

Artificial Intelligence and Criminal Liability: Contemporary Legal Concepts and Future Challenges

Dr. Nguyen Kim Chi

Vice Dean of the Criminal Law Department Hanoi Law University (HLU), Vietnam.

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Abstract: The rapid development of artificial intelligence (AI) has posed unprecedented challenges to the traditional criminal legal system. This article focuses on analyzing the relationship between AI and criminal liability from the perspective of contemporary legal concepts, and raises core issues in determining whether AI is considered as the subject of criminal liability. Through the analysis of international legal models and typical cases, the article clarifies the limitations

of the current legal framework. It provides recommendations for establishing a suitable legal framework in Vietnam for the future. The article especially emphasises the necessity of the combination of traditional legal thinking and modern ethical standards for the response to the legal consequences of AI.

Keywords: Artificial Intelligence, Criminal Liability, Criminal Subjects, Future Legal Framework.

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Contact: nguyenkimchi.hlu@gmail.com

I. Introduction

Artificial Intelligence (AI) is no longer considered a phenomenal concept in the modern world^{1, 2}. With the ability to learn, process data, make decisions and even act independently in some situations, AI is gradually penetrating every aspect of social life, from finance, health, education to justice and security³. In terms of these mentioned contexts, AI systems are possible to play a direct or indirect role in causing legal consequences, including violations of criminal law. The increasing complexity and automation of AI have raised important questions: when a violation of the law is committed by or through an AI system, who will be held criminally liable? This problem remains highly topical as the concept of AI criminal liability remains unresolved and continues to raise the debated question: Is it possible to impute criminal liability on the developer, the user, the organisation that owns the AI, or whether the AI itself can become an independent responsible entity? Such are the answers problematic to abovementioned issues as its involvement relates to various aspects, such as the legal nature of AI, the concept of the subject of crime, the element of fault (*mens rea*), and the principle of individualization of liability in criminal law. A review and evaluation of studies on AI criminal liability shows an outdated research topic but the fact with evidently some authors and their related publications, for instance, as follows: (i) Gabriel Hallevy, with the book *"When Robots Kill: Artificial Intelligence under Criminal Law"*⁴, recognized as one of the pioneering works analyzing the applicability of criminal liability to AI. Hallevy proposes three models: (1) AI as a criminal tool of humans; (2) AI as an accomplice; and (3) AI as an independent subject of criminal liability. The concept of "electronic personhood" is mentioned as a new legal approach.; (ii) Andreas Nanos, with the study of *"Criminal Liability of Artificial Intelligence"*⁵, from Charles University (Czech Republic), analyses the challenges in applying criminal liability to AI, especially in the context of autonomous and self-learning AI. It is recommended that the current legal framework needs to be adjusted to suit the characteristics of AI.; (iii) Riega-Virú *et al*, with their publication of *"Criminal*

¹ Faghiri, A. K. (2022). The Use Of Artificial Intelligence In The Criminal Justice System (A Comparative Study). *Webology*, 19(5). https://www.researchgate.net/profile/Ali-Kabol/publication/365027297_The_Use_Of_Artificial_Intelligence_In_The_Criminal_Justice_System_A_Comparative_Study/links/63636d1d54eb5f547c9bc3fc/The-Use-Of-Artificial-Intelligence-In-The-Criminal-Justice-System-A-Comparative-Study.pdf?origin=journalDetail&_tp=eyJwYWdlIjoiam91cm5hbERldGFpbCJ9

² Russell, S., Norvig, P., & Intelligence, A. (1995). A modern approach. *Artificial Intelligence*. Prentice-Hall, Englewood Cliffs, 25(27), 79-80. <https://library.wur.nl/WebQuery/titel/914755>

³ El-Kady, R. (2025). Challenges of Criminal Liability for Artificial Intelligence Systems. In *Exploration of AI in Contemporary Legal Systems* (pp. 1-42). IGI Global Scientific Publishing. <https://doi.org/10.4018/979-8-3693-7205-0.ch001>

⁴ Hallevy, G. (2013). *When robots kill: Artificial intelligence under criminal law*. UPNE. <https://dl.acm.org/doi/abs/10.5555/2530362>

⁵ Nanos, A. (2023). Criminal liability of artificial intelligence. *Charles University in Prague Faculty of Law Research Paper No.* <https://doi.org/10.2139/ssrn.4623126>

Liability and Artificial Intelligence: A Systematic Review of the Scientific Literature"⁶, the article synthesizes 40 research works on AI's criminal liability in fields such as medicine, robotics, self-driving cars and justice, with the contribution that the research emphasizes the concept of "digital personality" and the challenges in determining criminal liability for AI; Besides, the publication *"Challenges of Criminal Liability for Artificial Intelligence Systems"*⁷, by Ramy El-Kady, discusses the legal obstacles to criminal liability for AI, and proposes international cooperation to develop a legal and ethical framework for the global use of AI.

In addition, it is worth noting that the publication from a Vietnamese perspective regarding the abovementioned issue. In the article *"Criminal liability for artificial intelligence products and recommendations for improving Vietnam's criminal law"*, the author discusses the theoretical and practical basis of regulating criminal liability for AI products and recommends several points to enhance Vietnamese law.⁸ In terms of the article *"Some theoretical models and legislative experience on criminal liability for artificial intelligence and suggestions for Vietnam"*, the content aims to study the nature of AI, assess the criminal risks and feasibility of prosecuting AI through analyzing the laws of some countries in the world, thereby proposing solutions to improve Vietnamese criminal law.⁹ Besides, there is a remarkable monograph named as *"Criminal liability and exclusion of criminal liability"* by Associate Professor, Dr. Trinh Tien Viet that analyzes issues on the content of criminal liability with basic characteristic forms, as well as the exclusion of criminal liability for individuals in the Criminal Code 2015, amended and supplemented in 2017, based on summarizing scientific knowledge of criminal law, practical application and criminal legislation experience of some countries in the world.¹⁰ However, as mentioned above, criminal liability for AI is considered a complex and evolving issue that may have a different structure or transformation depending on each stage of development and the necessity of economic and social development in each country.¹¹ Therefore, although previous studies have been

⁶ Escalante-Huisacayna, L., Riega-Virú, Y., Nilupú-Moreno, K., & Salas-Riega, J. L. (2024). Criminal Liability and Artificial Intelligence: A Systematic Review of the Scientific Literature. In *International conference on WorldS4* (pp. 473-483). Springer. https://doi.org/10.1007/978-981-97-8695-4_43

⁷ El-Kady, R. (2025). Challenges of Criminal Liability for Artificial Intelligence Systems. In *Exploration of AI in Contemporary Legal Systems* (pp. 1-42). IGI Global Scientific Publishing. <https://doi.org/10.4018/979-8-3693-7205-0.ch001>

⁸ Nguyen, K. L., Nguyen, C. V., Tran, D. H. N., & Doan, D. M. (2025). *Trách nhiệm hình sự đối với sản phẩm trí tuệ nhân tạo và khuyến nghị hoàn thiện pháp luật hình sự Việt Nam*. <https://tapchitoaan.vn/trach-nhiem-hinh-su-doi-voi-san-pham-tri-tue-nhan-tao-va-khuyen-nghi-hoan-thien-phap-luat-hinh-su-viet-nam12490.html>

⁹ Do, V. C., & Pham, N. T. (2025). *Một số mô hình lý luận, kinh nghiệm lập pháp về trách nhiệm hình sự đối với trí tuệ nhân tạo và gợi mở cho Việt Nam*. <https://phapluatphattrien.vn/mot-so-mo-hinh-ly-luan-kinh-nghiem-lap-phap-ve-trach-nhiem-hinh-su-doi-voi-tri-tue-nhan-tao-va-goi-mo-cho-viet-nam-d3886.html>

¹⁰ Trinh, T. V. (2021). *Trách Nhiệm Hình Sự và Loại Trừ Trách Nhiệm Hình Sự*. Nhà xuất bản Chính trị quốc gia Sự thật. https://stbook.vn/store_detail/trach-nhiem-hinh-su-va-loai-tru-trach-nhiem-hinh-su-sach-chuyen-khao-tai-ban-co-sua-chua-bo-sung-/289

¹¹ Trinh, T. V. (2020). *Chính Sách Hình Sự Việt Nam Trước Thách Thức Cách Mạng Công Nghiệp 4.0*. Hà

conducted, it is necessary to build upon their results and continue to investigate and clarify new models of criminal liability for AI. With that theoretical foundation, this article will focus on the following contents: *Firstly*, clarification about some theoretical issues on criminal liability; *Secondly*, analysis and comment on the concept of criminal liability of AI of several countries; *Thirdly*, pointing out AI's criminal liability models; and *Lastly*, recommendation about orientations to improve regulations on criminal liability of AI in Vietnamese criminal law. To achieve this research objective, the author used a combination of different research methods such as analysis, synthesis, and comparison to clarify theoretical issues on criminal liability, to evaluate legal provisions, and different views on the criminal liability of AI. Additionally, the authors employed the synthesis method to evaluate, draw general conclusions, and make recommendations on completing Vietnamese criminal law related to the criminal liability of AI.

II. Theoretical basis of Criminal Liability

1. *Concept and Nature of Criminal Liability*

Criminal liability is a significant norm of criminal law, reflecting the highest coercive intervention of the State against individuals or organizations whose behavior is dangerous to society.¹² According to classical legal doctrine, criminal liability is the negative legal consequence that the offender is obliged to abide by in the case of criminal conduct. This liability has its personal, non-transferable characteristic and is only established when all objective and subjective conditions are met¹³. Along with the two essential foundations of criminal law, namely crime and punishment,¹⁴ "criminal liability" also has legal and social significance, because together, these three abovementioned concepts are the theoretical basis for constructing and perceiving the connotation of others and categories in criminal legal science,¹⁵ as well as assessing the specific degree of criminal liability for specific crimes. Primarily, in the light of the perspective on legal liability, criminal

Nội: Nhà xuất bản Tư pháp. <https://nxbtuphap.moj.gov.vn/Pages/chi-tiet-tin-tuc.aspx?ItemID=23&l=Gioithieusach>

¹² KAN, C. H. (2024). CRIMINAL LIABILITY OF ARTIFICIAL INTELLIGENCE FROM THE PERSPECTIVE OF CRIMINAL LAW: AN EVALUATION IN THE CONTEXT OF THE GENERAL THEORY OF CRIME AND FUNDAMENTAL PRINCIPLES. *International Journal of Eurasia Social Sciences/Uluslararası Avrasya Sosyal Bilimler Dergisi*, 14(55). <https://doi.org/10.35826/ijoes.4434>

¹³ Kyd, S., Elliott, T., & Walters, M. A. (2017). *Clarkson and Keating: Criminal Law: Text and Materials 9th ed.* London: Sweet & Maxwell. <https://www.wildy.com/isbn/9780414061613/clarkson-and-keating-criminal-law-text-and-materials-ebook-9th-ed-sweet-maxwell-ltd>

¹⁴ Hall, J. (2010). *General principles of criminal law*. The Lawbook Exchange, Ltd. <https://philpapers.org/rec/HALGPO>

¹⁵ Trinh, T. V. (2013). *Tội Phạm và Trách Nhiệm Hình Sự*. Hà Nội: Nhà xuất bản Chính trị Quốc gia. https://scholar.google.com/citations?view_op=view_citation&hl=vi&user=Dw5fXF0AAAAJ&citation_for_view=Dw5fXF0AAAAJ%3ATFP_iSt0sucC&inst=7289110936595769722

liability is the most severe form, compared to other types of legal liability¹⁶. Consequently, no form of legal liability can replace criminal liability. Criminal liability *arises* from the establishment of criminal legal relations through the implementation of criminal procedural and enforcement legal relations¹⁷. Criminal liability only *arises* when a crime occurs and only applies to the person committing the crime in compliance with the following conditions prescribed by law: age of criminal liability, capacity for criminal liability.¹⁸ Criminal liability is always expressed in the application of one or more coercive measures to the subject held criminally liable. Such measures are applied by the procedure-conducting agencies, while the punishment is only decided by the Court on behalf of the State regarding the verdict of conviction.¹⁹ Currently, it is recognized for various different and diverse standpoints and approaches to criminal liability.²⁰ However, in essence, in terms of Vietnamese criminal legal science, criminal liability, is understood and accessed from the perspective of "legal consequences" which is a form of legal liability, is regarded as an adverse legal consequence of committing a crime with the expression by the Court when it comes to the application of one or more strict coercive measures of the State prescribed by criminal law, to the subject held criminal liability²¹. Hence, the basic characteristics of criminal liability are uniformly reflected through the following essential elements.²²

Firstly, forms of legal liability include criminal liability, administrative liability, state disciplinary responsibility and civil liability. Of which, criminal liability is the most severe form of legal liability compared to any other form of legal liability²³

Secondly, criminal liability is the response of the State and the condemnation of criminals by prescribing a system of criminal coercive measures to be applied to

¹⁶ Antoniuk, N. O. (2021). Forms of criminal liability in case of death of the patient. *Wiadomości Lekarskie*, 74(11), 2891. <https://doi.org/10.36740/WLek202111205>

¹⁷ Abdurasulova, Q. R., Ikromovich, A. T., & Kaustav, C. (2021). The relationship of substantive and procedural law on the example of criminal law and criminal procedural law. *Asian Journal of Research in Social Sciences and Humanities*, 11(12), 13-20. <https://doi.org/10.5958/2249-7315.2021.00345.2>

¹⁸ Morse, S. J. (2025). Criminal responsibility reconsidered. *Criminal Law and Philosophy*, 19(2), 315-329. <https://doi.org/10.1007/s11572-023-09702-7>

¹⁹ Ibid.

²⁰ Le, V. C., Trinh, T. V., Trinh, Q. T., Nguyen, N. C., & Nguyen, T. L. (2023). *Giáo trình Luật Hình sự Việt Nam*. H. : Đại học Quốc gia Hà Nội. <https://opac.nlv.gov.vn/chi-tiet-tai-lieu/giao-trinh-luat-hinh-su-viet-nam-202510080350518142931> ; Nguyen, N. H. (2022). *Trách Nhiệm Hình Sự, Hình Phạt và Các Biện Pháp Hình Sự Khác*. Hà Nội: Nhà xuất bản Tư pháp. <https://nxbtuphap.moj.gov.vn/Pages/chi-tiet-sachnew.aspx?ItemId=307> ; Nguyen, N. H., Truong, Q. V., Nguyen, T. M., Le, T. S., & Hoang, V. H. (2022).

Giáo trình Luật Hình sự Việt Nam. H. : Tư pháp. <https://opac.nlv.gov.vn/chi-tiet-tai-lieu/giao-trinh-luat-hinh-su-viet-nam-20259763430518142931>

²¹ Magazine, V. L. (2025). Penal Liability under Vietnam's Criminal Law. <https://vietnamlawmagazine.vn/penal-liability-under-vietnams-criminal-law-4456.html>

²² Le, V. C., Trinh, T. V., Trinh, Q. T., Nguyen, N. C., & Nguyen, T. L. (2023). *Giáo trình Luật Hình sự Việt Nam*. H. : Đại học Quốc gia Hà Nội. <https://opac.nlv.gov.vn/chi-tiet-tai-lieu/giao-trinh-luat-hinh-su-viet-nam-202510080350518142931> .

²³ Antoniuk, N. O. (2021). Forms of criminal liability in case of death of the patient. *Wiadomości Lekarskie*, 74(11), 2891. <https://doi.org/10.36740/WLek202111205>

each corresponding subject in its specific circumstances.

Thirdly, criminal liability is the legal consequence of criminal perpetration, and only arises *when a crime is committed*. Thus, criminal liability is only exercised within the scope of the criminal legal relationship between two parties, where the nature of the two subjects involves certain rights and obligations, with one side being the State and the other being the offender (as well as the commercial legal entity committing the crime).

Fourthly, criminal liability is only applied to subjects who have committed socially dangerous acts that the criminal law stipulates as crimes.

Fifthly, criminal liability has its characteristic with the nature of *public law*; only the State has the authority to force people, as well as commercial legal entities, corporations, to commit crimes to bear criminal liability before the State. The court, on behalf of the State, applies one or more criminal coercive measures prescribed by criminal law on a general basis.

Sixthly, criminal liability and punishment are intrinsically linked.²⁴ Punishment is a typical, standard feature of criminal liability applied by the Court in practice. Regarding this abovementioned perspective, Associate Professor, Dr. Trinh Tien Viet pointed out the content and characteristics of the relationship between criminal liability and punishment from the view of interdisciplinary philosophy and criminal law. Accordingly, criminal liability and punishment represent the following characteristics:

(i) the relationship between the category of "general" (criminal liability) and the category of "particular" (punishment); (ii) the reflection of the relationship between the categories of "content" and "form" that criminal liability is recognized as the content and punishment is the form; and (iii) the reflection of the cause-effect relationship amongst two mentioned legal norms, criminal liability is the cause and punishment is the result and only when does it happen criminal liability previously, it exists punishment.²⁵ In particular, although criminal liability and punishment have the exact origin arisen from criminal conduct, the legal ground for the application of those two dimensions are different. Finally, criminal liability and punishment are both negative legal consequences for the charged subject that the first legal norm, criminal liability, is a direct adverse legal consequence of crime. In contrast, the other is considered an indirect adverse legal consequence with a reflection of a "higher" degree, as the fact that the mentioned consequence leaves a criminal record for the offender when the Court decides the sentence.²⁶

²⁴ Trinh, T. V. (2024). "Dangerous Act (s) to Society"-The Foundation for Crime, Criminal Responsibility and Punishment. *VNU Journal of Science: Legal Studies*, 40(3). <https://doi.org/10.25073/2588-1167/vnuls.4688>

²⁵ Ibid.

²⁶ Trinh, T. V. (2021). *Trách Nhiệm Hình Sự và Loại Trừ Trách Nhiệm Hình Sự*. Nhà xuất bản Chính trị quốc gia Sự thật. https://stbook.vn/store_detail/trach-nhiem-hinh-su-va-loai-tru-trach-nhiem-hinh-su-sach-chuyen-khao-tai-ban-co-sua-chua-bo-sung-/289

2. *Basis and Conditions of Criminal Liability*

Primarily, the basis of criminal liability is one of the critical issues in criminal law and becomes the significant content of criminal liability. The basis of criminal liability is examined from various perspectives, encompassing both philosophical and legal considerations. For example, Professor Dao Tri Uc²⁷ believes that the basis of criminal liability is “the presence of all elements prescribed by law in terms of crime”; Professor, Dr. Do Ngoc Quang²⁸ believes that the basis of criminal liability “lies in the necessity to maintain and protect the common life of all members of society, and to prevent acts that cause or threaten to cause serious harm to the rights and interests of individuals and organizations protected by the State, as well as to public security, order, and social safety”; Nguyen Ngoc Hoa²⁹ signifies that “constituent elements of crime in criminal law is considered as the legal basis and the compliance with the mentioned elements is a necessary and sufficient condition for criminal liability”; or Thomas Weigend³⁰ argue that criminal liability arises only when a person’s conduct fulfills the objective elements of an offence (actus reus) and is accompanied by the required subjective mental link (mens rea), or in other words, liability can be attributed only where both the external and internal elements of crime are present. However, there is a practical viewpoint of Master Dinh Van Que³¹ that: “The basis of criminal liability is criminal conduct that a person is obliged to be held criminally liable when committing a socially dangerous conduct intentionally or unintentionally causing or threatening to cause dangerous consequences to society.”

Meanwhile, with the approach from the most general perspective, Professor, Doctor of Science Le Van Cam pointed out three different perspectives to the basis of criminal liability corresponding to three degrees: in terms of content or material (objective); to the form (external); and pursuant to the norms (legal), it comes to the explanation from the basic arguments about the basis (material) of criminal liability and conclusion that the core content of criminal liability is the commission of a crime by a natural person (a specific biological person, not a legal entity) and the performance of the conduct prohibited by criminal law is the basis to the content

²⁷Dao, T. U. (1993). *Mô Hình Lý Luận về Bộ Luật Hình Sự Việt Nam: Phần Chung*. Hà Nội: Nhà xuất bản Khoa học xã hội. <https://opac.nlv.gov.vn/chi-tiet-tai-lieu/mo-hinh-ly-luan-ve-bo-luat-hinh-su-viet-nam-2025708690518142931>

²⁸Tran, H. T. (2021). Bàn về cơ sở của trách nhiệm hình sự. *Tạp Chí Khoa học Kiểm sát*, 6(53). <https://khoaahockiemsat.hpu.vn/portal/article/view/100>

²⁹Nguyen, N. H. (2015). *Tội phạm và cấu thành tội phạm*. H. : Tư pháp. <https://opac.nlv.gov.vn/chi-tiet-tai-lieu/toi-pham-va-cau-thanh-toi-pham-20256640530518142931>

³⁰Weigend, T. (2015). Subjective Elements of Criminal Liability. In M. D. T. Hörnle (Ed.), *The Oxford Handbook of Criminal Law* (pp. 490–511). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199673599.013.0022>

³¹Dinh, V. Q. (2000). *Bình luận khoa học Bộ luật hình sự năm 1999*. Tp. Hồ Chí Minh : Nxb. Tp. Hồ Chí Minh. <https://opac.nlv.gov.vn/chi-tiet-tai-lieu/binh-luan-khoa-hoc-bo-luat-hinh-su-nam-1999-20251271510518142931>

(material) of criminal liability.³² Thus, from a philosophical perspective, this raises the question of why the State and society hold a person criminally liable. It is considered about the relationship between freedom and necessity, and the legal basis of criminal liability is that the conduct satisfies the constituent elements of crime prescribed regarding criminal law.³³ In other words, “when it comes to criminal liability, the prioritized question arised to the identification of the basis for this liability.”³⁴ Therefore, when properly regulated and resolved, and the basis of criminal liability is accurately understood, it will contribute to the effective implementation of criminal policy and principles of Vietnamese criminal law. This is the content that directly and consistently reflects all the provisions of the Criminal Code, because, after all, resolving criminal liability is the *fundamental* issue of criminal liability. Criminal liability differs from other types of legal liability (civil liability, administrative liability, etc) in that it is associated with the most severe sanctions such as imprisonment, death penalty, and is not based on a mechanism of agreement or voluntary redress. Criminal liability is always tried and applied through the criminal legal system. The nature of criminal liability encompasses not only punishment, but also crime prevention and legal education for both offenders and the community. Principles, such as "no crime without criminal law" (*nullum crimen sine lege*) and "no punishment without fault" (*nulla poena sine culpa*), are the theoretical foundation for criminal liability in mostly modern legal systems³⁵.

3. *Subject of Criminal Liability in Theory and Law*

The subject of criminal liability is an individual or organization with full criminal capacity which commits a crime. Traditionally, the subject only includes individual human beings. However, since the 20th century, the development of commercial legal entities and civil society organizations has promoted many legal systems to extend the legal norm of criminal liability to legal entities. In terms of the individual, the person who commits a crime, the sufficient condition for the mentioned norm is legal age and the adequacy of capacity to conduct. Criminal law concentrates its feature on analysis deeply the degree of fault, motive, and specific circumstances of the mentioned individual to determine the punishment.

³² Le, V. C. (2005). *Sách Chuyên Khảo Sau Đại Học: Những Vấn Đề Cơ Bản Trong Khoa Học Luật Hình Sự: Phần Chung*. Nhà xuất bản Đại học Quốc gia Hà Nội. <https://www.diendanngheluat.vn/tin-tuc/sach-chuyen-khao-sau-dai-hoc-nhung-van-de-co-ban-trong-khoa-hoc-luat-hinh-su-phan-chung.html>

³³ Pham, M. H. (2004). *Chế Định Trách Nhiệm Hình Sự Theo Luật Hình Sự Việt Nam*. <https://opac.nlv.gov.vn/chi-tiet-tai-lieu/che-dinh-trach-nhiem-hinh-su-theo-luat-hinh-su-viet-nam-20252638140518142931>

³⁴ Nguyen, N. H. (2022). *Trách Nhiệm Hình Sự, Hình Phạt và Các Biện Pháp Hình Sự Khác*. Hà Nội: Nhà xuất bản Tư pháp. <https://nxbtuphap.moj.gov.vn/Pages/chi-tiet-sachnew.aspx?ItemId=307>

³⁵ Andrews, J. (1991). *Principles of Criminal Law*. By Andrew Ashworth.[Oxford: Clarendon Press. 1991. xxii, 423 and (Index) 10pp. Hardback£ 45· 00, paperback£ 12· 95 net.]. *The Cambridge Law Journal*, 50(3), 539-540. <https://doi.org/10.1017/S0008197300016317>

To the view on the legal entity, there has been several countries, such as France, Japan, UK, USA, Korea, to name. Still, a few, recognized legal entities as one of the subjects to be held criminal liability, especially to related crimes, such as corruption, environment, tax evasion, etc. The practical recognition shows a shift from the concept of "absolute individual criminal liability" to a more flexible approach, based on the legal status and social consequences of the conduct.

From the abovementioned analysis, it leads to the argument that the recognition of legal entities as subjects of civil liability opens up the possibility of considering non-biological entities, such as AI, in several particular cases, whether it can be held criminally liable, from a similar perspective. However, there are still many theoretical and ethical barriers³⁶. In Vietnam, previously, criminal liability under Vietnamese criminal law used to be *personal* liability and was only applied to a person who committed a socially dangerous conduct that the Criminal Code defined as a crime. In the Criminal Code 2015, lawmakers added another subject of the crime, a "*commercial legal entity*" that committed one of the crimes specified in Article 76 of this Code, to be held criminally liable on a general basis. Therefore, in the light of the legal basis of criminal liability stipulated by Vietnamese lawmakers in Article 2 of the Criminal Code, criminal legal science has pointed out the conditions of criminal liability to an individual (person) who commits a crime, including as follows:

(i) sufficient criminal capacity; (ii) maturity by the age to be held criminal liability; (iii) commit a dangerous conduct to society defined as a crime by criminal law; and (iv) at the same time the subject must be at fault in the mentioned commissio.³⁷ Accordingly, Clause 2, Article 2 of Criminal Code 2015 prescribed that "only a commercial legal entity which commits a crime specified in Article 76 of this Code shall be held criminally liable". To be held criminally liable for committing a specific crime specified in Article 76 of the Criminal Code, the conduct committed by a commercial legal entity is obliged to comply with the following conditions:

(1) The crime is committed in the name of the commercial legal entity; (2) The crime is committed for the benefit of the commercial legal entity; (3) The crime is committed under the direction, management or approval of the commercial legal entity; (4) The statute of limitations for the identification of criminal liability specified in Clauses 2 and 3, Article 27 of the Criminal Code has not expired. Criminal liability is a well-established doctrine in the legal system, designed to

³⁶ Commission, E. (2021). Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) and Amending Certain Union Legislative Acts Brussels: European Commission. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52021PC0206>

³⁷ Le, C. (2000). *Các Nghiên Cứu Chuyên Khảo về Phần Chung Luật Hình Sự* (Vol. 4). Hà Nội: Nhà xuất bản Công an. <https://opac.nlv.gov.vn/chi-tiet-tai-lieu/cac-nghien-cuu-chuyen-khao-ve-phan-chung-luat-hinh-su.-t.1-20251179360518142931>

apply to humans with cognition, volition, and the ability to control their behavior. However, with the emergence of artificial intelligence, especially autonomous deep learning systems, the traditional premises of criminal liability are being challenged. To be able to apply criminal liability in the modern technological era, it is necessary to expand legal reasoning in a detailed manner but with flexibility, and compliance with practical evidence. The mentioned issue will serve as the foundation for the following chapters to provide an in-depth discussion about the specific legal perspectives and models related to criminal liability and AI.

III. Artificial Intelligence and Worldwide Perspectives on AI Criminal Liability

1. *Overview of Artificial Intelligence*

Artificial intelligence (AI) is an interdisciplinary field of philosophy, psychology, neuroscience, mathematics, cybernetics, computer science, linguistics and economics³⁸. AI is commonly known as a branch of computer science. AI is programmed by humans to improve computers automate intelligent behaviors like humans; AI can be considered as a virtual intelligence. AI is made up of two terms "artificial" and "intelligent". Artificial is nonexistent in nature, created by humans and their grey matter, for examples, hospitals, schools, etc. Intelligence is a concept with many ways of understanding, not unified but can be understood as the synthesis of logical ability, abstraction, understanding, self-awareness, learning, emotional intelligence, memory, planning and problem solving. The term "artificial intelligence" first appeared in 1956 at the Dartmouth Conference proposed by American computer scientist John McCarthy. This is a significant milestone marking the official introduction of this term. Up to now, there are various ways to define "artificial intelligence" from different aspects, some specific definitions of this term are prescribed as follows:

According to the National Science and Technology Council of the United States, the connotation of "artificial intelligence" includes a set of computational techniques and processes used to enhance the ability of machines to perform tasks requiring intelligence, such as pattern recognition, computer vision, language processing.³⁹ From a legal perspective, "artificial intelligence" was first defined in the EU AI Act as "a software developed using one or more of the techniques and methods listed in Annex I and which can, for a given set of human-defined

³⁸ Russell, S., Norvig, P., & Intelligence, A. (1995). A modern approach. *Artificial Intelligence*. Prentice-Hall, Englewood Cliffs, 25(27), 79-80. <https://library.wur.nl/WebQuery/titel/914755>

³⁹ National Science and Technology Council. (2016). *Committee on Technology, Preparing for the Future of Artificial Intelligence*. Washington, D.C 20502: Executive Office of the President National Science and Technology Council Committee on Technology. https://obamawhitehouse.archives.gov/sites/default/files/whitehouse_files/microsites/ostp/NSTC/preparing_for_the_future_of_ai.pdf

objectives, produce outputs such as content, predictions, recommendations or decisions affecting the environment with which it interact”.⁴⁰ In Vietnam, to date, there has been no legal document defining AI or determining its legal status when participating in social relations regulated by law. Currently, the definitions of artificial intelligence are primarily provided by AI technical experts, and from a legal perspective, there are few national laws that define this concept. Although there is no unified concept of "artificial intelligence", it is recognized as an understanding that "artificial intelligence" is a term referring to a computer system programmed by humans, with simulation to human intelligence, the ability to imitate human cognitive activities, self-learning and self-improvement, and human decision-making ability. Artificial Intelligence (AI) is a field of technology that simulates human capabilities, such as learning, reasoning, perception, and decision-making, in machines. AI today can be divided into three main groups as follows⁴¹: Firstly, narrow AI, performing a specific task such as facial recognition, language processing. Secondly, strong AI, capable of understanding and learning like humans in many fields. Thirdly, superintelligence, with the ability on issuing assumption, beyond human intellectual capacity, about nonexistent circumstances in reality.

Thus, first of all, AI can be briefly described as the science of creating machines with intelligent feature, so that they can perform tasks that normally require human intelligence. AI entities can have physical appearance, such as a robot, but only exist in an abstract way occasionally, for example, software installed on a computer system or on a network server. In the present era, there are AIs that can perform tasks with absolute precision without human participation. However, at the same time, they can also be programmed, learned, transformed, and accompanied by deviant actions that violate security, social order, and human rights established and protected by criminal law. The rapid development of machine learning, deep learning, and artificial neural networks has brought AI instantly to "acting independently", beyond the initial will of the programmer or user⁴².

2. *Worldwide Perspectives on AI Criminal Liability*

As artificial intelligence (AI) becomes more widespread and autonomous in its

⁴⁰ Tran, G. H. (2023). "Managing Artificial Intelligence (AI): Experience from the European Union and Recommendations for Vietnam (Quản lý trí tuệ nhân tạo (AI): Kinh nghiệm từ Liên minh Châu Âu và khuyến nghị cho Việt Nam)." VIOIT. Accessed July 1, 2025, <https://vioit.vn/quan-ly-tri-tue-nhan-tao-ai-kinh-nghiem-tu-lien-minh-chau-au-va-khuyen-nghi-cho-viet-nam.html>.

⁴¹ KAN, C. H. (2024). CRIMINAL LIABILITY OF ARTIFICIAL INTELLIGENCE FROM THE PERSPECTIVE OF CRIMINAL LAW: AN EVALUATION IN THE CONTEXT OF THE GENERAL THEORY OF CRIME AND FUNDAMENTAL PRINCIPLES. *International Journal of Eurasia Social Sciences/Uluslararası Avrasya Sosyal Bilimler Dergisi*, 14(55). <https://doi.org/10.35826/ijoess.4434>

⁴² Russell, S., Norvig, P., & Intelligence, A. (1995). A modern approach. *Artificial Intelligence*. Prentice-Hall, Egnlewood Cliffs, 25(27), 79-80. <https://library.wur.nl/WebQuery/titel/914755>

operations, many countries and international organizations are beginning to question how to handle the legal consequences of AI. One prominent legal question raised regarding the possibility of identifying AI criminal liability. In case of non-existence capability for the mentioned issue, it is such a problematic challenge to examine the dangerous causes of AI for its illegal conduct on society. Therefore, several perspectives have emerged regarding the identification of AI criminal liability.

Firstly, disagreement on AI as a criminal subject. This is the most popular view today. Accordingly, AI has no independent legal personality, no moral capacity, or free will, and therefore cannot be the subject of criminal liability. US criminal law has never recognized AI as a subject of criminal liability. In all civil or criminal cases involving AI, liability has been assigned to humans – usually the manufacturer or implementer of the technology. For example, the Uber autonomous vehicle case in 2018, which resulted in the death of a pedestrian, did not result in liability being placed on the AI, but on the person who was monitoring the vehicle at the time⁴³. This approach reflects the characteristics of the common law system: emphasis on trial practice, fault based on “duty of care” and causal relationship between human behavior and consequences. Japan maintains a very cautious stance on assigning criminal liability to AI. Current legislation does not prescribed AI as a legal entity, and humans still bear any legal consequences. In contrast, Japan has been making efforts to reidentify its civil law to strengthen the liability mechanism for AI developers, especially in transportation. The Road Transport Vehicle Act and the Road Traffic Act were amended in Japan to take into consideration the potential for self-driving cars to travel on public roads⁴⁴.

Secondly, consideration of assigning a limited legal status to AI. This is an emerging trend in some developed countries, particularly in Europe, aimed at addressing the legal gap in the context of increasingly autonomous AI. In 2017, the European Parliament issued a landmark Report: Civil Law Rules on Robotics – proposing to recognize “electronic personality” for some forms of advanced AI⁴⁵. The idea is to create a model similar to a legal entity that allows AI to conduct following activities: (i) making a contract; (ii) entering into a transaction; (iii) being sued and held responsible within the scope of the trust assets. However, this proposal has not been formally codified in law. By 2021, the European

⁴³ National Transportation Safety Board (NTSB). (2025). Collision Between Vehicle Controlled by Developmental Automated Driving System and Pedestrian - <https://www.nts.gov/investigations/Pages/HWY18MH010.aspx>

⁴⁴ Guerra, A., Parisi, F., & Pi, D. (2022). Liability for robots I: legal challenges. *Journal of Institutional Economics*, 18(3), 331-343. <https://doi.org/10.1017/S1744137421000825>

⁴⁵ Parliament, E. (2017). Texts Adopted - Civil Law Rules on Robotics. https://www.europarl.europa.eu/doceo/document/TA-8-2017-0051_EN.html

Commission shifted to a more cautious approach, focusing on risk management rather than legal status, through the AI Act, which classifies AI into four risk groups and sets out developer obligations for each group⁴⁶. Thus, the EU currently follows a “shared responsibility” model, which does not grant legal status to AI, but creates a framework to assign specific responsibilities to relevant parties.

Thirdly, experimenting with innovative liability models. Some small or flexible legal countries are experimenting with new liability models. Singapore stands out for its long-term AI governance policy. In 2020, they published the Model AI Governance Framework, which decentralizes legal liability related to AI: (i) developer responsible for design and academics; (ii) the implementing enterprise is responsible for supervising operations; (iii) end user is responsible for application results. While not recognizing AI as a subject of criminal liability, Singapore adopts a holistic risk management approach, of which criminal law is only one part. The OECD and ASEAN countries are referencing this model⁴⁷. No country currently fully recognizes AI as a criminal subject. However, models of indirect liability, especially risk sharing and asset trusts for compensation, are increasingly popular. Thus, it is possible to conclude that the different approaches of developed countries to AI reflect differences in legal philosophies and the degree of technological development, as follows:

- (1) Common law countries like the United States prioritize case-by-case processing;
- (2) Civil law countries such as Germany, France, and the EU tend to build legal frameworks first, focusing especially on preventive regulations;
- (3) Some Asian countries like Singapore focus on governance, ethics, and coordination between the public and private sectors.

In the future, criminal law systems will likely adopt a hybrid model: AI is not the subject of criminal liability, but the actions caused by AI will be regulated by a set of mixed liability mechanisms (criminal, civil, administrative and moral). Through international comparison, it can be seen that no system is ready to recognize AI as a subject of criminal liability. However, countries are gradually establishing new, flexible liability models, aiming to allocate responsibility to stakeholders in the AI chain. A comparative table with Vietnam’s jurisdiction would help clarify that jurisdictions have taken distinct paths in addressing AI accountability as their practical implications differ significantly across legal systems:

⁴⁶ Commission, E. (2021). Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) and Amending Certain Union Legislative Acts Brussels: European Commission. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52021PC0206>

⁴⁷ Commission, P. D. P. (2020). *Model AI Governance Framework*. Singapore. <https://www.pdpc.gov.sg/-/media/files/pdpc/pdf-files/resource-for-organisation/ai/smodelaigovframework2.pdf>

Table 1: Vietnam's Jurisdiction

Aspect	European Union (AI Act & Hallevy)	United States / Common Law	Singapore	Vietnam
Legal Recognition of AI	No independent legal personality; AI treated as a regulated technological risk.	AI not recognized as a legal subject; accountability tied to human actors (developers, users).	AI governed through ethics-based and governance frameworks.	Only legal persons and commercial legal entity recognized under Criminal Code
Approach to Criminal Liability	Theoretical models (Hallevy's <i>perpetration-by-another, natural-probable-consequence, direct liability</i>).	Relies on existing doctrines of negligence, intention, and causation.	Focuses on compliance and administrative responsibility.	Purely anthropocentric; AI cannot be an offender.
Policy Orientation	Risk prevention and hybrid accountability mechanisms.	Incremental case-based adaptation.	Soft law and ethical governance.	Future reform could incorporate hybrid liability and preventive regulation.

As shown in above table 1, while most international approaches reject the idea of AI as an independent criminal subject, they increasingly recognize the necessity of assigning accountability within the human-AI interaction chain. In contrast, Vietnam's criminal law remains exclusively human-focused, leaving a gap in addressing AI criminal liability. Therefore, these experiences provide a valuable basis for Vietnam and other developing countries to establish a legal framework tailored to their specific characteristics and technological level. Additionally, building on these comparative insights, it becomes evident that addressing AI-related accountability requires not only regulatory innovation but also a fundamental reconsideration of the scientific and conceptual bases of criminal liability.

IV. AI as a Subject of Criminal Liability on Scientific Arguments

1. *Scientific basis for Determining AI's Criminal Liability*

Traditional law is built on the assumption that only humans are capable of criminal liability, because only humans have moral consciousness, can distinguish right from wrong, and control their behavior. However, in the Criminal Codes of many countries, including Vietnam, a new subject has been added: a legal entity. A legal entity is considered an imaginary entity created by law. So can a non-biological entity, AI, become the subject of a crime?

One of the crucial arguments in defense of the view that AI entities themselves are also criminally liable is put forward by Gabriel Hallevy. In his works, the most

famous of which is the article “Criminal liability of artificial intelligence entities – from science fiction to socio-legal control”, the author has made a valid argument discussing the criminal liability of AI entities. If all the objective and subjective elements of a crime are met, criminal liability can be applied to any entity such as a human, a company, or an AI entity, etc. The rapid development of AI technology necessitates the timely application of existing legal solutions, particularly in criminal law, to safeguard society from potential risks arising from science and technology. Humans, legal entities, or AI entities can cause threats to that social order. According to the previous traditional view, only humans are subjects of criminal law. Although legal entities and companies have existed since the 14th century, it took several centuries for countries to recognise them as subjects of law. Specifically, in 1635, an English court began to hold companies criminally liable. “Legal entities do not have a body and soul⁴⁸. However, with the legal solutions that have been developed in the field of criminal liability, companies are considered to meet both the objective and subjective elements of criminal liability. Models regulating criminal liability for legal entities and companies have been operating in practice and have been very successful. So why should AI entities be different from those companies and corporations? AI entities are increasingly taking up a larger part of human activities. Criminal acts have been committed by AI entities themselves or through the activities of AI entities. Therefore, there is no legal difference between the idea of criminal liability for legal entities, companies and for AI entities”. Although there is much evidence of the existence of “artificial intelligence crimes”, the problem of criminal liability for AI entities is still difficult because AI is an entity that has not been recognized as a legal entity. Current criminal law has criminal liability solutions for legal entities, an entity similar to AI in that it does not have full “human” characteristics, but the relationship between AI and humans is much more complicated. This depends on the type of AI entity (AI capabilities) and its level of development.

2. Proposed Criminal Liability Model for AI Entities

Gabriel Hallevy has based on this scale to synthesize and introduce three models corresponding to the criminal liability approaches to AI entities as follows:

The first model is the Criminal Subject-to-Other Model. This model assumes that AI cannot have human-like characteristics and that AI is considered an innocent agent even if it participates in the commission of a crime⁴⁹. In essence, AI is still just a device created by humans and operated by energy to serve and support

⁴⁸ Hallevy, G. (2010a). The criminal liability of artificial intelligence entities—from science fiction to legal social control. *Akron Intell. Prop. J.*, 4, 171. https://heinonline.org/hol/cgi-bin/get_pdf.cgi?handle=hein.journals/akrintel4§ion=11

⁴⁹ Hallevy, G. (2010b). Virtual criminal responsibility. *Original Law Review, The*, 6(1), 6-27. <https://doi.org/10.2139/ssrn.1835362>

humans in their work, and a person who uses a tool to commit a crime is still considered to have committed the crime by their will. On that basis, this model aims at criminal liability for two subjects: the programmer and the user of AI. Specifically, the person who programs AI software to perform socially dangerous acts using this software must bear criminal liability. As for the user, although not programming the software, but using AI or making changes to AI software for personal purposes to cause this entity to perform socially dangerous acts, must also bear criminal liability.

The second model is the naturally occurring socially dangerous model. This model is based on the notion that the software programmer or user is closely involved in the day-to-day operations of the AI entity but has no intention of committing a crime through this entity. Accordingly, when an AI commits a crime, the programmer and user are unaware of this behavior until it occurs and causes socially dangerous consequences⁵⁰. For example, an AI robot is designed to perform a certain task as programmed (autopilot), however, the pilot who is also controlling the plane intervenes to stop that task (because there is a big storm and wants to turn back) but the robot thinks that the human's actions are a danger that hinders the mission so it attacks and kills this person (cuts off oxygen or attacks) (Trinh Tien Viet, 2020). Thus, the programmer of the AI software that controlled the robot had no intention of harming anyone, especially not the pilot, when he intervened in the AI's work⁵¹. The difference between model 1 and model 2 is that: if in model 1 the programmer or user of AI from the beginning intended to use this entity for criminal purposes, in model 2 they do not want that even though they should have known about the AI's ability to commit crimes. Accordingly, criminal liability will be applied as follows:

- In the first case, the software programmer or user is negligent in programming or using the AI entity and does not intend to commit any crime, then he is not subject to criminal liability if the criminal law does not stipulate that the crime occurred with unintentional error. Here, the user committed a crime with unintentional error due to negligence when performing an act without foreseeing the dangerous consequences for society of that act while he could have known and should have known this in advance.

In the second case, the software programmer or user programmed or used the AI entity to commit a crime, but the AI instead committed a crime other than the subject's intention. This again leads to two consequences:

(1) If the AI acts as an unconscious intermediary, unaware of the nature and

⁵⁰ Kim, D. J. J. (2017). Artificial intelligence and crime: What killer robots could teach about criminal law. *Faculty of Law, Victoria University of Wellington*. <https://ir.wgtn.ac.nz/server/api/core/bitstreams/3e18c8de-a53f-4f73-bfd7-9d1ee2260840/content>

⁵¹ Hallevy, G. (2013). *When robots kill: Artificial intelligence under criminal law*. UPNE. <https://dl.acm.org/doi/abs/10.5555/2530362>

dangerousness of the prohibited act as prescribed by criminal law, the AI entity is not subject to criminal liability for the committed crime, similar to model number 1.

(2) If AI is not simply an unconscious intermediary but also has the ability to perceive, think and make decisions like humans, then in addition to the criminal liability of the programmer and the user, the AI itself must also be directly responsible for the criminal acts it commits. This leads to a new model of criminal liability, in which AI is considered a subject capable of being legally responsible like humans (model number 3).

The third model is the direct model related to criminal liability, which assumes that AI is considered equivalent to humans in both legal capacity and behavioral capacity; in other words, AI at this time does not depend on the software programmer or the user. Thus, this model focuses on the AI entity itself⁵² and the criminal liability will be considered based on objective factors (*actus reus*) and subjective factors (*mens rea*)⁵³, when a subject is proven to have both of these elements and is involved in a specific criminal act, that subject must bear criminal liability for that act.

Although Hallevy's models have presented many cases and have specific arguments and philosophies for each level of AI, these models still encounter shortcomings when operating in practice. First of all, Hallevy's models are not suitable for the practice of AI development, because the process of successfully building an AI entity is extremely complicated, and that process is based on very diverse cooperation⁵⁴. Accordingly, programming an AI requires the coordination of many programmers and this number can be up to thousands of people and each person performs different steps. In fact, applying the criminal liability model to programmers is equivalent to tracing the criminal liability of thousands of people and this is an extremely huge amount of work. Second, the AI code can be an open-source code, meaning that the creator of this source code allows others to change, research and distribute (giving up intellectual property rights)⁵⁵. There are many users of this source code and some of them use it anonymously⁵⁶. Third, there is no

⁵² Frank, S. J. (1987). Tort adjudication and the emergence of artificial intelligence software. *Suffolk UL Rev.*, 21, 623. https://heinonline.org/hol-cgi-bin/get_pdf.cgi?handle=hein.journals/sufflr21§ion=55

⁵³ Hallevy, G. (2013). *When robots kill: Artificial intelligence under criminal law*. UPNE. <https://dl.acm.org/doi/abs/10.5555/2530362>

⁵⁴ Beard, J. M. (2014). Autonomous Weapons and Human Responsibilities. *Georgetown Journal of International Law*, 45, 617. https://heinonline.org/hol-cgi-bin/get_pdf.cgi?handle=hein.journals/geojintl45§ion=25

⁵⁵ Laurent, A. M. S. (2004). *Understanding open source and free software licensing: guide to navigating licensing issues in existing & new software*. " O'Reilly Media, Inc.". https://books.google.com/books?hl=en&lr=&id=04jG7TTLujoC&oi=fnd&pg=PR7&dq=Understanding+Open+Source+and+Free+Software+Licensing&ots=Ajmx3NmhJG&sig=F6B7QIeRbMg_0fby_nSypl-QnHI

⁵⁶ Payne, C. (2002). On the security of open source software. *Information systems journal*, 12(1), 61-78. <https://doi.org/10.1046/j.1365-2575.2002.00118.x>

human-like AI yet, and Hallevy's assumption that technology evolves by applying undeveloped properties to existing objects is not always correct⁵⁷. At the same time, the law always follows technology, making legal regulations ahead of technology will easily lead to inconsistency and unnecessary amendments and supplements⁵⁸.

3. The Applicability of Criminal Liability Models with AI

Thus, Hallevy's models, together with similar existing legal mechanisms, can be seen as a starting point for applying criminal law to future situations. Nevertheless, these models remain largely theoretical models. Therefore, to overcome the challenges of AI crimes, the problem for Vietnamese criminal law is to combine theory and practice through consulting, learning, and absorbing the experiences of countries that have and are having regulations on this new type of crime, thereby finding a direction for Vietnam in the era of technology.⁵⁹ This possibility is not just a theoretical issue but is gradually becoming a practical issue as follows: The risk of causing serious legal consequences without direct human command; The high degree of independent decision making, especially in areas such as healthcare, finance, and transportation; The possibility to self-regulate behavior based on learning, giving rise to the idea that AI has “simulated will”. Some scholars, therefore, recommend a precautionary approach, that is, focusing on risk control, enhancing algorithmic ethics, and limiting the ability of AI to intervene in areas with serious legal consequences, such as criminal justice, public transportation control, or healthcare. Here, a connection is made that an “abstract entity” created by law as a “legal entity” has been recognized by the Criminal Law of many countries, including the Criminal Law of Vietnam as a commercial legal entity that commits a crime. The logic - trend is that a similar recognition will probably also take place soon (the time may be after a few decades, it can also be predicted to be 2062 according to some scientists) for the “AI machine” - an entity also created by humans but increasingly similar to humans, gradually replacing many and all human activities, “transcending” humans in many aspects. The possibility of viewing AI as a subject of criminal liability is a complex topic, raising many ethical, legal and technical questions. Although AI cannot currently be a subject of

⁵⁷ Charney, R. (2015). When Robots Kill: Artificial Intelligence Under the Criminal Law. *University of Toronto Faculty of Law Review*, 73(1), 69-73. <https://go.gale.com/ps/i.do?p=AONE&u=anon~837c8f4c&id=GALE%7CA421909790&v=2.1&it=r&sid=googleScholar&asid=072e9584>

⁵⁸ Moses, L. B. (2007). Recurring dilemmas: The law's race to keep up with technological change. *U. Ill. JL Tech. & Pol'y*, 239. <https://doi.org/10.2139/ssrn.979861>

⁵⁹ Do, V. C., & Pham, N. T. (2025). *Một số mô hình lý luận, kinh nghiệm lập pháp về trách nhiệm hình sự đối với trí tuệ nhân tạo và gợi mở cho Việt Nam*. <https://phapluatphattrien.vn/mot-so-mo-hinh-ly-luan-kinh-nghiem-lap-phap-ve-trach-nhiem-hinh-su-doi-voi-tri-tue-nhan-tao-va-goi-mo-cho-viet-nam-d3886.html>

criminal liability like humans, in the near future we need to build a more flexible legal system that accepts expanded forms of liability, and most importantly, ensures that no one can take advantage of AI to escape the regulation of the law.

V. Several Controversial case Studies on AI's Criminal Liability

While legal theory remains divided on whether artificial intelligence (AI) should be considered a subject of criminal liability, practice continues to present new situations where AI plays a central role in causing legal consequences. These situations, while largely unaddressed by criminal case law, have prompted legislators, scholars, and courts to reconsider the scope of traditional criminal law.

In terms of the first case about the application of AI into daily activities, for instance, the accident of Uber self-driving vehicle in United States. In 2018, the Uber employee who was driving the autonomous car was found solely criminally responsible for the death of Elaine Herzberg after it struck and killed her on a public road in Arizona. Despite evidence of defective car technology and Uber's nonexistent safety culture⁶⁰, the company avoided all criminal liability. Given that lawmakers and courts in Arizona and other states have continuously favored criminal penalties for businesses guilty of negligent manslaughter, this lack of accountability is perplexing⁶¹. The incident has sparked a debate on the subject of whether a car is held liable if it is completely driven by AI, without human oversight, the programmers, or the AI itself. Although the US has not recognized AI as a legal entity, the incident has forced the industry to restructure safety procedures and assign more clearly responsibilities.

Secondly, the case of PEOPLE v. H.K., Defendant. (2020), the Court questioned about the conduct of analyst using tool, for example, AI product, is considered as insufficient condition to arise declarant complied with the requirement to initiate testimony for defendant. It must be pointed out that the parts made by humans, the parts made by programs, must comply with the condition of the clause. The Court examined whether the defendant's right to face his accusers was infringed by the prosecution's inclusion of testimony regarding the analysis of deoxyribonucleic acid (DNA) evidence using the STRmix, as same but not identical, as TrueAllele Casework System (henceforth, "TrueAllele"), a software tool. In the Wakefield case, the producer of so-called AI program plays his role as witness for the conduct of analyst when using the mentioned program to analyze the DNA for the case as affidavit. According to the creator, Perlin, TrueAllele is what is referred to as a

⁶⁰ National Transportation Safety Board (NTSB). (2025). Collision Between Vehicle Controlled by Developmental Automated Driving System and Pedestrian - <https://www.nts.gov/investigations/Pages/HWY18MH010.aspx>

⁶¹ Stamp, H. (2024). The Reckless Tolerance of Unsafe Autonomous Vehicle Testing: Uber's Culpability for the Criminal Offense of Negligent Homicide. *Case W. Res. JL Tech. & Internet*, 15, 37. <https://scholarlycommons.law.case.edu/jolti/vol15/iss1/2>.

"expert system," meaning that in addition to the computations performed, the program is built with a certain amount of artificial intelligence so that it may draw more conclusions when new data becomes available. The Court recognized that due process issues can arise when decisions are made by a software program, rather than by, or at the direction of, the analyst. The program is a tool that performs these analyses much faster than an analyst could. In essence, the software is acting as a highly sophisticated calculator. In contrast to TrueAllele, STRmix is not an "expert system" that relies on artificial intelligence. Under these circumstances, the analyst who utilized STRmix can be meaningfully cross-examined. Therefore, the results from STRmix are not the product of "artificial intelligence" for which the analyst does not have responsibility. The analyst is the declarant, which means the right of defendant is not violated⁶². This case brought a view on the intervention with AI program in criminal proceedings when it comes to the requirement of forensic technique.

In empirical studies, an AI program is understood as content and those so-called forms of AI-related control, including robots, software, applications, self-driving cars, etc, which are considered as the input to the form⁶³. The form with the instruction by those mentioned inputs, including artificial intelligence, is created by human and controlled through human orders, in other words, the operator in general⁶⁴. As mentioned, theories, criminal liability pertains to human who engage in dangerous conduct to society, for the hypothetical case, as a result of AI forms are morally analogous to human self-determination in terms of cognition, volition, and autonomy with their programmed system of flexibility for output decisions. Since then, the AI forms are possible to be held criminal liability for its conduct in theory, however, in practice, it is extremely a challenge to punish when it comes to the legal consequence of criminal liability. Then, the punishment is currently debated on the operator of AI forms. There are two main perspectives about the fault of the operator to identify criminal liability pertaining to mentioned AI forms as follows: (i) the negligence of the provider (so the solution comes to the standard of AI); and (ii) the overcontrol of operator due to the natural intrinsic development of AI-systemized form⁶⁵. In concrete sense, both of these the issues involve the legislation on the technical standards, goals of AI technology usage and degree of the consequence from the violated conduct. Regarding mentioned case analysis, it

⁶² Law, J. (2025). *People v H.K.* <https://law.justia.com/cases/new-york/other-courts/2020/2020-ny-slip-op-50709-u.html>

⁶³ Gless, S., Silverman, E., & Weigend, T. (2016). If robots cause harm, who is to blame? Self-driving cars and criminal liability. *New Criminal Law Review*, 19(3), 412-436. <https://doi.org/10.1525/nclr.2016.19.3.412>

⁶⁴ Smuha, N. A. (2025). Regulation 2024/1689 of the Eur. Parl. & Council of June 13, 2024 (EU Artificial Intelligence Act). *International Legal Materials*, 1-148. <https://doi.org/10.1017/ilm.2024.46>

⁶⁵ Nyholm, S. (2023). A new control problem? Humanoid robots, artificial intelligence, and the value of control. *AI and Ethics*, 3(4), 1229-1239. <https://doi.org/10.1007/s43681-022-00231-y>

is considered that when it comes to the application of the artificial intelligence in terms of conducting illegal action in regional area, the nationwide issues of neighboring countries raise the warning to others on the upcoming unskilled-and-unaware problems to the high-alert technical criminal conduct by AI and modern technology⁶⁶. Thus, Vietnam, as well as other countries, along with their own governments, is in the state of emergent confrontation to the aforementioned phenomenally complicated AI-related issues in the criminal dimension. In the current period, Vietnam faces challenges for the negative effect of AI in the movement to counter and prevent high-tech crime as its application by criminals to commit the crime. 21 people are accused of gambling and money laundering offenses, which is large-scale transnational organized criminal ring uses advanced techniques to carry out its crimes, most notably a novel approach that has never been seen in Vietnam before, the use of artificial intelligence (AI) technology.⁶⁷ Until now, from the viewpoint of AI applications in criminal procedure, AI products are not considered a subject to hold criminal liability. Nevertheless, the mentioned cases given the exponential growth of technologies such as artificial intelligence, to embrace the future, we must assess, and reassess, the constitutional requirements of due process that arise where law and modern science collide. This is not to say that an artificial intelligence-type system could never be a declarant, nor is there little doubt that the report and likelihood ratios at issue were derived through a process of distributed cognition involving both technology and humans. Indeed, similar to many expert reports, the testimonial aspects of the TrueAllele report are formulated through a synergy and distributed cognition continuum between human and machine, but this fact alone does not tip the scale so far as to transform the source code into a declarant". Some common characteristics can be drawn from the above cases:

(i) AI is often not the direct subject of the handling, but the liability is assigned to the programmer, the operating unit or the end user.

(ii) Current legislation is often not specific enough to regulate new behaviors created by AI, especially when AI operates beyond control. Practice in Vietnam demonstrates that legal issues related to AI are no longer theoretical but have been and are currently occurring, resulting in serious consequences in various fields. Although there is no precedent for direct criminal prosecution of AI, the need to build a clear legal framework that is suitable for practice is very urgent. Typical cases serve as the basis for developing a model of responsibility suitable for the

⁶⁶ Wulf, H., & Debiel, T. (2010). Systemic disconnects: Why regional organizations fail to use early warning and response mechanisms. *Global Governance*, 525-547. <https://www.jstor.org/stable/29764965>

⁶⁷ Thai, B. (2025). *Police dismantle large-scale gambling ring using AI for money laundering*. VietnamPlus. <https://en.vietnamplus.vn/police-dismantle-large-scale-gambling-ring-using-ai-for-money-laundering-post320212.vnp>

technological era.

VI. Implications to Improve the Vietnamese law on AI Criminal Liability

Currently in Vietnam, the Criminal Code is the only source of regulations on crimes. Vietnam's Criminal Code does not have any provisions that directly mention AI or address crimes with AI-related elements (such as AI causing damage or automatically committing crimes). The mentioned caselaw raised issues on the legal position of the AI program regarding its activities. Although there are no specific regulations, some current crimes can be indirectly applied in handling acts related to the use of AI such as Using AI to commit fraud, impersonating identity can be handled as the crime of fraudulent misappropriation of property; Using AI to create wrongful, fabricated content, deepfake is a case in point, is conducted as the crime of illegally providing or using information on computer networks and telecommunications; Crime of slander; AI causing consequences in the field of traffic, for example, self-driving cars causing accidents, is considered as the crime of violating regulations on road traffic participation. However, these are acts committed by humans using AI, so humans are the subjects of criminal liability, not AI. Determining criminal liability for damage caused by AI entities is still a new issue in Vietnam, so it is necessary to be cautious in accordance with the development levels of AI, but at the same time, there must be proactive response and prevention of damage caused by AI entities. In the near future, legal liability when AI causes damage will primarily belong to humans (users, programmers, manufacturers, operators, etc.) who are at fault for the damage caused by AI entities) and not to the AI entities themselves. Regarding the abovementioned analysis, at the present period, it is necessary to supplement the legal basis with compliance with the technical requirement as standards for AI-systemised forms, its safety, which stipulates a concrete meaning to support legal ground for the provisions of the Criminal Code.⁶⁸ Therefore, the completion of the legal framework to determine AI as the subject of specific criminal liability is recommended as follows:

Firstly, regarding criminal policy, it is necessary to build a doctrine and a system of viewpoints to explain and interpret a series of issues oriented to the criminal liability of AI entities, and how AI entities are different from legal entities in the prosecution of criminal liability. What are the subject conditions of AI entities based on the new concept of crimes committed by AI entities, etc.? Along with that, the theoretical and practical basis of which types of crimes will AI entities be

⁶⁸ Pouget, H., & Zuhdi, R. (2024). AI and product safety standards under the EU AI Act. <https://carnegieendowment.org/research/2024/03/ai-and-product-safety-standards-under-the-eu-ai-act?lang=en>

subject to criminal liability, the issue of complicity between AI entities and other entities (legal entities, individuals) from which to propose a handling policy and a system of viewpoints when solving this problem and a general system of policies and laws to regulate together⁶⁹.

Second, regarding the Criminal Code, on the basis of the above criminal policy, it is necessary to regulate a series of issues related to crimes and crime composition in the Criminal Code such as: the concept of crime, the characteristic signs in the elements constituting crimes committed by AI entities specified in the Criminal Code, the issue of the subject of crime and conditions of criminal liability, accomplices and criminal liability in accomplices, the system of criminal enforcement measures applied to AI entities in addition to those applied to legal entities and individuals committing crimes.

Third, it is necessary to clearly define the specific groups of crimes that AI products can commit. AI products are a distinct social entity, separate from individuals and legal entities. In essence, some AIs do not exist as physical objects but only as algorithms and software; however, to work more effectively, they are equipped with additional engines, shapes, and other components.

Fourth, to ensure the deterrence and severity of the law, it is necessary to develop appropriate penalties to thoroughly handle cases related to AI products causing damage. Suppose an AI product is subject to criminal liability, prosecuted, tried and convicted. After sentencing, the court must pronounce a penalty for that AI product. So, what penalty will be appropriate for them? For individuals, applying the death penalty is depriving the offender of the right to life, and prescribing the death penalty for AI products can also achieve similar results. For example: destroying robots, deleting AI software in products. After implementing this penalty, the AI entity no longer has the opportunity to commit crimes. Deleting AI will eliminate the independent existence of AI products. After implementing the penalty, AI products are no longer controlled by AI, becoming a mindless machine, no longer able to cause harm to society.⁷⁰

AI is an irreversible trend and has been creating unprecedented legal challenges. To ensure fairness, deterrence, and effective governance in the new era, Vietnam needs to quickly refine its criminal law system towards greater flexibility, prevention, and international cooperation. The legal framework on criminal liability related to AI is not only a legal requirement, but also a manifestation of modern

⁶⁹ Trinh, T. V. (2019). Models of criminal liability of artificial intelligence: from science fiction to prospect for criminal law and policy in Vietnam. *VNU Journal of Science: Legal Studies*, 35(4). <https://doi.org/10.25073/2588-1167/vnuls.4257>.

⁷⁰ Nguyen, K. L., Nguyen, C. V., Tran, D. H. N., & Doan, D. M. (2025). *Trách nhiệm hình sự đối với sản phẩm trí tuệ nhân tạo và khuyến nghị hoàn thiện pháp luật hình sự Việt Nam*. <https://tapchitoaan.vn/trach-nhiem-hinh-su-doi-voi-san-pham-tri-tue-nhan-tao-va-khuyen-nghi-hoan-thien-phap-luat-hinh-su-viet-nam12490.html>

legislative capacity in the digital age. In addition, from a criminological perspective, the issue of AI accountability invites a reconsideration of the foundational purposes of criminal law as most legal theories are grounded in human agency and moral awareness, attributes that artificial intelligence systems, by their nature, do not possess. Consequently, applying established legal principles to AI risks undermining the law's preventive and corrective objectives. Addressing these criminological implications is therefore essential to ensuring that reforms remain both technologically adept and aligned with the broader goals of criminal justice, not only within Vietnam's legal framework but also across global legal systems facing similar challenges.

VII. Conclusion

The article comprehensively surveys contemporary legal concepts of criminal liability in the context of the rapid development of artificial intelligence (AI), and identifies important legal challenges in the future. Through analyzing the concept of criminal liability, the subject of crime, as well as real cases of AI participating in or causing criminal acts, it can be seen that the current legal system, especially traditional criminal law, is still confused when facing non-human entities such as AI. Although some approaches such as assigning responsibility to human operators, expanding the scope of legal liability, or building a separate legal framework for AI have been proposed, all are still in the theoretical testing stage or have limited application. In the future, Vietnam will also need to refine its criminal law to hold AI accountable as a subject of criminal liability, ensuring fairness, deterrence, and effective governance in the new era.

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