

Opportunities for Artificial Intelligence in Implementing the Principle of Distinction under International Humanitarian Law

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Abstract

The growing integration of artificial intelligence into military operations has transformed the processes through which battlefield information is collected, processed, analyzed, and converted into operational decisions. This development has particular significance for the principle of distinction, which requires parties to armed conflicts to differentiate between lawful military targets and civilians, civilian objects, and other protected persons and objects. This article examines the opportunities presented by artificial intelligence for strengthening the practical implementation of this principle within the framework of international humanitarian law. Using a descriptive-analytical legal approach, the study focuses on the capacity of artificial intelligence to process large volumes of operational data, integrate multiple intelligence sources, analyze images and sensor outputs, identify military and behavioral patterns, improve target verification, detect protected persons and objects, and continuously reassess battlefield conditions. The analysis demonstrates that the principal contribution of artificial intelligence to the principle of distinction is epistemic rather than juridical. Artificial intelligence can enhance the informational basis of military decision-making, but technical identification cannot itself be equated with the legal determination that a person or object may lawfully be attacked. The findings further indicate that AI-assisted distinction can potentially reduce erroneous targeting, improve recognition of civilian presence, strengthen precautions in attack, and decrease the risk of harm to protected persons and objects. However, these humanitarian benefits remain conditional upon reliable and context-appropriate data, multi-source verification, continuous testing and reassessment, meaningful human oversight, transparency of decision-making processes, and clear allocation of responsibility. The article concludes that artificial intelligence should be employed as an augmentative decision-support mechanism rather than as a substitute for human legal and contextual judgment. When integrated into a human-supervised and legally accountable targeting process, AI can contribute to more accurate, dynamic, and reliable implementation of the principle of distinction and thereby strengthen humanitarian protection in contemporary armed conflict.

Keywords: Artificial Intelligence; Principle of Distinction; International Humanitarian Law; Armed Conflict; Military Targeting; Civilian Protection; Human Oversight

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1. Introduction

Artificial intelligence has become increasingly significant in contemporary military affairs, not only because it can be integrated into weapons systems, but also because it can transform the processes through which information is collected, analyzed, interpreted, and converted into operational decisions. Modern armed conflicts generate extraordinarily large volumes of information through satellites, unmanned aerial vehicles, surveillance platforms, sensors, communications systems, geospatial databases, and other intelligence sources. Human decision-makers may be required to assess these heterogeneous streams of information within short periods and under conditions characterized by uncertainty, pressure, incomplete knowledge, and rapidly changing circumstances. The growing incorporation of artificial intelligence into military systems must therefore be understood as part of a broader transformation in the nature and conduct of warfare, in which computational technologies increasingly shape situational awareness and operational decision-making (Nourmohammadi & Taghipour, 2025). Artificial intelligence may assist military actors in processing data at speeds and scales beyond ordinary human capacity, detecting patterns across numerous sources, and identifying changes in the operational environment that might otherwise be overlooked. These capabilities have generated considerable interest in whether AI can contribute not merely to military effectiveness but also to more accurate implementation of international humanitarian law. Military uses of artificial intelligence consequently raise a dual question: whether the technology can improve operational performance and whether those improvements can be directed toward strengthening compliance with the legal rules governing the conduct of hostilities (Hosseini, 2024).

Among the fundamental rules implicated by this technological transformation is the principle of distinction. The protection afforded by international humanitarian law depends in substantial part on the ability of parties to armed conflicts to distinguish those persons and objects that may lawfully be targeted from those that remain protected against attack. The principle therefore requires a distinction between combatants and civilians and between military objectives and civilian objects, while also demanding sensitivity to situations in which the legal status of a person may change during the course of hostilities. The principle of distinction has particular significance for military artificial intelligence because identifying a target is not a purely mechanical process. A system may recognize an individual, vehicle, building, weapon, pattern of movement, or other observable feature, but the legal significance attached to that observation depends on applicable rules and the particular circumstances of the operation. Pacholska places the relationship between military AI and the principle of distinction within the broader framework of state responsibility, emphasizing that technological participation in military decision-making does not eliminate the legal obligations governing targeting (Pacholska, 2023). The central challenge is thus to determine how the information-processing capacities of AI can support, rather than displace, the legal and contextual judgment necessary to distinguish lawful targets from protected persons and objects.

The contemporary relevance of this inquiry is increased by the expansion of autonomous and semi-autonomous military technologies. Artificial intelligence can be incorporated into different stages of the targeting process, ranging from surveillance and intelligence analysis to target recognition, prioritization, tracking, and, in some systems, engagement. Autonomous weapon systems have consequently generated debate concerning the extent to which functions traditionally performed by human operators can be delegated to machines. Schmitt and Thurnher examined the implications of taking human operators “out of the loop,” demonstrating that autonomy creates significant questions concerning the application of the law of armed conflict to technologically mediated targeting decisions (Schmitt & Thurnher, 2022). Krishnan similarly addresses the legality and ethical implications of autonomous weapons and highlights the significance of retaining legal constraints when increasingly sophisticated technologies are employed in decisions involving lethal force (Krishnan, 2021). Yet the relationship between AI and distinction should not be framed exclusively through the most controversial question of whether machines should independently select and attack human targets. A broader and potentially more constructive inquiry concerns the extent to which AI can assist human decision-makers before a lethal decision is reached by improving information gathering, identification, verification, and continuous reassessment.

This positive dimension is particularly important because human decision-making is itself subject to substantial limitations. Military personnel may operate under severe temporal pressure, fatigue, stress, fear, information overload, incomplete intelligence, rapidly changing battlefield conditions, and cognitive biases. The assumption that the relevant comparison is

between a fallible machine and an infallible human decision-maker is therefore misleading. Rather, the appropriate inquiry concerns whether combinations of human judgment and artificial intelligence can produce more reliable decisions than either unaided human analysis or inadequately supervised automation. The transformation produced by AI lies partly in the possibility of combining computational capacities with human contextual reasoning. Broader scholarship on the contemporary significance of artificial intelligence has emphasized that AI is changing the relationship between human judgment and technologically mediated decision-making across institutions and societies ([Haliowack & Benjamin, 2022](#)). In armed conflict, however, the stakes of this transformation are exceptionally high. A mistaken classification in commercial or administrative settings may produce serious consequences, but a mistaken military classification may result in an irreversible use of lethal force. The opportunity offered by AI must therefore be evaluated by reference to its capacity to make the targeting process more informed, discriminating, reviewable, and responsive to uncertainty.

The need for such analysis has become more visible through recent armed conflicts in which artificial intelligence and data-intensive targeting practices have attracted international attention. The military use of AI in Gaza has generated significant debate concerning algorithmic target production, human oversight, the scale of targeting processes, and the relationship between technological efficiency and humanitarian protection ([Gusterson, 2024](#)). Broader analysis of military AI in and beyond Gaza likewise illustrates that the central regulatory problem concerns not technology in isolation but the institutional and operational conditions under which algorithmic systems influence decisions concerning the use of force ([Mhajne, 2026](#)). Gray's examination of AI and war in the context of Gaza further demonstrates how contemporary conflicts have intensified concern about the relationship between computational systems, military violence, and the human consequences of increasingly data-driven warfare ([Gray, 2025](#)). These developments do not establish that AI necessarily undermines distinction. They instead demonstrate that the legal evaluation of military AI must remain closely connected to the manner in which systems are designed, trained, integrated into decision-making structures, supervised, and operationally constrained.

The central argument of this article is that the most important opportunity created by artificial intelligence for the principle of distinction is epistemic rather than juridical. AI can potentially improve the information available to those who must make legal and operational determinations, but it should not be treated as independently creating or determining the legal status of persons and objects. The difference between technical identification and legal classification is therefore fundamental. Technical identification concerns questions such as whether a sensor detects a person, whether an image contains a weapon, whether a vehicle corresponds to a known military model, whether a building has displayed recurring military activity, or whether a movement pattern resembles previously observed conduct. Legal classification asks a different question: whether, considering all relevant circumstances and applicable legal rules, the identified person or object may lawfully be attacked at the relevant time. A technologically sophisticated system may perform the first function with considerable accuracy while remaining unable to resolve the second without contextual human judgment. The existing literature on AI and armed conflict similarly emphasizes that technological capability must remain subject to the requirements of international humanitarian law rather than being treated as an independent source of authority ([Talebian Kiaklayeh, 2022](#)).

The objective of this article is therefore to analyze the principal opportunities through which artificial intelligence can contribute to more accurate implementation of the principle of distinction in armed conflict. The analysis focuses specifically on AI-assisted processing of operational information, integration of multiple data sources, image and object recognition, identification of behavioral patterns, recognition of military objectives and protected objects, identification of indicators relevant to the status of persons, target verification, continuous reassessment, and support for precautions in attack. The study adopts a descriptive-analytical legal approach and examines these technological capabilities in relation to the normative requirements of distinction. It does not attempt to argue that AI can guarantee lawful targeting or eliminate the uncertainties inherent in warfare. Rather, it considers the narrower proposition that properly designed and appropriately supervised AI may enhance the factual basis upon which lawful targeting judgments are made. Accordingly, technological effectiveness is evaluated not solely according to computational speed or classification accuracy but according to the extent to which AI can decrease erroneous identification, improve verification, reveal relevant uncertainty, and contribute to decisions that more faithfully preserve the distinction between military targets and protected persons and objects.

This approach also provides a more precise basis for understanding the relationship between artificial intelligence and protection of life during armed conflict. International humanitarian law regulates circumstances in which lethal force may

lawfully be used, but its protective function depends heavily on accurate identification of those who are protected against direct attack. Contemporary scholarship concerning the right to life of combatants demonstrates that the relationship between armed-conflict rules and the protection of human life remains more complex than a simple distinction between persons whose lives legally matter and those whose lives do not ([Rosenzweig, 2024](#)). For civilians and other protected persons, inaccurate classification may directly remove the practical protection that the law is intended to provide. The opportunities associated with AI must consequently be assessed by asking whether technological assistance reduces the probability that a civilian, civilian object, wounded person, surrendering combatant, medical facility, humanitarian site, or other protected person or object will be mistaken for a lawful target. This article proceeds from the proposition that AI has significant potential to strengthen distinction, but that its humanitarian value ultimately depends on its use as an instrument for improving human understanding and legal judgment rather than as an unquestioned substitute for them.

2. The Principle of Distinction and the Legal Relevance of Artificial Intelligence

The principle of distinction occupies a foundational position in the law governing the conduct of hostilities because it determines the basic legal boundary between permissible and impermissible objects of attack. The protection of civilians would be largely ineffective if parties to a conflict were not required to identify the persons and objects against which military force may legitimately be directed. International humanitarian law therefore imposes a continuous obligation to differentiate between persons who may be targeted according to the applicable rules and persons who remain protected, as well as between military objectives and civilian objects. Zamani and colleagues identify distinction among the central principles that must govern the use of new military technologies and emphasize that technological innovation does not displace established humanitarian limitations ([Zamani et al., 2023](#)). The emergence of AI thus does not create an alternative legal framework for targeting. It changes the technological environment in which existing obligations are applied. The question is whether the capabilities of AI can assist parties to armed conflicts in obtaining and evaluating the information necessary to satisfy those obligations more effectively.

Distinction is fundamentally dependent on knowledge. Before an attack can be directed against an object believed to constitute a military objective, there must be a factual basis for identifying that object and assessing its military character. Before an individual is treated as a lawful target, information concerning identity, status, conduct, affiliation, location, and surrounding circumstances may be relevant. The factual environment of contemporary conflicts complicates this assessment. Military and civilian activities may occur in close proximity, particularly in urban warfare; objects may serve both civilian and military functions; individuals may move between contexts; uniforms and other conventional indicators of status may be absent; and the significance of a building or vehicle may change over time. Zabardast's analysis of artificial intelligence in relation to the international law of armed conflict illustrates that the legal consequences of AI depend significantly on the technology's ability to operate within these established distinctions rather than merely to increase military efficiency ([Zabardast, 2023](#)). The informational dimension of the principle is consequently central to evaluating AI: the more reliably a technology improves knowledge concerning the actual status and circumstances of a potential target, the greater its potential contribution to distinction.

This informational dimension is especially apparent in the distinction between recognizing observable characteristics and determining their legal consequences. A computer-vision system might recognize that an individual appears to possess a rifle. That factual observation may be relevant, but it cannot automatically establish that the individual is lawfully targetable. The person could be a member of armed forces engaged in hostilities, but other possibilities may require consideration depending on the factual and legal context. Similarly, recognition software may accurately classify a structure as resembling a military installation, yet its current use may have changed. The inverse problem also exists: an apparently civilian structure may at a particular time be used in a manner that becomes legally relevant to target assessment. The literature on military AI therefore cautions against confusing technological recognition with complete legal judgment. Pacholska's analysis is particularly significant because it connects the operation of military AI with the continuing obligations of states under the principle of distinction rather than treating algorithmic outputs as legally self-validating ([Pacholska, 2023](#)). This distinction between factual identification and legal determination provides the conceptual foundation for understanding AI as a decision-support mechanism.

The status of persons presents even greater difficulty because legal protection can depend on changing circumstances that are not reducible to fixed visual categories. A person previously identified as a combatant may become hors de combat through injury, incapacitation, detention, or surrender. A civilian may lose protection against direct attack under circumstances recognized by the applicable law, while that loss of protection may itself be limited temporally. The battlefield therefore contains dynamic rather than permanently fixed categories. Hosseini emphasizes that the application of AI in military weapons produces emerging challenges precisely because the established law of armed conflict must be implemented within increasingly automated environments (Hosseini, 2024). The challenge is not simply to program a database containing labels such as “civilian” and “combatant.” A legally reliable system would have to assist in recognizing changes in circumstances and provide information that allows decision-makers to reconsider prior classifications. This is one reason why AI’s capacity for continuous monitoring may be more legally valuable than any claim that it can assign permanent status labels to individuals.

The same reasoning applies to civilian objects and military objectives. Objects may acquire or lose operational significance, and their status cannot always be inferred exclusively from appearance. A bridge, communications facility, transport vehicle, warehouse, or other object may have a civilian function while also being relevant to military operations under particular circumstances. Conversely, an object formerly used militarily may no longer retain the factual characteristics that previously informed its classification. The legal assessment is therefore context dependent. Talebian Kiaklayeh’s examination of international humanitarian law and artificial intelligence underscores the necessity of applying AI-enabled military capabilities within the governing legal criteria rather than assuming that automation can autonomously resolve these contextual determinations (Talebian Kiaklayeh, 2022). Artificial intelligence may nevertheless improve the information available for such assessments by comparing multiple sources, tracing changes over time, identifying patterns of use, and alerting decision-makers when current information diverges from earlier intelligence. In this respect, AI can make legal assessment more dynamic without itself becoming the source of the legal conclusion.

The principle of distinction also operates in conjunction with other rules governing the conduct of hostilities. Identification of a lawful military objective does not conclude the legal analysis of an attack. The expected consequences for civilians and civilian objects and the precautions feasible in planning and conducting the operation remain relevant. Artificial intelligence can therefore contribute to distinction in ways that also improve the information needed for the implementation of related humanitarian requirements. Hakimzadeh Khoei’s analysis of AI in armed conflict emphasizes that the legal consequences of military AI must be evaluated across the broader body of humanitarian rules rather than through technological performance alone (Hakimzadeh Khoei, 2022). An AI system that detects civilian movement near a target may strengthen the practical implementation of distinction by confirming civilian presence while simultaneously providing information relevant to precautionary decisions. A system that notices a change in the use of a building may trigger reassessment of both target status and anticipated civilian harm. The principles remain legally distinct, but the same improvement in battlefield information may assist several aspects of lawful operational decision-making.

The legal relevance of artificial intelligence must accordingly be assessed in terms of its ability to enhance situational awareness. AI systems can process data generated by different sensors and platforms and can identify relationships among information that may otherwise remain fragmented. This capability has particular significance when target identification requires corroboration. An observation from an aerial platform may acquire different significance when combined with geolocation data, prior imagery, movement patterns, communications information, and knowledge concerning protected sites. Military transformation associated with artificial intelligence increasingly involves this capacity to integrate data and accelerate the production of operational knowledge (Nourmohammadi & Taghipour, 2025). Yet faster production of information is not automatically equivalent to better application of law. A system may process large volumes of low-quality or misleading data more rapidly than humans could, thereby accelerating rather than correcting error. The legal significance of AI therefore depends on the quality, relevance, currency, and corroborative value of the data incorporated into the assessment.

A related consideration is uncertainty. Traditional decision-making can conceal uncertainty when fragmented intelligence is summarized into a simple recommendation. Properly designed AI systems may create an opportunity to make uncertainty more visible by assigning confidence levels, identifying conflicting evidence, detecting missing information, and distinguishing well-supported classifications from weak inferences. This is particularly important because the principle of distinction requires decision-making in environments where incomplete information is common. Transparency has emerged as a broader concern

in AI-assisted legal decision-making because decision-makers must be able to understand and evaluate the basis of technologically generated recommendations (Hosseini et al., 2023). Although judicial applications and military targeting involve fundamentally different legal contexts, the general concern regarding opacity remains relevant: a recommendation that cannot be meaningfully interrogated may be less useful for lawful judgment even when its statistical performance is high. The opportunity for AI is therefore not merely to generate conclusions but to structure information in a manner that allows humans to examine what supports a conclusion, what contradicts it, and where uncertainty remains.

Artificial intelligence should consequently be conceptualized as part of the evidentiary architecture of distinction. Its strongest legal contribution lies in enhancing the factual foundation from which human operators and commanders apply existing rules. This approach avoids two opposite errors. The first is technological determinism, according to which sufficiently advanced AI could transform legal categories into purely computational classifications and thereby resolve the normative difficulties of targeting. The second is technological rejectionism, according to which the inability of machines to reproduce human legal reasoning deprives AI of meaningful humanitarian value. Neither position adequately captures the more realistic possibility of human-machine complementarity. AI can identify patterns that humans cannot efficiently detect, compare data across temporal and spatial scales, and provide continuous monitoring, while human decision-makers remain necessary to interpret context, apply legal standards, and take responsibility for decisions involving lethal force. The legal significance of AI thus arises precisely from combining technological observation with human judgment. Where this combination improves the reliability of target identification, reveals relevant uncertainty, and supports reassessment when circumstances change, artificial intelligence may materially strengthen the practical implementation of the principle of distinction.

3. Artificial Intelligence as an Instrument for Enhancing Identification and Target Verification

One of the most significant opportunities presented by artificial intelligence is its capacity to process very large volumes of operational data rapidly and simultaneously. Modern military operations may involve data derived from satellite imagery, airborne surveillance, unmanned systems, radar, acoustic sensors, infrared sensors, geographical information systems, communications intelligence, open-source information, and prior intelligence assessments. A human analyst can examine only a limited portion of this material within a given period, whereas AI-assisted systems can search, compare, filter, and classify extensive datasets continuously. The transformation of warfare associated with AI is therefore strongly connected to the capacity to convert high-volume information into operationally usable knowledge (Nourmohammadi & Taghipour, 2025). For the principle of distinction, the value of this capacity is not simply that decisions can be reached more quickly. More importantly, the decision-maker may have access to a broader evidentiary basis before determining whether a person or object constitutes a legitimate target. Where traditional targeting might rely heavily on a small number of intelligence reports, AI-assisted analysis can potentially integrate information from multiple independent sources and highlight areas of agreement or conflict. The resulting opportunity is a move from single-source identification toward multi-source verification.

Data fusion is especially valuable because no individual source necessarily provides a complete account of battlefield reality. Satellite imagery may reveal physical structures but provide limited information about activity inside them. Drone footage may provide more immediate observations but remain constrained by angle, weather, visibility, or field of view. Signals information may suggest communication patterns without establishing the identity or legal status of all persons involved. Historical intelligence may show recurring military use but become outdated when circumstances change. AI can potentially combine these distinct sources and identify correlations that would require extensive human effort to detect manually. Talebian Kiaklayeh describes the expanding relevance of AI to military information processing and decision-making within the framework of international humanitarian law (Talebian Kiaklayeh, 2022). If different sources independently support the same factual conclusion, the reliability of initial identification may increase. Conversely, where sources conflict, a properly designed system can flag the inconsistency rather than obscuring it. This ability to identify disagreement is itself a significant opportunity because it can prevent uncertain information from being converted prematurely into a confident targeting assessment.

Computer vision constitutes another major field in which artificial intelligence may strengthen distinction. AI systems can be trained to recognize objects and observable features across large collections of images and video. In military contexts, such systems may assist in identifying vehicles, weapons, aircraft, artillery, defensive installations, military equipment, particular types of infrastructure, or other features relevant to intelligence assessment. Military AI scholarship has recognized that

automated sensing and target recognition can increase the speed and precision with which information about potential targets is generated (Krishnan, 2021). The humanitarian value of computer vision arises where improved observation helps distinguish military objects from civilian objects more accurately. Instead of relying exclusively on a brief visual assessment by a human operator, AI may compare current imagery with extensive databases, examine frames across time, detect small changes in a location, and identify objects that would be difficult to perceive under conditions of limited visibility. Such capacities can improve the initial factual stage of distinction, particularly when they are used to direct human attention toward information requiring closer examination.

The same technologies can assist in identifying civilian objects and specially protected places. Databases containing geospatial information concerning hospitals, schools, religious sites, humanitarian facilities, residential areas, cultural property, and other civilian infrastructure can potentially be integrated into AI-assisted targeting systems. Before a proposed target proceeds further through the decision process, the system can compare its location against protected-site information and generate alerts where relevant matches or proximity concerns arise. Such a system does not determine the final legal status of the object; rather, it creates an additional verification layer that may reduce the probability that protected infrastructure will be attacked because information concerning its status was overlooked. The general legal literature on AI emphasizes that automated systems should be designed around the rights and interests affected by their operation rather than assessed solely through technical efficiency (Ghoreishi Mohammadi & Faghani, 2026). In a military context, rights-sensitive design would mean incorporating information associated with civilian protection into the architecture of targeting support systems instead of optimizing them exclusively for rapid target acquisition.

Pattern recognition provides a further opportunity. Military activity often becomes identifiable not through a single observation but through repeated patterns over time. AI can analyze movement trajectories, repeated vehicle activity, logistical behavior, deployment patterns, recurring use of locations, changes in infrastructure, or combinations of observable events. Such temporal analysis may contribute to a more robust understanding of whether an object or location is associated with military activity. Artificial intelligence is particularly suited to detecting patterns across datasets too large or complex for continuous human comparison (Haliowack & Benjamin, 2022). In the context of distinction, this enables decision-makers to move beyond isolated snapshots. A building that appears civilian in one image may exhibit a recurring pattern of activity that requires further investigation, while a location previously assessed as militarily significant may cease to display the patterns on which that assessment depended. AI can therefore assist both in identifying potentially relevant activity and in challenging outdated assumptions. Its humanitarian potential lies partly in this capacity to prevent past classifications from becoming permanent simply because no human analyst has had time to reassess them.

Behavioral analysis can also contribute to the identification of persons, although this application demands substantially greater caution. AI may be able to identify patterns of movement, association, equipment, or conduct that are operationally relevant. However, an inferred behavioral pattern cannot itself establish legal targetability. The controversy surrounding algorithmic targeting illustrates the danger of converting associative or probabilistic indicators into assumptions about individual status (Gusterson, 2024). Analysis of military AI in Gaza has similarly raised questions concerning systems that may accelerate target generation on the basis of data-driven correlations (Mhajne, 2026). The genuine opportunity lies not in treating predicted behavior as equivalent to lawful target status, but in using behavioral analysis to identify matters requiring additional verification. If an algorithm detects a pattern associated with military activity, that output can initiate further intelligence collection, comparison with other sources, and human assessment. Used in this restrained manner, behavioral recognition expands the investigative capacity available to decision-makers without collapsing probabilistic inference into legal conclusion.

AI may also improve identification by reducing the effects of information overload. Human analysts can overlook relevant details when required to review thousands of images, hours of video, extensive sensor records, or multiple intelligence reports. Automated systems can prioritize anomalies, organize large datasets, and direct human attention to items likely to require assessment. This is not equivalent to allowing an algorithm to determine the target; rather, it uses automation to allocate scarce human analytical attention more effectively. The broader use of artificial intelligence in legal and decision-making environments has demonstrated the potential of computational tools to manage and analyze complex bodies of information (Balouchfard, 2022). In the military context, such assistance could be particularly valuable when time-sensitive intelligence

must be evaluated rapidly. A system that brings contradictory evidence, newly detected civilian activity, or significant changes in a target area to the attention of a human operator may improve the quality of the final judgment even if the machine itself has no authority to determine legal status.

Perhaps the most important opportunity is the use of AI for target verification rather than merely target discovery. Target discovery asks whether something appears potentially relevant; verification asks whether the accumulated information is sufficient to support continued treatment of the person or object as a legitimate target. AI can support a layered verification process in which an initial detection is compared with independent information, historical patterns, updated imagery, protected-site databases, evidence of civilian presence, and temporal changes. Pacholska's treatment of military AI and distinction supports the importance of embedding technological functions within continuing state responsibility for compliance with the applicable law (Pacholska, 2023). This approach is more protective than a system designed primarily to maximize the number of targets generated. A legally oriented AI architecture would instead prioritize the quality of verification, including the capacity to identify cases in which available information is insufficient. In other words, the system should be valuable not only when it produces a confident match but also when it indicates that confidence is not warranted.

Continuous reassessment is closely connected to verification. A target assessment may be accurate at one point and inaccurate later because people move, functions change, civilians enter an area, a combatant surrenders, a person becomes incapacitated, a military unit relocates, or new intelligence undermines a previous assumption. AI can continuously compare new information with prior assessments and alert decision-makers when significant changes occur. This capability is particularly important in modern warfare because the interval between target identification and attack can itself produce material changes in circumstances. Hosseini's examination of AI in military weapons highlights the dynamic legal problems created when advanced technologies become involved in target-related functions (Hosseini, 2024). A system capable of real-time or near-real-time reassessment could help prevent an attack from proceeding solely on the basis of information that was accurate hours or days earlier. The technology can thus transform target verification from a discrete event into an ongoing process.

Artificial intelligence can additionally assist in detecting persons who may be protected against attack. This possibility should be framed in terms of recognizing indicators rather than determining status autonomously. Computer vision and multimodal sensing may potentially detect wounded persons, medical markings, gestures associated with surrender, absence or presence of weapons, civilian concentrations, humanitarian vehicles, or other observable features relevant to human assessment. The legal complexity of autonomous weapons makes it inappropriate to presume that recognition of a feature is sufficient for a lawful lethal decision (Schmitt & Thurnher, 2022). Nevertheless, the capacity to generate protective alerts can have significant humanitarian value. A system that identifies a possible surrender gesture and requires human review before an attack proceeds provides an additional protection that may not exist where an operator fails to notice the gesture. Similarly, a system that detects the sudden presence of civilians near a previously verified target may provide information capable of preventing an otherwise avoidable attack.

The technological opportunities associated with identification therefore culminate in a broader model of AI-assisted distinction based on information enrichment rather than decision replacement. AI can collect and integrate data, recognize objects, analyze images, detect patterns, prioritize anomalies, identify conflicting evidence, support corroboration, continuously update assessments, and generate warnings when protected persons or objects may be present. None of these functions requires the premise that an algorithm possesses independent legal judgment. Rather, their combined effect can improve the informational conditions under which human judgment is exercised. The legal consequences of military AI remain tied to human and state responsibility, even where technological systems become deeply integrated into military operations (Hakimzadeh Khoei, 2022). The principal opportunity is therefore not the creation of a machine that independently decides who may live or die, but the creation of decision-support systems that reduce informational blindness, expose uncertainty, facilitate verification, and make it more difficult for a mistaken initial classification to proceed unchecked toward an irreversible use of force.

4. Humanitarian Value and Conditions for Responsible AI-Assisted Distinction

The humanitarian significance of improved distinction is most directly visible in the possibility of reducing erroneous attacks. An erroneous attack may originate in mistaken identity, outdated intelligence, incomplete information, confusion between similar objects, failure to detect civilian presence, reliance on an unreliable source, or the continued use of a classification after circumstances have changed. AI cannot eliminate these possibilities, but it can create additional mechanisms through which mistakes are detected before an attack occurs. The ability to compare independent information sources, identify inconsistencies, monitor changes, and require further review where confidence is low can strengthen target-verification processes. The significance of such mechanisms should be measured in substantive rather than purely technological terms. A system that achieves impressive processing speed but does not reduce wrongful identification provides limited humanitarian benefit. By contrast, even a relatively narrow AI capability may be valuable if it demonstrably decreases the probability that a civilian person or object is mistaken for a military target. The legal literature concerning new military technologies repeatedly stresses that technological advances must remain evaluated according to their compatibility with humanitarian principles rather than operational sophistication alone (Zamani et al., 2023).

Improved distinction may also reduce incidental civilian harm by producing more accurate information concerning the human environment surrounding a military objective. Distinction and proportionality remain separate legal principles, but improved identification can affect both. AI-supported surveillance may detect civilian movement into or away from a target area, identify changes in patterns of civilian activity, or estimate whether a location is more densely populated at particular times. Such information could influence decisions concerning when, how, or whether to conduct an attack. The increasing military use of artificial intelligence has made the relationship between technological precision and the changing nature of war especially significant (Nourmohammadi & Taghipour, 2025). Precision should, however, be understood more broadly than the physical accuracy with which a munition strikes coordinates. A weapon may precisely strike the wrong target. Humanitarian precision requires accurate identification, reliable intelligence, continuous verification, and consideration of civilian presence. AI offers an opportunity to improve these informational dimensions of precision and thereby reduce the risk that technically accurate force produces legally or humanitarily unacceptable consequences.

The principle of precautions in attack provides a particularly important context in which AI-assisted information can have protective effects. Effective precautions depend on the ability to obtain and reassess relevant information before and during an operation. AI may assist decision-makers by providing updated data, comparing alternative scenarios, detecting civilians near proposed targets, identifying uncertainty concerning target status, or generating warnings when new information conflicts with an earlier assessment. The legal consequences of AI-enabled military systems are therefore inseparable from the way technological information is incorporated into operational planning (Hosseini, 2024). The most promising model is one in which AI expands the range of information considered before lethal force is used. A system could, for example, alert an operator that a building identified in earlier intelligence is located close to a medical facility, that civilian movement around the area has recently increased, or that the pattern of activity on which the original military assessment was based is no longer detectable. The significance of such information lies not in machine authority but in its capacity to trigger renewed human scrutiny.

The protection of persons whose status changes during hostilities provides another important illustration. A combatant may become wounded, incapacitated, detained, or surrender. A civilian's conduct may also require contextual evaluation at a particular time. Static target databases are poorly suited to circumstances in which legal protection can change dynamically. Artificial intelligence, when connected to updated sensors and intelligence sources, may offer a mechanism for identifying indications that a previous classification should be reconsidered. Rosenzweig's analysis of the right to life of combatants illustrates the broader legal significance of carefully examining the conditions under which lethal force is directed against persons in armed conflict (Rosenzweig, 2024). AI cannot independently determine the legal consequences of surrender, incapacitation, or other changes, but it may be capable of identifying observable indications that require immediate review. A protective system would therefore be designed not only to identify potential targets but also to identify reasons not to attack them. This orientation is central to converting AI from an instrument of operational acceleration into an instrument that may contribute to humanitarian restraint.

The same logic applies to civilian objects and protected sites. AI-enabled systems can incorporate continually updated geographical and operational databases and use them to identify possible conflicts between proposed targets and information

concerning hospitals, schools, religious sites, cultural property, humanitarian facilities, shelters, residential concentrations, or other protected locations. Such integration can provide an automated layer of caution within the targeting process. Contemporary human-rights analysis of AI emphasizes that the risks associated with automated systems require legal safeguards designed around the interests potentially affected by algorithmic decisions (Ghoreishi Mohammadi & Faghani, 2026). In military applications, the affected interest may be physical survival. The system architecture should therefore be designed not merely to find objects matching military signatures but also to search actively for evidence that may contradict a targeting hypothesis. An AI system that searches only for confirming evidence can reinforce error, whereas one designed to search for disconfirming and protective indicators may strengthen the principle of distinction.

Realizing these opportunities depends fundamentally on data quality. Artificial intelligence does not perceive the battlefield independently of data; it constructs a representation of the environment from the information available to it. If that information is incomplete, outdated, unrepresentative, incorrectly labeled, or distorted, the resulting analysis may be technically consistent while factually unreliable. The broader governance literature recognizes data quality and institutional responsibility as essential dimensions of trustworthy AI (Mahmoudi et al., 2024). Institutional mapping and data-driven governance likewise emphasize that responsibility for information cannot be separated from the structures through which data are collected, processed, exchanged, and used (Mehraban & Akbari, 2023). In military targeting, these concerns acquire direct humanitarian importance. The reliability of an algorithmic recommendation may depend not only on the software developer but also on intelligence collectors, data managers, analysts, system operators, and commanders. Consequently, the opportunity to use AI for improved distinction can be realized only where the entire information chain is subject to quality control, updating, verification, and clearly assigned responsibility.

Human oversight is another indispensable condition. Meaningful human participation should not consist of automatically approving algorithmic recommendations. A human operator must have sufficient knowledge of the system's capabilities and limitations, enough information to understand the basis of its output, sufficient time to examine relevant uncertainty, and genuine authority to reject or modify the recommendation. The problems associated with transparency in AI-supported legal decision-making illustrate the wider importance of ensuring that technological outputs remain interpretable and reviewable by responsible human actors (Hosseini et al., 2023). Military decisions involving lethal force make this requirement even more consequential. Human oversight should operate as a substantive analytical safeguard rather than a ceremonial final click. If an interface presents an algorithmic recommendation as highly authoritative while concealing the quality of underlying data, conflicting evidence, or the circumstances in which the model tends to fail, the human decision-maker may become vulnerable to automation bias. The opportunity for AI to improve distinction therefore depends on interface and process design that encourages critical human evaluation rather than passive reliance.

Clear responsibility must accompany human oversight. AI may complicate the chain of military decision-making because many actors can contribute to the eventual output: developers design the system, data specialists construct training datasets, intelligence agencies provide operational information, technical units maintain the model, analysts interpret outputs, commanders determine operational use, and individual personnel may authorize or implement action. This complexity cannot be allowed to dissolve legal responsibility. Discussions of criminal and civil responsibility for artificial intelligence demonstrate the broader difficulty of assigning responsibility when harms emerge from interactions between human actors and computational systems (Ghavami Pour Sereshkeh & Mahmoudi, 2025). Questions of civil liability arising from AI similarly illustrate why technological complexity should not become a justification for responsibility gaps (Zakirinia, 2023). In military settings, the principle should remain that AI is an instrument embedded within human and institutional structures. The more important the system becomes to target identification, the more clearly responsibility should be allocated for selecting data, validating performance, determining appropriate conditions of use, interpreting outputs, and making the final operational decision.

Continuous testing and post-deployment review are equally necessary because AI performance is context dependent. A system that performs well during development or controlled testing may encounter substantially different conditions during actual hostilities. Environmental conditions may change, adversaries may alter tactics, data distributions may shift, sensors may degrade, and the types of objects or conduct encountered may differ from those represented in training materials. A single initial certification cannot therefore establish permanent reliability. The regulation of military AI increasingly requires attention

to the entire lifecycle of a system rather than only the moment at which it is first introduced into service (Mhajne, 2026). In the context of distinction, post-deployment review should examine whether the system actually reduces misidentification, where errors occur, whether particular environments generate disproportionate false classifications, how often humans override recommendations, and whether new operational conditions require modification or suspension. A system that cannot be monitored and corrected after deployment may transform recurring technical weakness into recurring humanitarian harm.

The opportunities associated with AI also depend on preserving a meaningful distinction between algorithmic accuracy and legal reliability. A system might achieve a very high statistical classification rate and still be inappropriate for particular lethal decisions. Aggregate accuracy can conceal the distribution of errors, and the legal significance of different errors is not necessarily equal. Misclassifying an ordinary civilian object as military may have consequences radically different from misclassifying one military vehicle model as another. Legal reliability therefore requires a broader inquiry into how errors interact with actual targeting decisions. Research on autonomous weapons has long emphasized that technical performance must be assessed in relation to the legal environment in which a weapon is used (Krishnan, 2021). The opportunity created by high-performing AI should accordingly be understood as conditional. Technical accuracy is valuable because it can improve evidence, but the appropriate legal benchmark remains whether the use of the technology enables decision-makers to apply the principle of distinction more reliably in the specific environment for which the system is intended.

These conditions demonstrate that AI's humanitarian potential does not depend on maximal automation. In fact, systems designed around assistance, verification, warning, and reassessment may offer greater humanitarian value than systems optimized to minimize human involvement. The critical measure is whether technology improves the quality of the decision process. Properly integrated AI can provide information more rapidly than unaided humans, compare sources continuously, identify overlooked civilian indicators, detect changes in circumstances, and expose uncertainty before a decision becomes irreversible. The technology can thereby create additional opportunities to stop, delay, reconsider, or modify an attack. Such functions are fully consistent with understanding AI as an aid to legal compliance rather than an autonomous source of legal judgment. Artificial intelligence can therefore strengthen the implementation of distinction when technological architecture, operational procedures, data governance, human oversight, and accountability are all directed toward the same objective: improving the reliability with which protected persons and objects are separated from lawful military targets.

5. Conclusion

Artificial intelligence creates significant opportunities for strengthening the implementation of the principle of distinction, but those opportunities are most accurately understood as improvements in the informational and analytical conditions under which military decisions are made. The fundamental contribution of AI does not lie in creating new legal categories or independently deciding who or what may lawfully be attacked. The law continues to determine the relevant categories and obligations. AI instead offers capabilities that can assist military decision-makers in observing the battlefield more comprehensively, processing information more rapidly, identifying patterns that may escape unaided human analysis, and continuously reassessing factual assumptions on which targeting decisions depend. Its most defensible role is therefore augmentative rather than substitutive.

The analysis demonstrates that the practical implementation of distinction is inherently information intensive. Distinguishing civilians from persons who may lawfully be targeted, civilian objects from military objectives, and protected persons and places from legitimate targets requires more than the recognition of isolated visual characteristics. It requires the examination of identity, conduct, location, use, purpose, temporal changes, surrounding circumstances, and information from multiple sources. Artificial intelligence may improve this process because it can integrate sensor data, imagery, geospatial information, intelligence records, movement patterns, and other operational data at scales that would be difficult for human analysts to manage continuously. Where these capabilities are used to broaden and strengthen the evidentiary basis of human judgment, they can increase the probability that targeting decisions reflect the actual circumstances existing at the relevant time.

A central conclusion of the article is that technical identification and legal determination must remain conceptually distinct. Recognition of a weapon, military vehicle, uniform, building type, behavioral pattern, or other observable feature can provide legally relevant evidence, but no single technical classification necessarily determines legal status. The same principle applies to sophisticated probabilistic assessments. An algorithm may conclude that a person or object strongly resembles patterns

associated with military activity, yet lawful targeting requires an evaluation of the totality of relevant circumstances. The legal value of AI therefore arises not from converting probability into authority but from providing human decision-makers with more complete, timely, and structured information through which they can conduct the necessary legal and operational assessment.

The greatest technological opportunities identified in this study include large-scale data processing, multi-source intelligence fusion, automated image and object analysis, recognition of recurring military patterns, detection of changes in target behavior or use, continuous monitoring, and rapid comparison between proposed targets and information concerning civilians and protected sites. These capabilities can also strengthen verification. Instead of allowing an initial detection to become an unquestioned targeting conclusion, AI can support a process in which information is repeatedly compared, updated, corroborated, and challenged. The technology may be particularly valuable when it identifies contradictory evidence or uncertainty. A system that can indicate that the available information is insufficient may protect civilians as effectively as one that successfully identifies a military objective.

Continuous reassessment is particularly important because distinction is not a static classification exercise. Battlefield circumstances change, and legal protection may change with them. Civilians move into and out of areas, the use of buildings changes, military units relocate, individuals surrender, combatants become incapacitated, and information that was reliable at an earlier time may become obsolete. AI-assisted monitoring can potentially detect these changes and prompt renewed verification before force is used. The humanitarian value of such systems lies in ensuring that a targeting decision remains connected to current reality rather than to an outdated data point. This makes AI particularly suitable for supporting a conception of distinction as an ongoing process extending from initial identification through the final moments before an attack.

The relationship between enhanced distinction and humanitarian protection is consequently direct. More reliable target identification can reduce erroneous attacks. Better detection of civilian presence can improve the information available for precautionary decisions. Recognition of protected locations can generate warnings before an operation proceeds. Improved monitoring can reveal changes that require cancellation, delay, or modification of an attack. These benefits should not be measured by technological sophistication alone. The relevant measure of success is whether a system actually reduces the risk that protected persons and objects will be exposed to force because of mistaken, incomplete, outdated, or insufficiently verified information.

At the same time, the positive effects of AI are conditional rather than automatic. High computational performance cannot compensate for unreliable data, inappropriate training conditions, poorly designed interfaces, lack of human competence, or institutional arrangements that encourage uncritical reliance on algorithmic recommendations. Technical accuracy must therefore be distinguished from legal reliability. A system may perform exceptionally well on a controlled dataset but remain unsuitable for a complex urban battlefield. Reliability must be evaluated in relation to the actual environment of use, the types of errors that can occur, the consequences of those errors, and the ability of human decision-makers to detect and correct them.

Human oversight remains fundamental to converting technical capacity into lawful decision support. Effective oversight requires more than the nominal presence of a person in the decision chain. Human operators must understand the capabilities and limitations of the system, have access to relevant information concerning uncertainty, possess sufficient time and authority to evaluate the output, and remain able to reject or modify algorithmic recommendations. The final decision must remain capable of being understood, reviewed, and attributed to responsible human and institutional actors. Artificial intelligence should provide reasons for greater scrutiny where uncertainty exists rather than create pressure to defer automatically to computational output.

Responsible use also requires traceability, continuing evaluation, and clear allocation of responsibility throughout the lifecycle of AI systems. Data collection, model development, testing, operational deployment, interpretation of outputs, and final military decisions may involve different actors, but technological complexity cannot justify the disappearance of accountability. Systems influencing lethal decisions should be continuously assessed under realistic conditions, and their performance should be reviewed after deployment. Recurrent errors must produce correction, restriction, or suspension rather than simply being absorbed as unavoidable technological imperfections. The ultimate objective of evaluation should be preventive: identifying weaknesses before they repeatedly produce irreversible human consequences.

The article therefore concludes that artificial intelligence can make a substantial contribution to the principle of distinction when its role is defined correctly. The most promising future is not one in which machines independently replace human legal

judgment, but one in which artificial intelligence expands the capacity of human decision-makers to know more, verify more carefully, detect uncertainty earlier, and reconsider decisions when circumstances change. In this model, AI becomes an instrument of informational discipline within the targeting process. Its speed is valuable because it permits faster verification, its scale is valuable because it permits broader analysis, and its pattern-recognition capabilities are valuable because they can reveal information that might otherwise remain unnoticed. None of these capacities independently authorizes force.

The decisive criterion should therefore be whether the deployment of artificial intelligence measurably strengthens the distinction between lawful military targets and protected persons and objects. Where AI merely accelerates target production, its technological efficiency offers no inherent humanitarian advantage. Where it increases the accuracy of observation, strengthens corroboration, exposes conflicting evidence, identifies civilian presence, supports continuing reassessment, and preserves meaningful human judgment, it can materially enhance the practical implementation of international humanitarian law. The opportunity presented by artificial intelligence ultimately lies not in automating the legal decision to take life, but in improving the quality of the knowledge, verification, restraint, and accountability that precede such a decision. Properly situated within that framework, AI can serve as a complementary tool for more precise distinction and stronger humanitarian protection in contemporary armed conflict.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

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Conflict of Interest

The authors report no conflict of interest.

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