, their home and their communications.

[14] EU Agency for Fundamental Rights and Council of Europe, Handbook on European Data Protection Law, April 2018, P 20-24.

[15] Everyone has the right to protection of their privacy…

## Problematic:

Artificial intelligence is entering our daily lives through devices connected to the Internet, such as telephones, or even automation within the home, because it seeks to know more about our personality to simplify our lives, but it can do so sometimes to the detriment of personal data and very sensitive data.

Therefore, in order to better control artificial intelligence, Morocco has worked specifically to strengthen its legal arsenal to protect personal data linked to this artificial intelligence. **The problem of the study lies here in identifying the position of criminal law on the interference in private life through the digital uses of electronic devices? With so much personal data used to shape algorithms, where does the protection of personal information lie in an AI-powered future? To what extent does the processing of data by artificial intelligence devices within the criminal justice system pose a threat to the fundamental rights relating to individuals' personal data?**

Also, before addressing the process of processing personal data, the subject also deals with the relationship between artificial intelligence and criminal justice; **so how can artificial intelligence algorithms help improve the criminal justice system? Can artificial intelligence devices play the role of predictive justice by predicting offenses and reducing their seriousness?**

## Plan:

In this research, we relied on the analytical approach based on deduction, with the aim of collecting data and information from available sources on artificial intelligence and its relationship with criminal justice and personal data staff. In order to understand this subject, we decided to include the following plan:

**Part 1: The importance of artificial intelligence in the prevention and repression of offenses**

**Part 2: The impact of artificial intelligence on the protection of personal data.**

## Part 1: The importance of artificial intelligence in the prevention and repression of offenses

Generally speaking, the assistance of criminal authorities by artificial intelligence devices refers our reflection to the American model and its tools "invested in a fairly uninhibited manner[16]". Currently in Europe, Africa and other continents of the world, AI is a controversial subject which is the subject of numerous legal texts, projects, working groups and research committees. The term criminal justice refers to the prevention and punishment of offenses during trial. It will also be necessary to study certain aspects of crime prevention in the light of maintaining public order and public security, which are the responsibility of the administrative and non-judicial police, the tasks of the administrative police and judicial being

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[16] Ethical Charter of the European Commission for the Efficiency of Justice (CEPEJ), P 17.

linked in certain situations, in the sense that "the division between prevention and punishment, which the authors still often put forward, does not allow us to understand its complexity[17]".

In Morocco, the question of the need for better protection and better public control was relaunched, from this, speeches were oriented towards the idea of strengthening security through the modernization of the functioning of the public force and the system. The aim is to understand the forms of use of artificial intelligence for the prevention and repression of criminal offenses.

In this part, we will address the question of administrative and judicial authorities in the field of prevention of offenses and the resolution of investigations **(Section 2)**. On the other hand, it will be necessary to study the criminal trial within the framework of intelligence systems artificial intelligence **(Section 3)**, but above all it is necessary to invoke the notion of artificial intelligence to understand the context of the subject **(Section 1)**.

### Section 1: The concept of artificial intelligence

In this section, we will discuss the definition of artificial intelligence **(Subsection 1)**, then its characteristics **(Subsection 2)**.

### Sub-section 1: Definition of artificial intelligence

The science of artificial intelligence aims to give machines the characteristics of "human intelligence" to enable them to imitate the logical thinking abilities of humans. Many definitions of artificial intelligence have been proposed, although the most famous among them is that of the godfather of new artificial thinking John McCarthy, as the science and engineering of making intelligent machines[18].

In fact, artificial intelligence is a complex science or a set of sciences that mix, among which natural sciences, medical sciences, psychology and logic, in addition to the sciences of electronic engineering, physiology, of higher mathematics and the art of experiment and logic. All this was included in high-speed electronic computer calculations and algorithms[19].

Due to the multiplicity of concepts and definitions of artificial intelligence at present, researchers disagree on establishing a precise definition of artificial intelligence. Some of them call for the behaviors of artificial intelligence systems to conform to and imitate human intelligence, and other researchers reject this trend and even say that it is not necessary for the systems to rely on the same methods and mechanisms that humans use for certain behaviors. Despite the different expressions used to explain and describe artificial intelligence, researchers unite unanimously on one point; it is the act of building an intelligent system that overcomes the obstacles faced by human intelligence[20].

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[17] Presentation of the conference "Does the distinction between administrative and judicial police still have meaning?", University of Tours, October 19, 2018.

١٨ محمد عرفان الخطيب، المركز القانوني للإنسآلة : الشخصية والمسؤولية، دراسة تأصيلية مقارنة، مجلة كلية القانون الكويتية العالمية ـ السنة السادسة ـ العدد ٤ ـ العدد التسلسلي ٢٤ ـ ربيع الأول ـ ربيع الثاني ١٤٤٠ هـ ـ ديسمبر ٢٠١٨، ص ٩٨.

١٩ وليد سعد الدين محمد سعيد، المسئولية الجنائية الناشئة عن تطبيقات الذكاء الاصطناعى، مجلة العلوم الإقتصادية والقانونية ـالعدد الثانى ـالسنة الرابعة والستون-يوليو ٢٢٢٢، جامعة عين شمس مصر، كلية القانون، ص ١١.

[20] Yahya Ibrahim Dahshan, UAEU Law Journal – مجلة جامعة الإمارات للبحوث القانونية < Vol. 2020 > No. 82 (2020), P 5.

We conclude from the above that artificial intelligence is a science whose primary goal is to make computers, machines and robots acquire a very specific characteristic, which is "the intelligence of human beings" [21], so that they are able to do things that are the origin of human works, such as thinking, creativity, communication, self-education and other acts that depend on the idea of consciousness, which means that this robot machine becomes capable of artificial consciousness in a manner similar to human style [22].

**Sub-section 2: The characteristics of artificial intelligence**

AI has many advantages that have allowed it to be used in many fields. The most important features are:

Relying on artificial intelligence to solve problems presented in the absence of complete information, as well as its ability to think, its ability to acquire and apply knowledge, its ability to learn and understand from experiences previous experiences and the ability to use them in new situations - the ability to react quickly to new situations and circumstances - the ability to cope with difficult and complex situations[23].

Among the characteristics of artificial intelligence programs is the ability to provide solutions even if the information is not completely available at the time the solution is required, and that the consequences of not integrating the information lead to less realistic or less valid conclusions, but on the other hand, these conclusions may be correct. Artificial intelligence has the ability to deduce possible solutions to specific problems based on known data and previous experiences, especially problems for which it is not possible to use known traditional means of solution. This ability is achieved on the computer, which stores all possible solutions. In addition to the use of rules and strategies of inference and the laws of logic[24].

One of the advantages of artificial intelligence on a legal level is that it helps to easily classify criminals apart from personal whims, to carry out judicial tasks and to assist justice in the means of criminal proof, easily identify the true and false, which has a great impact on the speed with which justice is served[25].

Artificial intelligence techniques can help the criminal justice system by identifying the offender. Thanks to its complex programming and the use of specific algorithms, it can reveal the ambiguity of all the facts by entering the data obtained, photographing the crime scene and studying the state of health of the perpetrator, she can prove – with more precision than humans – the extent of her capacity to commit the criminal behavior. Artificial intelligence can also,

[21] عادل عبدالنور، مدخل إلى عالم الذكاء الاصطناعي، مدينة الملك عبد العزيز للعلوم والتقنية، المملكة العربية السعودية، ٢٠٠٥، ص ٧.

[22] ياسر محمد اللمعي، المسؤولية الجنائية عن أعمال الذكاء الاصطناعي ما بين الواقع والمأمول: دراسة تحليلية استشرافية، بحث مقدم إلى مؤتمر الجوانب القانونية والإقتصادية للذكاء الإصطناعي وتكنولوجيا المعلومات، كلية الحقوق، جامعة المنصورة، مصر، ٢٣-٢٤ ماي ٢٠٢١، ص ٥.

[23] جمعة النجار، نظم المعلومات الإدارية: منظور إداري، دار الحامد للنشر والتوزيع، عمان، الأردن، ٢٠١٠، ص ١٧٠.

[24] Amr Ibrahim Mohamed El- Sherbiny , The impact of the development of artificial intelligence technologies on the work of the police to confront psychological warfare, Egypt, 2021, P 12.

[25] Dorola Jelonek Agata lechcezary−Mesjasz Stepniak Tomasz Turekleszek Ziora , The Artifical Intelligence Application in the Management of Contomprorary Organization: Theoretical Assumptions, Current practices and Research Review Spiring , Cham 2019, P 24.

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using facial recognition technology, prove in a matter of moments that the accused is in a location other than where the offense was committed[26].

## Section 2: The use of artificial intelligence for crime prevention

This section is devoted to the way in which artificial intelligence has been gradually integrated into crime prevention, but also in the field of investigation resolution. In the context of the history of crime prevention and investigation, data processing has tended to become automated and also carried out via smart devices. From this, we must first study these automated processing operations, in order to understand the needs that have emerged in a context where "Big Data" has quickly become established, then whether artificial intelligence meets these needs **(Subsection 1)**. Also, to better understand the extension of artificial intelligence in crime prevention, it is interesting to study the functioning of this concrete situation in France and in Europe, as well as to study the devices used in prevention and Crime Investigations **(Subsection)**.

## Sub-section 1: The use and usefulness of artificial intelligence in data processing

The objective of this section is to determine the context in which artificial intelligence has developed in criminal matters, in order to explain how the prevention of offenses through the automation of data processing has become necessary, with the emergence of artificial intelligence, especially in light of the current situation called "algorithms". The latter helps artificial intelligence to discover what the mind cannot imagine and can surpass human thought, it is an algorithm that we can control[27].

Artificial intelligence has become an essential tool in all areas, and the law is not excluded. Indeed, AI in law has long been a major subject, while its regulation has been the subject of constant debate since its introduction. It is also important to understand the context in which AI was introduced in the prevention and repression of delinquency. This is why we had to predetermine the characteristics of artificial intelligence in order to understand how it will be used by criminal justice institutions.

From this, several steps need to be considered when designing and designing an artificial intelligence device; First data entry, then algorithmic intervention also called perception, understanding or learning phase (Learning Phase), followed by an independent operation phase called self-learning (Self-learning) and finally the final phase, which consists of obtaining the desired result after several exercises[28]. As a tool for automated and intelligent data processing, artificial intelligence represents a qualitative technological advance, and it is not a new phenomenon. With regard to the historical study mentioned above in the introduction, let us return to the comparison made by Antoine Garabon, "Artificial intelligence

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[26] Akerkar , Artificial Intelligence for business Springer Briefs in business, Springer, Cham, 2011, P 11.

[27] Adrien Basdevant, « Les données, la nouvelle ingénierie du pouvoir, quelles conséquences pour l'Etat de droit ? », conférence intelligence artificielle and Law Breakfasts, Conseil de l'Europe, 2 décembre 2019. « L'algorithme, l'intelligence artificielle aide à appréhender une infinité qui dépasse l'Homme, algorithme sur lequel on peut avoir une emprise ».

[28] Yamina Bouadi, Intelligence artificielle, justice pénale et protection des données à caractère personnel, OP, P 13.

is like a steam engine which has revolutionized industry and all sectors [29]", to understand how artificial intelligence is taking root and establishing itself in the processing of data in terms of prevention and repression of crime, it is necessary to understand its relationship with the concept of "big data", previously mentioned as a technological phenomenon.

It is important to make a crucial distinction regarding the definition of the term Big data. During the study of the subject, the question arose as to which concept of AI or big data developed first so that the other followed from it. Has artificial intelligence been introduced into criminal law after the phenomenon of big data? Or was the concept of big data created to meet the need of startups developing new artificial intelligence devices and applications? Both assumptions are valid because the confusion arises from both formal and informal definitions of big data. In fact, the answer to the definition of the term big data depends on the reference one chooses.

According to the Council of Europe, through the Advisory Committee of the Convention for the Protection of Individuals with regard to the Processing of Personal Data, "big data" is defined as: "The increasing technological capacity to collect, process and extract new and predictive knowledge very quickly from a large volume, a wide variety of data and at considerable velocity. From a data protection perspective, the main problems arise not only from the volume, variety of data processed and the speed of the process, but also from the analysis of this data using software in the aim of extracting predictive knowledge likely to guide a decision-making process with regard to people or groups. For the purposes of these guidelines, the definition of big data therefore encompasses both the data itself and the analytical process[30]. From this point of view, the phenomenon of big data as a data processing method was born after artificial intelligence.

From the above we can say that the usefulness and use of AI in the prevention and suppression of crime is a predictive advantage, since the applications of AI can be seen to detect perpetrators before and after the commission of crimes, reducing the high crime rate and living in a crime-free society[31].

**Sub-section 2: The use of artificial intelligence in the field of crime prevention**

In terms of crime prevention, as has been studied, the need for effective data reading is revived by the appearance of each new information processing technique, such as the appearance of photography in 1874, or that of entering fingerprints into police files in 1902. On the other hand, in certain cases, the tool itself becomes a need, in order to read the data. For example, in 1882, the police files, lacking in precision, required the use of new objects for the time, such as the compass or graduated scales…[32].

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[29] Interview d'Antoine Garapon, le numérique est un remède à la lenteur de la justice, Dalloz actualité.

[30] The European Commission's charter of ethics for the efficiency of justice, P 20.

[31] فهيل عبدالباسط عبدالكريم، دور التكنولوجيا الرقمية في تحقيق العدالة الجنائية: الفرص والتحديات، م س، ص ٩١٠.

[32]Yamina Bouadi, Intelligence artificielle, justice pénale et protection des données à caractère personnel, OP, P 14.

"The decade 2000-2010 played a crucial role in the development, democratization and acceptance of technologies[33]". Since 2008, many police file projects have relied on computers and informatics, that is, algorithms. This is the case of the automatic license plate reader, useful for searching for stolen, suspected or declared vehicles. The device takes the form of cameras, which make it possible to automatically read car registration plates and compare this data with the stolen vehicle file and the Schengen Information System, as well as take photos of the occupants of the vehicle. these cars. It was used in France as part of a two-year experiment from 2009 to 2011. On the other hand, the National Commission for Information and Liberties (CNIL) before having accepted this experiment was able to express its reluctance to the bill regarding the risks to individual freedoms. The CNIL regretted that "no impact study was presented in support of the bill nor any concrete element in support of these provisions although the explanatory memorandum of the bill states "operational lessons collected after the most recent attacks" to justify the adoption of new legal instruments, and mentions, in presenting Article 4, "systems of an equivalent nature (…) put in place in other European countries , like Great Britain which has indisputable experience in this area and which has shown the usefulness of such a device [34]. The automatic number plate reading project has now taken another turn, now used today for road safety and traffic violations, mentioning the use of this innovation also in Morocco and most African countries .

The phenomenon of data collection has already been addressed, particularly with regard to police files in Morocco[35]. Faced with this phenomenon, data processing in the field of crime prevention demonstrates the need for automation and efficiency. In 2018 in France, a parliamentary report affirmed "that we must now develop the analysis of big data to detect irregular behavior on a larger scale. Indeed, the traces collected can be further exploited thanks to the power of computing, the use of algorithms and data collection[36]. Thus, a positive note was made, because after the work carried out by the Department of Technology and Information Systems of Internal Security, an automated computer program for writing and editing files by the gendarmerie and the font was created.

It should be noted that new methods inspired by American models are currently being gradually introduced in Europe. This is the case for devices used in the context of interactive mapping for the prevention and investigation of delinquency. It is necessary to study these cases and also apply them across the territory of the Kingdom.

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[33] Sandra Bertin, director of the municipal police of Nice. Yamina Bouadi , Artificial intelligence, criminal justice and protection of personal data, OP, P 14.

[34] CNIL, Deliberation No. 2005-208 providing an opinion on the bill relating to the fight against terrorism.

[35] https://medias24.com/2022/04/02/donnees-personnelles-protocole-daccord-entre-la-cndp-et-la-dgsn/

[36] Information report submitted to the French National Assembly by the Commission on Constitutional Laws, Legislation and General Administration of the Republic, Mr. Didier PARIS and Mr. Pierre MOREL-À-L'HUISSIER, P 18. Yamina Bouadi, Intelligence artificielle, justice pénale et protection des données à caractère personnel, OP, P 15.

**Section 3: The use of artificial intelligence in the field of criminal trials**

Bringing technology into the legal field is a logical investment, because "after health, education, urban planning or political life, technology has entered the field of justice[37]". The emergence of digital developments and artificial intelligence as "the great myth of our time" has already become essential for the institution of criminal justice to integrate the contribution of new technologies[38].

The field of justice has developed with the introduction of the digital character, as well as its predictive character, in numerous sectors of Moroccan law, such as administrative law, family law, or even civil law, where we recall in particular Law N° 05-53 relating to the electronic exchange of legal data. This law specifies the regime applied to legal data exchanged electronically and to the equation between documents written on paper, those established on an electronic medium and the electronic signature. Reference should also be made to the partnership and agreement between the National Commission for the Protection of Personal Data and the Ministry of Justice regarding the establishment of the "Data-Tika" (Data-Trust) program [39], which is a digital transformation and data protection mechanism based on three stages, namely collection and exploitation of data, elimination when not necessary. The Convention aims to keep pace with the digital transformation of the justice system.

In this section, we will address the existing mechanisms in the preparation of a criminal trial **(Subsection 1)**, then we will consider predictive justice as a decision aid, by qualifying the idea according to any process automated decision-making **(Subsection 2)**.

**Sub-section 1: Digitalization and preparation for criminal trials using artificial intelligence devices**

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[37] Antoine Garapon, Les enjeux de la justice prédictive, JCP G, 2017, n°01-02, P 48.

[38] Institut Montaigne, "Justice: bring in digital", November 2017 report: "The judicial institution must today integrate the contribution of new technologies", P 3. Yamina Bouadi, Intelligence artificielle, justice pénale et protection des données à caractère personnel, OP, P 31.

[39] https://www.cndp.ma/ar/activites/714-%D8%A8%D8%B1%D9%86%D8%A7%D9%85%D8%AC-%D8%AF%D8%A7% D8%AA%D8%A7-%D8%AB%D9%82%D8%A9-%D8%AA%D9%88%D9%82%D9%8A%D8%B9-%D8%A7%D8%AA %D9%81%D8%A7%D9%82%D9%8A%D8%A9-%D8%AA%D8%B9%D8%A7%D9%88%D9%86-%D9%88%D8%B4 %D8%B1%D8%A7%D9%83%D8%A9-%D8%A8%D9%8A%D9%86-%D8%A7%D9%84%D9%84%D8%AC%D9%86 %D8%A9-%D8%A7%D9%84%D9%88%D8%B7%D9%86%D9%8A%D8%A9-%D9%85%D8%B1%D8%A7 %D9%82%D8%A8%D8%A9-%D8%AD%D9%85%D8%A7%D9%8A%D8%A9-%D8%A7%D9%84%D9%85%D8%B9 %D8%B7%D9%8A%D8%A7%D8%AA-%D8%B0%D8%A7%D8%AA-%D8%A7%D9%84%D8%B7%D8%A7%D8%A8 %D8%B9-%D8%A7%D9%84%D8%B4%D8%AE%D8%B5%D9%8A-%D9%88%D9%88%D8%B2%D8%A7%D8%B1 %D8%A9-%D8%A7%D9%84%D8%B9%D8%AF%D9%84-2.html

We begin this subsection by discussing a new idea and vision that has emerged in America and the United Kingdom, as well as recently in France, and which can help through the use of artificial intelligence devices the field of justice criminal, these are "Legaltechs [40]" which are companies that manufacture technologies and programs, serving litigants and legal professionals in an ever-increasing and ever-increasing manner. Technological programs can be created by these private companies to assist litigants and professionals, are also used to simplify exchanges between parties in the context of a criminal case, to simplify the exchange of information, facilitate hearings, secure the deposit under police custody measures, enrich the investigative tools, or provide an alternative to punishment. Thus, new technologies "result in a major revolution in the practice of criminal procedures[41]".

In the United States and France, various mechanisms and applied programs are gradually emerging to help parties to a criminal case prepare for trial and learn about their right to defense[42]. Especially during the quarantine period necessitated by the Covid-19 pandemic, which made meeting with lawyers and traveling to court difficult, while work was being carried out to develop legal discussion software in Europe. These programs used in America and France are called "legalbots[43]" and are powered by chatbots, already present on many insurance, banking, online sales websites, etc. In France, legal robots are rare but tend to develop, this is the case of the "Justinien" program, created in 2018, which works to direct and guide litigants after revealing the facts and legal problems they face[44].

This "Justinian" program can understand general and legal language and improve when users consult it, it also learns "like university students [45]" and can also think and analyze logically in terms of legal rule usage and confrontation with facts (syllogism). He is also qualified to resolve problems relating to bodily injury in road accidents, specializing in particular in assault and harassment offences. It should be noted that, if Justinian's initial objective was not to replace the tasks of lawyers, it is not impossible that this will be the case in the years to come, especially since the ability to communicate of this device will be more effective and less expensive for litigants. On the other hand, it can also be used during a criminal case, to the extent that it is capable of revealing the intention of the words expressed in order to use them as evidence to convict an individual.

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[40] LegalTech (in French, legal technology or technology in the service of law), is an abbreviation of the English expression: Legal Technology. This concept – according to the online legal market ethics charter – refers to the use of technology to develop, offer or provide products or services related to law and justice, or to enable legal users, professionals or not, to access these products or services. B. Cassar, La transformation numérique du monde du droit, thèse, dir. MACREZ F, 2020, P 146, HAL : https://hal.archives-ouvertes.fr/tel-03121576

[41] Anne Moreaux, La procédure pénale et les nouvelles technologies, Dalloz 21 décembre 2018, P 32.

[42] Yamina Bouadi, Intelligence artificielle, justice pénale et protection des données à caractère personnel, OP, P32.

[43] A forensic robot is a computer program that often performs repetitive tasks in an automated manner, like a robot. It aims to help you in this type of task, or in those that require high working speed or that require simulating human reactions.

[44] Yamina Bouadi, Intelligence artificielle, justice pénale et protection des données à caractère personnel, OP, P32.

[45] Ibidem, P 32.

Without forgetting the American experience, which continues to follow technological progress, which made it adopt the idea of the robot lawyer, after the largest American law firms exploited it in 2016, and which was called "ROSS", so that it has superior artificial intelligence similar to human intelligence, and it examines all law books, returns answers with references and legislation, it is able to cite similar practical cases. In addition, it monitors the law 24/24 hours, in order to review new and updated judgments and decisions, with the capacity to find solutions to various issues that fall within the specializations for which it has been programmed, including cases of bankruptcy[46].

As for Legaltechs, the European Commission for the Efficiency of Justice has defined them as "companies which exploit information technologies in the field of law to provide innovative legal services. These are emerging companies (startups) specialized in the legal field. We see in France that these companies are experiencing significant growth in many areas of law, independently of criminal law, since their number reached 900 companies in 2018[47].

We also hope to implement this idea on the territory of the Kingdom in coordination with the departments of the Ministry of Justice in order to make legal information available in an understandable and clear manner, especially to victims of crimes, in order to overcome the labyrinths and corridors of the courts, with the aim of establishing confidence in the minds of litigants within the framework of notions of judicial and legal security.

**Sub-section 2: The future of criminal justice in light of artificial intelligence (predictive justice)**

Within the report on open data of court decisions by Loïc Cadiet, predictive justice is defined as a "set of instruments developed through the analysis of large masses of justice data which propose in particular from a calculation of probability, to predict as far as possible the outcome of a dispute[48]. It is a description with a technical aim, also following the definition of Bruno Dondero. According to the latter, predictive justice "designates not justice in itself, but instruments for analyzing case law and the parties' submissions, instruments which would make it possible to predict future decisions in disputes[49]". The term predictive justice would

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[46] The law firm Baker & Hostler employed Ross, an artificially intelligent robot produced by IBM, as an attorney in its bankruptcy affairs department. The company's bankruptcy department includes approximately 50 employees. This intelligent lawyer was designed to read and understand language and form hypotheses when asking and answering questions, relying on sources and references to support his conclusions.

صابر الهدام، القانون في مواجهة الذكاء الإصطناعي: دراسة مقارنة، رسالة لنيل دبلوم الماستر في القانون الخاص، كلية القانون، جامعة سيدي محمد بن عبدالله–فاس، السنة الجامعية ٢٠٢١-٢٠٢٢، ص ٤٧.

[47] Olivier Chaduteau, intervention lors du colloque à la Cour de cassation, « Justice prédictive : perspectives et limites », le 12 février 2018. أوليفييه شادوتو ، مداخلة خلال ندوة في محكمة النقض ، "العدالة التنبؤية: ترقبات وقيود" ، ١٢ فبراير ٢٠١٨.

[48] Loïc Cadiet, professor at the Sorbonne Law School (Paris 1 University), is a French jurist, specialist in questions of justice and trial. Loïc Cadiet, Report on open data for legal decisions prescribed by the Ministry of Justice, 2017, P 14.

[49] Bruno Dondero, Justice prédictive : la fin de l'aléa judiciaire ?, D. 2017, n°10, P 532.

literally mean the prediction of the court decision, even though a court decision is not an element that can be predicted by an algorithm, the data entered into the AI device as precise and up-to-date they may be.

It should be noted that in the United States there are algorithms provided to support the court's decision, which are capable of assessing the behavior of the repeat offender and may be able to assess their sentence in the event of a repeat offense[50]. In France, predictive justice through artificial intelligence has a less important status as an aid to providing solutions to litigants' cases. Criminal justice is "behind in terms of IT[51]", but its beginnings are visible, as observed in remote trial technology. As for the Kingdom of Morocco, there is no concept of predictive justice, the legislator limiting himself solely to digitizing judicial administration.

The development of judicial decision support algorithms first appeared in the United States, using predictive justice to pronounce sentences based on "evidence based sentencing", according to which the risk rate of recidivism is created and by which the duration of the sentence in the event of a repeat offense is determined[52]. Furthermore, risk assessment algorithms exist for individuals in Europe, in Germany and Austria in particular. This involves the behavioral examination of the accused using an algorithm made available to psychologists sworn in by the court for evidentiary purposes[53]. We take, for example, the algorithm of the program (Forensic Operationalized Therapy/Risk Evaluation-System) or FOTRES used in criminal proceedings, which analyzes the probability of recidivism of an offender convicted of sexual assault. It should be noted that this program exists in French, but that it is not applied and does not work in France. We include the following diagram to explain how this program works[54]:
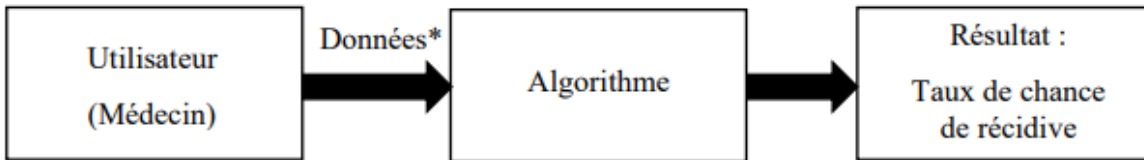


Through our extrapolation of this diagram that explains how this program works, it is clearly used by a treating psychiatrist, who works to enter data and information relating to the

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[50] Yamina Bouadi, Intelligence artificielle, justice pénale et protection des données à caractère personnel, OP, P36.

[51] Emmanuel Dreyer, L'Intelligence artificielle et le droit pénal, dans Alexandra Bensamoun et Grégoire Loiseau, Le droit et l'intelligence artificielle, Ed. LGDJ 2019, P 224.

[52] Antoine Garapon et Jean Lassegue, « La justice digitale », PUF, 2018, P 255-256. Cité par Yamina Bouadi, Intelligence artificielle… OP, P 37.

[53] إمام سحر عبد الستار، انعكاسات العصر الرقمي على قيم وتقاليد القضاء، المجلة المصرية للدراسات القانونية والاقتصادية، العدد ١٠ س ٢٠١٨، ص ٣٤-٦٧.

[54] Emmanuelle Walter, Evaluation de la dangerosité et du risque de récidive d'auteurs mineurs d'infraction à caractère sexuel : à partie de 64 expertises psychiatriques pénales, Thèse universitaire, Université de Lorraine, 2015, P 87-88.

repeat offender, through intelligent electronic algorithms, in order to obtain the percentage probability of recidivism for the offender.

Recall that predictive justice is a set of processors that aim to predict the outcome of a dispute, and it can be compared to a search engine for processing a large set of judicial data, as mentioned above. In this context, after the project that already appeared in Estonia in 2019[55], the idea of an algorithm within the framework of artificial intelligence was born to assist the judge by simulating his reasoning after a careful and complex analysis of the decisions previously rendered. This idea, from a practical point of view, may not serve the interests of the litigants in the criminal case and may become unfair, whereas in practice, the judicial decision is based on several criteria, such as the nature of the offense, the interpretation of the facts, as well as the procedures and rules applicable to the cases in question and other criteria. This is what Michel Foucault emphasized in his work "Discipline and punish: the birth of the prison" when he described the stages of preparing legal decisions as follows: "Knowledge of the crime, knowledge of the person responsible and knowledge of the law, are three conditions on which the judicial decision is based[56]." Emmanuel Dreyer reinforces the idea that an artificial intelligence device cannot accomplish the same tasks as a human being who works with his sensations and feelings, because the algorithm works by induction, or by correlation, and judges it works by deduction or by legal syllogism. The criminal case at the sentencing stage is considered complex for the algorithm to understand and apprehend and involves "preparing the facts – assessing the probative force of the evidence presented – estimating the conviction even if the facts are extracted in most cases, finally choose the sentence applied according to the case ". Through all of the above, the judge must sometimes go beyond algorithmic extrapolation devices and take into account feelings to evaluate the human situation and adapt it to the legal excuses of the sentence and mitigating circumstances, which is unimaginable for the devices of artificial intelligence to do that. In this context, Professor Emmanuel Jeuland also describes it as a "period of settling between the facts and the law" and for him, the decision support algorithm developed so far is not a tool allowing predict the decision of the criminal judge, since the court decisions that have been entered or in the AI database, these are only statistical data that cannot be applied to a more recent situation and processed in a different context, which the AI will not take into account[57].

Contrary to all these criticisms, the city of Zibo in China's Shandong province has a smart court that has issued thousands of legal decisions in multiple civil cases, relying on artificial intelligence programs that operate after preparation of the defense and the prosecution, then their data is included on two CDs inserted into the judge's automated program (robot judge), which directly subjects them to analysis, with the aim of searching for similar cases in which a previous decision was made. He can request the help of a human judge on

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[55] In 2019, the Estonian Ministry of Justice announced that it had decided to work on creating a "robot judge" to settle disputes worth less than 7,000 euros, particularly in contractual transactions related to bonds.

[56] Michel Foucault, Surveiller et punir, naissance de la prison, 1975, Ed. Gallimard.

[57] Emmanuel Jeuland, Justice prédictive : de la factualisation au droit potentiel, Revue pratique de la prospective et de l'innovation, dossier 9 n°15, Octobre 2017.

certain private or humanitarian details, and he will then make his own decision imposing compensation[58].

## Part 2: The impact of artificial intelligence on the protection of personal data

According to legal philosopher Antoinette Rouvroy "what seems to threaten us is... the proliferation of digital data and their availability, even impersonal, in large quantities[59]". More generally, the use of this data by the AI devices studied may constitute inappropriate and illegal processing, despite the initial intention of improving and strengthening the effectiveness of the prevention of crime and terrorist attacks and of automate certain legal transactions. It is difficult to ensure a balance between individual freedoms and the effectiveness of law enforcement services using technology, because when the balance between these two interests is unstable, strong public protests can arise with consequences for individual freedoms. The danger today - as Antoinette Rouvroy points out - is that data is disseminated in large quantities via social networks, and in addition this underlines that the personal nature of the data loses its value, because anonymous data can be re- identified if it is cross-referenced with other data.

In this second part, it is necessary to understand the risks arising from the illicit processing of personal data, in relation to the tools and devices studied in the first part of this study. From this we will address the issue of automated data processing in criminal matters, including the collection and recording of data **(Section 2)**, Likewise, we must not lose sight of the general context of dissemination and availability of data digital and the risks linked to the violation and the conservation of personal data, which lead us to think about cross-border data processing, particularly in matters of extradition and cooperation relating to international crime **(Section 3)**, but it is necessary especially invoke the notion of personal data to understand the context of this part **(Section 1)**.

### Section 1: The concept of personal data

In order to further clarify the conceptual framework of the processing of personal data, we will devote the first Subsection to the study of the definition of personal data **(Subsection 1)**, and in the second Subsection we will address the definition of processing of personal data **(Subsection 2)**.

### Sub-section 1: Definition of personal data

There is no doubt that personal data has followed the development of the Internet. Personal data is no longer limited to traditional data such as surname, first name and postal address. This data has expanded and diversified to include a person's image and personality. They also include certain data relating to the person himself in terms of financial capacity,

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[58] زعزوعة نجاد/بن قلة ليلى، المحكمة الإلكترونية بين المفهوم والتطبيق، مجلة البحوث القانونية والاقتصادية، المجلد ٤، ع ٢، لسنة ٢٠٢١، ص ١٠٤.

[59] Interview with Antoinette Rouvroy, "Big data: the issue is less personal data than the disappearance of the person", collected by Serge Abiteboul and Christine Froidevaux, Le Monde, January 22, 2016. By Yamina Bouadi, OP, P 42.

behavior, habits, inclinations and tastes, above all, data related to the human body, "personal data"[60].

The Moroccan legislator has defined personal data as[61]: "any information, of whatever nature and regardless of its medium, including sound and image, concerning an identified or identifiable natural person, hereinafter referred to as "concerned person". In this context, it is tangible and useful to raise an important question about the definition that the Moroccan legislator has adopted for personal data. Does the legislator adopt an exclusively narrow definition or does he adopt a broad and flexible definition, compatible with social and economic transformations and digital progress? This is followed by the emergence of new concepts of personal data which have concrete effects[62]. The conceptual definition of personal data should certainly be of great importance in this context, in order to ensure effective interaction with modern developments and to guarantee the protection of digital privacy and security.

Personal data is an equivalent term in the English language to the term "data" and in the French language to the term "Data", but in the Arabic language it can be synonymous with terms such as data or "Al-Bayanat"[63]. Personal data is defined as any information, sound or image relating to an identified or identifiable person, directly or indirectly, that is to say information allowing any form, directly or indirectly, of identification, in particular by reference to distinct elements of their physical, physiological, genetic, psychological, economic, social or cultural identity[64].

**Sub-section 2: Definition of processing of personal data**

With the great expansion of the use of the computer as a means of scientific and technological progress, of its use to collect, store and process data for multiple purposes, the Internet is thus considered as an infrastructure for exchanges, links, identities, circulation and storage of information and knowledge, It also demonstrated an accelerated sense of the risks and threat to privacy of information technologies.

This is developing, due to real cases of illegal use of personal data and attacks on individuals' right to privacy, since information related to all aspects of an individual's personal life, such as Health status, social and financial activities and political opinions, can be collected and stored for an unlimited period with the increasing flow of information generated by computers.

Thus, the Moroccan legislator has defined the processing of personal data, as follows: "any operation or set of operations carried out or not using automated processes and applied to

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[60] راضية زرقيني، الحماية الجنائية للبيانات الشخصية، أطروحة للحصول على الدكتوراه في القانون العام، جامعة الشهيد حمد الخضر، كلية الحقوق والعلوم السياسية، السنة الجامعية ٢٠٢١-٢٠٢٢، ص ٢٢.

[61] Article 1, paragraph 1 of Law 09-08 relating to the protection of personal data.

[62] نادية حموتي، الحماية الجنائية للأشخاص في إطار القانون ٠٨-٠٩، revue Économie, Gestion et Société, Vol. 1 No. 24 (2020), 2020-08-19, ص ٥. http://revues.imist.ma/?journal= REGS

[63] لقات لبيب، حميشي حسن، حماية البيانات الشخصية للأطفال، مجلة العلوم القانونية والسياسية، المجلد ١١، العدد ٠١، ص ٩٦.

[64] Stéphane Tijardovic, La protection juridique des données personnelles: Vers une nécessaire adaptation de la norme juridique aux évolutions du monde numérique, Dans les Cahiers du numérique 2003, vol 04, P 191.

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personal data, such as the collection, recording, organization, conservation, adaptation or modification, extraction, consultation, use, communication by transmission, distribution or any other form of making available, reconciliation or interconnection, as well as locking, erasure or destruction[65]".

## Section 2: Risks related to data collection and recording

It is necessary to understand the data protection risks arising from new devices linked to artificial intelligence and the confidentiality of processing in criminal matters, which facilitate the collection, recording and exploitation of data or information. The objective of this section is to examine to what extent the balance between the effectiveness of criminal sanctions and respect for individual freedoms can be detrimental to the protection of personal data.

Therefore, the risks related to the right to personal data protection must be taken into account when collecting **(Subsection 1)** and recording **(Subsection 2)** data in the field of criminal justice.

## Sub-section 1: Automatic collection of personal data

Data collection is the first step in automated processing. The automatic collection of personal data in the context of criminal law enforcement is part of the core activities related to criminal prevention, investigation and sanctions. Indeed, data must be collected as sources for information purposes and the right to obtain information, because the availability of data in the context of Big Data accelerates the process of data collection initially by public authorities.

At the European level, in the resolution of the Parliament of the European Union No. 2016/680145, "the collection of data must be carried out in accordance with the purpose of the processing and must be legitimate and lawful, that is to say necessary for the treatment [66]". In terms of the protection of personal data, the lawfulness of the processing is achieved when the person whose data is collected is notified or informed, on the one hand, and consents to this processing, on the other hand, in accordance with article 5 of Law 09-08 relating to the protection of individuals with regard to the processing of personal data. The National Commission for Information and Freedoms in France has defined the right to information of the person whose data must be collected (the right to notify and advise the person concerned by the automated processing): "Everyone has the right to consult their data; Thus, any person depositing or processing personal data is required to inform the person concerned of their identity, the purpose of collecting the information and their obligatory or optional nature, of the recipients of the information, the rights recognized to the person and possible transfers of data to a country outside the European Union[67]". This is also the case of the Moroccan legislator in law 09-08 through our reading of article 5 and article 1 paragraph 9, concerning

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[65] Article 1, paragraph 2 of Law 09-08 relating to the protection of personal data.

[66] Resolution (EU) 2016/680 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals with regard to the processing of personal data by competent authorities for the purposes of prevention and detection of criminal offenses, investigation and prosecution or the application of criminal sanctions, the freedom to transfer such data and the repeal of Council Framework Decision 2008/977/JHA.

[67] Definition of the right to information by the National Committee for Information and Freedoms.
https://www.cnil.fr/fr/definition/droit-linformation .

the consent of the person concerned. We conclude that the purposes of the processing must be limited, explicit and legitimate, and that the person whose information is to be collected must also be informed, which excludes any illegal penetration of personal data.

Therefore, the consent of the individual and the consent to automated processing have been reinforced by the European General Data Protection Regulation (GDPR), which entered into force in 2018, so that this consent has become the basis for the processing by the companies and institutions, particularly within the framework aimed at guaranteeing the quality and respect of personal data, specifying that the dissatisfaction of the person does not give right to processing and does not constitute a legal basis [68]. It should also be noted that the Moroccan legislator provides for a prison sentence in Article 57 of Law 09-08 for any illegal processing carried out without the consent of the person concerned: "Is punishable by imprisonment of three months to one year and a fine of 50,000 to 300,000 DH or one of these two penalties only anyone who proceeds, without the express consent of the persons concerned, to the processing of personal data which, directly or indirectly, reveals the origins racial or ethnic opinions, political, philosophical or religious opinions, trade union memberships of persons or which relate to their health. Anyone who processes personal data concerning offenses, convictions or security measures".

**Sub-section 2: recording and organizing data in the field of artificial intelligence**

From the above, once the data has been collected to be able to use it, the processor begins to record and structure it within the artificial intelligence devices. This structure allows the data to be used "in a form fully compatible with a traditional database[69]". Adrien Basdevant and Jean-Pierre Mignard also react to the fact that this "unstructured and very often incomplete[70]" data is processed by big data which "identifies repetitions, models behaviors and selects applicable patterns, proceeding by correlation". This analysis mechanism - which translates into an algorithm by association - is likely to affect the integrity of the data, and this risk sometimes becomes unexpected and uncontrollable due to the restriction of the right of access to data within the framework of the provisions of the application of criminal law. Data integrity can be defined as the "quality of a document or data that has not been altered. In the digital world, a document or data is deemed to have integrity if its imprint at a time t+1 is identical to the imprint taken at a time t[71].

In the context of data processing in the criminal trial, the data of suspects or accused may lose its value or meaning during data processing via the algorithmic correlation at the heart of the artificial intelligence device, so that this correlation may lead to changes in the clarity and interpretation of the data subject's data. On the one hand, the artificial intelligence device may experience difficulties and obstacles during its operation, and on the other hand, it is possible that elements external to the algorithm may deceive its logic without the computing

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[68] Yamina Bouadi, OP, P 46.

[69] Viktor Mayer−Schönberger et Kenneth Cukier, Big data : la révolution des données est en marche, Edition Robert Laffont, 2013.

[70] Adrien Basdevant/ Jean−Pierre Mignard, L'empire des données, essai sur la société, les algorithmes et la loi, Edition Don Quichotte 2018, P 63.

[71] Yamina Bouadi, OP, P 46.

device being able to recognize them. Also, algorithmic correlation is fundamentally opposed to the confrontation of the rule of law with the fact (syllogism), and this is one of the reasons why AI machines cannot completely replace the human judge, because reasoning the judge's emotional deduction becomes inductive[72].

Furthermore, algorithmic correlations are used by police services, including machine learning programs in the context of investigations, the Kingdom of Morocco having also made enormous efforts at the level of the General Directorate of National Security, expressing its desire to open up to modern technologies, thanks to the availability of a group of intelligent machines, in particular those linked to the remote dismantling of explosives, the aim of which is to maintain a safe distance and facilitate the work of the police judicial intervention[73]. Furthermore, the capabilities of artificial intelligence have proven evident even in the work of the scientific and technical police, so that in 2021, in the city of Casablanca, the new laboratory affiliated with the Institute of science and forensic evidence for national security, also the creation of the "AFIS" system (Automated Fingerprint Identification System), which works on automatic fingerprint diagnosis, in addition, the IBIS system (Integrated Ballistics Identification System) has also created, which allows identification and diagnosis of firearm fingerprints, and the CODIS system (Combined DNA Index System), which deals with the diagnosis of DNA genetic fingerprints. All these devices clearly indicate the desire of the Kingdom of Morocco to integrate artificial intelligence techniques into the work of the judicial, technical and scientific police, because of the role it plays in the outcome of different types of crimes, which rely on modern and precise research methods that keep pace with scientific advances, such as analyzing genetic fingerprints and DNA and ensuring accurate identification of offenders[74].

Also in this area, it is necessary to pay attention to the concept of pattern recognition[75], in order to then understand the process by which the artificial intelligence device leads to incorrect data binding. Pattern recognition, a process inherent to artificial intelligence devices, is "a technique for computer analysis of a set of data (photographs, drawings, etc.) in order to search for specific and particular configurations". In a criminal investigation, this is used during voice, facial and digital handprint identification. Voice recognition is even more important as telephone conversations can be sent to authorities supervising AI devices for investigations as part of the wiretapping procedure.
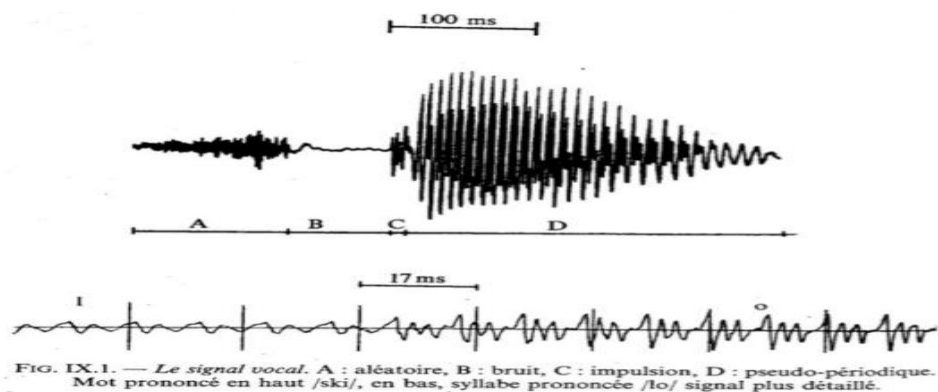
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[72] Adrien Basdevant and Jean-Pierre Mignard, OP. cit, P 63-64.

[73] شيماء غزالة، دور الذكاء الإصطناعي في تعزيز العدالة الجنائية، رسالة لنيل شهادة الماستر في القانون الخاص، جامعة القاضي عياض مراكش، كلية القانون، السنة الجامعية 2020-2021، ص 76.

[74] صابر الهدام، القانون في مواجهة الذكاء الإصطناعي: دراسة مقارنة، م س، ص 44-45.

[75] Pattern recognition is a data analysis method that uses machine learning algorithms to automatically recognize shapes and patterns in data. This data can be text, images, sounds or other specific attributes. Pattern recognition systems can quickly and accurately recognize familiar shapes.

In this context, we recall the sketch of Professor Philippe Müller, who explains how to detect a voice print during the measurement of telephone tapping in the investigation procedure, this measurement called the process of "analysis and parametrization of speech [76]»:



FIG. IX.1. — *Le signal vocal.* A : aléatoire, B : bruit, C : impulsion, D : pseudo-périodique.
Mot prononcé en haut /ski/, en bas, syllabe prononcée /lo/ signal plus détaillé.

The image shows a breakdown of a sound fingerprint sequence composed of several acoustic disturbances or disturbances called "noise". Once all noise is removed or subtracted from the recording, playable footage becomes minimal.

## Section 3: The risks of artificial intelligence linked to the violation and retention of personal data

AI devices that allow a real acceleration of the transmission of information can be considered risks in this sense. Thus, the concept of personal data transfer comes from a combination of the international principles of "transfer of personal data" and "free movement of personal data [77]". In criminal matters, this invites us to invoke everything relating to international criminal cooperation. Therefore, in this case, the need to exchange data between criminal authorities of most countries around the world becomes necessary to improve the understanding of cross-border crimes. Furthermore, contemporary personal data knows no limits, particularly in terms of disclosure of data on social networks which can then be processed by the judicial police, but also via people's access to this data and their processing by private companies that benefit from publishing this data.

Thus, in this section, we will address the question of the penetration of personal data and the right to privacy by artificial intelligence **(Subsection 1)**, then the protection of this data within the framework of international criminal cooperation **(Subsection 2)**.

## Sub-section 1: The penetration of personal data by artificial intelligence

As soon as the rights of individuals within a State are recognized, we explicitly recognize the importance of the obligation to protect these individuals from any external attack or violation that could affect them. The individual is born with rights linked to identity, nationality and others, these rights are part of tangible reality from birth. States seek to protect their citizens wherever they go and great efforts are made to preserve their interests. This

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[76] Philippe Muller, Intelligence artificielle et reconnaissance de formes, Institut de recherche en informatique de Toulouse, 27 mars 2014, P 29-30.

[77] Yamina Bouadi, OP, P 61.

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protection does not come without reason, the individual obtains it by having the nationality of the country in which he grew up, this is what allows him to benefit from the rights and services provided in that country [78].

Therefore, granting rights and freedoms to an individual represents only a simple recognition of his existence and his belonging to his homeland. However, violations of these civil rights of individuals may occur in certain cases, particularly in the presence of the technological development of artificial intelligence imposed by the era of digitalization. Although artificial intelligence is a technological advance resulting from the development of the digital age, concerns may arise regarding the guarantees of protection of the civil rights of individuals. Rapid technological progress can lead to technical uses that go beyond laws and ethics, which could compromise the rights of individuals. It therefore becomes necessary to emphasize the existence of mechanisms and laws that protect the rights of individuals in light of technological development, to ensure that these rights are not violated and to ensure that individuals enjoy the benefits of advanced technologies without compromising their civil and political rights.

This is because individuals' personal data can be infected at any time, and can be vulnerable to penetration due to a complete lack of trust in the technology. There is no doubt that since ancient times, humans have been a focus of attention and a source of information, whether willingly or due to external restrictions and pressures. This information contains personal data considered essential in the process of human communication and interaction and also plays a vital role in understanding the behavior of individuals within society and identifying their identity[79].

We can confirm that personal life is monitored by state authorities or other people (hackers) using 1% of the state-regulated Internet, since 99% is "deep web" or " Dark Web." From this, most of the smart devices we have, like computers and smartphones, can take most of the terms we speak on a daily basis, translate them into data, and then send them to commercial companies in order to promote what we just said search (via social networks) without doing so in electronic search engines.

There is no doubt, everyone agrees that the widespread use of technology has increased threats to personal data privacy in the digital or virtual world. For example, individuals' personal information may be exposed to unwanted use or leakage through cyberattacks and penetrations. As the Internet and web technology evolved, individuals' data became vulnerable even while browsing the Internet. Indeed, individuals' data is no longer limited to traditional documents, but individuals can leave their digital traces in various parts of the Internet without having full control over how this data is collected and used. It also highlights the importance of guiding controls and policies that protect the privacy of personal data on the Internet. There must be increased awareness of the importance of controlling personal data and maintaining privacy during online interactions, then, businesses and institutions should adhere to security and data protection standards to ensure that individuals' data is not compromised.

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[78] صابر الهدام، القانون في مواجهة الذكاء الإصطناعي: دراسة مقارنة، م س، ص ٥٥.

[79] علي أرجدال، حماية المعطيات الشخصية بالمغرب: دراسة تحليلية ومقارنة، رسالة لنيل شهادة الماستر في كلية الحقوق، جامعة محمد الخامس بالرباط، ٢٠١٨-٢٠١٩، ص ١.

Therefore, developments in the digital world are largely due to the exposure of personal information to unwanted uses. Each individual can become a source of information production about himself through popular applications on the Internet or mobile phone applications. This information is then organized and collected using intelligent algorithms that classify and label it. This process results in the development of a comprehensive guide that includes each individual's information, including personal data and tracking of their activities and movements. This includes not only what was mentioned above, but also other aspects...

Certainly, the exchange of information between States is essential and vital, particularly in the context of judicial cooperation and the fight against crime and extremism, when these exchanges contribute to the security and stability of societies and can contribute to research and accountability of offenders. On the other hand, we must be attentive to the fact that this exchange can sometimes lead to violations of the rights and privacy of individuals: when personal information is shared without the explicit consent of its owners, this can have negative impacts on their lives. Personal data may be used in unwanted ways and may cause defamation or harm to individuals. Therefore, there must be a balance between the exchange of information necessary for security purposes, the law and the protection of the rights and privacy of individuals. Mechanisms and laws must be put in place to ensure that the exchange takes place in a legal and transparent manner and protect the rights of individuals against any potential violations.

Indeed, we are seeing a growing interest on the part of countries around the world in human rights and their protection, and the consecration of these rights reflects a positive evolution in the legal and political approach which aims to protect individuals and guarantee their fundamental rights. The right to protection of personal data constitutes an essential element of this concern. It should be noted that data protection laws and principles aim to ensure that data is collected, processed and stored in a legal and transparent manner, and that individuals have control over the use of their data. These laws may vary from state to state, and there may be challenges in their effective enforcement and implementation, but these steps provide an important building block for balancing technological development with protection of human rights.

French legislation regulated the law relating to the protection of data and freedoms in 1978[80], in addition, Egyptian legislation[81], which promulgated Law N° 152 of 2020 on the protection of personal data. The Moroccan legislator, in turn, is not excluded from this organization, he also promulgated Law N° 09-08 of 2009 on the protection of individuals with regard to the processing of personal data and Law N° 07-03 supplementing the penal code with regard to offenses relating to automated data processing systems. Indeed, the protection of personal data has become an important legislative necessity in many countries. An individual's right to protection against breaches begins at the beginning of the process of processing their personal data. Laws and legislation must define standards and a legal framework for the protection of this right. It should be noted, as mentioned previously, that the European Union

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[80] Law No. 78-17 of January 6, 1978 relating to information technology, files and freedoms was one of the first pieces of legislation in this area.

[81] Law No. 152 of 2000 relating to the protection of personal data, published in the Official Journal No. 58 bis – Year 63 – published on July 15, 2020.

has taken a pioneering step by promulgating the General Regulations for the Protection of Personal Data (GDPR), which is a set of legal provisions that govern the protection of personal data in all Member States and contains a set of rights and principles that protect the rights of individuals with regard to their data.

It is true that the database plays a crucial role in the development and training of artificial intelligence models. These models rely on data to learn patterns and make decisions. The larger and more diverse the database, the more accurate and efficient the models are in performing their tasks. The real challenge lies in finding a balance between the development of artificial intelligence technologies and the preservation of individual privacy and rights. Businesses and establishments must follow best practices in data protection and enforcement of security standards, as well as laws and regulations must evolve over time to meet the challenges associated with the use of technologies advances [82].

The Moroccan legislator appears to have followed an approach similar to many international and national legislations compared when promulgating the law relating to the protection of individuals with regard to the processing of personal data. This approach reflects the Government's commitment to protecting the rights and protection of individuals in light of technological advances and increased processing of personal data, so that information is oriented towards protection and avoiding violation of the identity, individual and collective rights and freedoms. The legal protection of this data through the procedures and sanctions provided for by Law 09-08 strengthens the force of application of the laws and encourages their respect.

At the end of this subsection, we conclude that indeed, the management and protection of personal data in the context of artificial intelligence may depend on the development of virtual mechanisms and barriers to control the digital circulation of these data, as this helps ensure the control and security of data and the maintenance of their confidentiality. On this basis, legal and programming mechanisms can be designed, containing:

- **Data Classification:** define data classification levels based on their sensitivity. For example, personal data considered health or financial data may have a higher and more valuable classification.

- **Data Encryption:** Use encryption techniques to protect sensitive data during transmission and storage. This ensures that even if the data is accessed, it will only be readable by authorized individuals.

- **Access Control:** Establish precise control mechanisms to determine who can access data and for what purposes. This can be implemented through techniques such as granting permissions and managing access.

- **Consent and rights management:** include mechanisms to obtain clear consent from individuals for the use of their personal data and the possibility of withdrawing this consent at any time.

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[82] محمد عرفان الخطيب، الذكاء الإصطناعي والقانون، دراسة نقدية مقارنة في التشريعين المدني الفرنسي و القطري - في ضوء القواعد الأوربية في القانون المدني للإنسالة لعام ٢٠١٧ والسياسة الصناعية الأوربية للذكاء الإصطناعي والإنسآلات لعام ٢٠١٩-، مجلة الدراسات القانونية، ع ٢٠٢٠، قطر، ص ٢٠.

- **Monitoring and Control:** Develop mechanisms to monitor data activities and detect any unauthorized or suspicious changes.
- **Security breach reporting:** Design mechanisms to immediately report any security breach or data leak.

These mechanisms help to ensure the security and effective use of personal data in the context of technological developments and help to establish a balance between the establishments benefiting from the data and the protection of the rights and privacy of individuals.

**Sub-section 2: Protection and conservation of personal data in the field of international criminal cooperation**

We initiate this last subsection with regard to our subject of international criminal cooperation through the processing of personal data within European borders, so that since the abolition of border controls within the Schengen area, the risk of cross-border crime has increased and Member States have therefore had to strengthen their cooperation in this area, particularly in terms of data exchange. This exchange is subject to several legal texts within the framework of international cooperation[83].

The nature of personal data exchanged in this area is of interest to the police and justice services, mainly with regard to data relating to migration as well as to products exported or imported from the European Union. Concerning the Free Flow of Data in criminal cooperation in the era of big data, it has long been thought that non-national police organizations such as Europol, the European Judicial Network and Eurojust (the European Union Agency for Judicial Cooperation criminal), would work better than Member States' procedural criminal laws[84]...".
It should be noted that Europol [85]has allocated a significant budget to follow technological development in artificial intelligence. The organization ( Europol) highlights the need to develop artificial intelligence technologies: "Criminal law enforcement institutions must invest in understanding artificial intelligence technology and its effects to properly detect and contain new threats[86]", in particularly in the context of the emergence of new forms of crime such as "deepfakes[87]". Europol also mentions the need for a transfer of data within its organization,

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[83] Council Framework Decision 2009/315/JHA concerning the organization and content of exchanges of information extracted from criminal records between Member States.

Council Decision 2000/642/JHA on arrangements for cooperation between the financial intelligence units of the Member States with regard to the exchange of information.

[84] Anne Weyembergh, L'harmonisation des procédures pénales au sein de l'Union européenne, Archives de politique criminelle, éditions A. Pédone, 2004/1 n° 26, P 37−70.

[85] Europol programming document 2019−2021, January 29, 2019, P 28−40.

[86] "Do criminals dream of electric sheep? », How technology shapes the future of crime and law enforcement, Europol, 2019, P 10.

[87] Deep fake: This is a technology that creates fake videos using computer programs through artificial intelligence learning (Wikipedia).

which is not without risk of ambiguity in the face of to an emerging desire of European institutions and the Council of Europe to strengthen the protection of personal data[88].

The storage of data on the servers of foreign criminal institutions may be a source of concern about the level of security on the territory of another EU Member State or within a non-national police organization. As the Member States of the European Union are the main actors in the protection of fundamental rights, numerous texts provide that States must give their consent before any transfer or collection of information, in particular for investigative purposes[89]. In addition to police services, customs is also more interested in international criminal cooperation, to the extent that the European "PNR" directive, which deals with travelers' data, regulates data transfers between competent authorities with the aim of help law enforcement agencies identify known suspects, especially by tracking their paths[90].

Finally, with regard to the protection of personal data in the Kingdom, Morocco ratified on December 21, 2010 the Arab Convention on the fight against computer crime, which includes 43 articles and aims to cooperate in the fight against crimes. related to information that threaten the security and interests of countries. It is clear from the provisions contained in the agreement that it intends to include a set of modern technologies that pose a threat to the security of countries and the personal data of individuals, as a person may be exposed to their personal banking data are hacked via fake documents or unwanted electronic messages, and therefore the agreement also includes Certain provisions relating to personal data and privacy[91]. The second agreement ratified by Morocco is the Budapest Convention, adopted in the Hungarian capital on November 22, 2001, and whose objective is to fight crime through cooperation between countries. Morocco ratified this agreement on May 12, 2014, although its sole objective is not to protect personal data, but rather its importance lies in the fact that it is the first agreement in the field of cybercrime. Likewise, European Convention No. 108 relating to the protection of individuals with regard to automated processing of personal data, signed in Strasbourg on January 28, 1981, and Morocco ratified this agreement on August 22, 2014. Thus, the purpose of this agreement is to guarantee that any natural person, regardless of their nationality or place of residence, respects their fundamental rights and freedoms, in particular their right to respect for private life, with regard to automated processing of personal data (data protection), the parties undertake to apply this agreement to the files and automated processing of personal data in the public and private sectors.

## Conclusion:

Finally, by examining all the components of this article, we see that it addresses the concept of artificial intelligence through two fundamental topics: a topic related to the criminal

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[88] Europol programming document 2019-2021, January 29, 2019, P 37.

[89] Yamina Bouadi, OP, P 75.

[90] Directive (EU) 2016/681 of the European Parliament and of the Council of 27 April 2016 on the use of passenger name record (PNR) data for the prevention and detection of terrorist offenses and serious forms of crime, as well as for investigations and prosecutions in this matter .

[91] Chadi Rahmouni, La protection pénale des données à caractère personnel dans le secteur bancaire, Mémoire de fin d'étude pour obtenir de master en droit privé et sciences criminelles, université Sidi Mohamed Ben Abdellah, année 2020-2021, P 18.

justice system, and another topical topic related to the protection of personal data. In conclusion of this work, it appears that artificial intelligence can be a powerful tool to improve the criminal justice system, but that it must be applied with caution and balance to guarantee justice and the rights of individuals. Artificial intelligence technologies offer opportunities to accelerate investigations and decision-making processes, but they also bring challenges and risks related to ethics, privacy and personal data breaches.

The focus must always be on the balance between the use of technology and the protection of the rights of individuals, there must also be guarantees of transparency and accountability regarding the use of artificial intelligence in the system of criminal justice. Despite advances in technology, human supervision remains essential to final decision-making in criminal cases. If appropriate recommendations from leading countries are implemented, AI can help achieve a more efficient and fair justice system. Technology (via artificial intelligence) can also help reduce prison overcrowding, improve offender rehabilitation, and strengthen the system's ability to predict and reduce crime.

Ultimately, our goal must be to achieve sustainable progress that serves society as a whole, without compromising the moral values and rights of individuals. The exploitation of artificial intelligence in criminal justice should be evidence of progress and improvement, with an unwavering commitment to justice and human rights.

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