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Eyes in the Sky: Exploring the Intersection of Drone Technology, Artificial Intelligence, and International Humanitarian Law

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Abstract: *The advent of drone technology powered by Artificial Intelligence (AI) has revolutionized modern warfare, offering precision targeting, enhanced surveillance, and reduced risks to human soldiers. However, the integration of AI into drones has also introduced complex ethical, legal, and humanitarian dilemmas within the framework of International Humanitarian Law (IHL). Although promising for reducing civilian damage and operational efficiency, these technologies simultaneously threaten foundational IHL principles of distinction, proportionality, and necessity. This paper examines critically the dynamic evolution of drone technology, AI, and IHL, unveiling its potential as well as its pitfalls.The core research problem that this paper analyzes involves the inability of the available IHL frameworks to adequately guide or regulate the use of AI-enabled drones in armed conflicts. These machines involve autonomous decision-making capabilities that are a cause for concern regarding accountability, compliance with humanitarian norms, and erosion of more ethical warfare practices. The objectives of the study include analyzing the legal gaps in regulating AI-driven drones, evaluating their impact on civilian protection during armed conflicts, and exploring mechanisms to reconcile technological advancements with humanitarian imperatives.*

Through an in-depth analysis of case studies, this paper highlights the growing risks of civilian casualties and misuse of drone technology in asymmetric warfare. It discusses the issues arising from the delegation of lethal decisions to algorithms, such as accountability for errors, unpredictability in AI systems, and the difficulty of ensuring compliance with international norms. The study also looks into emerging global trends, such as state practices and international efforts to develop legal frameworks governing the use of AI in warfare.In conclusion, this paper argues for the necessity of IHL modernization due to the unique challenges that AI-powered drones pose. It calls for an interdisciplinary approach toward technological innovation, ethical considerations, and international cooperation to establish a robust regulatory framework. It is designed in such a way as to ensure that the use of AI in warfare aligns itself with humanitarian principles, safeguards human rights, and promotes accountability in the ever-evolving landscape of armed conflict..

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