Land Forces Academy Review
Vol. XXXI, No. 1(121), 2026

ASPECTS THROUGH WHICH THE EXPERIENCE OF THE WAR IN UKRAINE COULD EXPAND THE USE OF ARTIFICIAL INTELLIGENCE IN OTHER SOCIAL FIELDS

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ABSTRACT

The need to win a war dictates significant innovations and advances in the technological field, which then leads to fundamental changes in other areas of social life. This being the hypothesis of this research, in an increasingly complex operational environment (military conflict), characterized by uncertainty and low predictability, such as the one in Ukraine, artificial intelligence (AI) can represent a viable solution for multiplying the combat power of combat forces and for achieving competitive advantage in the confrontation spaces. The influence of AI is constantly expanding, developing useful applications in numerous areas of military confrontation, surveillance based on intelligent sensors, decision-making support, integration of autonomous vehicles (drones, land or naval autonomous systems and machines), analysis of data from the battle space and complex simulations for the preparation of military forces. Starting from these aspects, recent developments in AI technologies will be analyzed and highlighted to emphasize their potential for redefining civilian capabilities in some areas, for the benefit of people.

KEYWORDS: Artificial Intelligence (AI), Russian-Ukrainian conflict, operational environment, dual use, AI potential

**Submission received: 19 November 2025; Revised: 30 January 2026;
Accepted: 02 February 2026; Published: March 2026**

1. Introduction

Many of the technologies and innovations developed during the wars fought over time were later useful for various civilian activities. The First World War brought the tanks on tracks. These, designed for moving combat vehicles on difficult terrain, also became useful for civilian equipment (tractors, excavators, bulldozers). The first research and combat aircraft led to the emergence of civil aviation and commercial flights.

Some of the innovations from the Second World War (WWII), their applicability and an estimate of the impact they had in the civilian field are presented in Table no. 1. The following criteria were used to estimate the impact: the scale of adoption of the technology for the civilian field, sustainability (the technology continued to be relevant and evolves over time), economic influence, transformations brought to people's lives, the subsequent scientific and technological effect.

DOI: 10.2478/raft-2026-0010
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Table no. 1

The implications of the technological innovations of the WWII in other fields

Field	Innovations developed during WWII	Civilian applications after the WWII	Impact estimation
Technology and communication	radar, electronic computer (ENIAC), cryptography, radio frequencies	air traffic control, meteorology, commercial computers, internet, telecommunications	very high
Transport and aviation	jet engines, cabin pressurization, V2 rockets	commercial jet aircraft, rapid transport, space exploration	very high
Medicine	penicillin, preserved blood, reconstructive surgery, rationalized nutrition	antibiotics, transfusion systems, reconstructive treatments, plastic surgery	very high
Materials and chemistry	plastic (nylon), teflon, improved aluminum, synthetic rubber	automobiles, textiles, construction, non-stick cookware	high
Energy and science	nuclear technology, applied physics research	nuclear energy, nuclear medicine, radiotherapy	high
Cartography and navigation	aerial photogrammetry, guidance systems	modern mapping, GPS, drones, topography	high
Food and logistics	canned foods, compact rations, packaging methods	food industry, canning, military and civilian catering	medium

(Source: Author-generated)

Consequently, information technology and Artificial Intelligence (AI) represent contemporary technologies with a significant impact on the military environment. They are being experimented and developed in the conflict in Ukraine and in other current military confrontations, which would lead to the idea that, in the future, the civilian environment could benefit from the known evolution of these emerging technologies. Observing the substantial technological transformations in current conflicts, the role of artificial intelligence is defining in all military actions, from the data collected by intelligent sensors, to the maneuvering of weapons systems (land, air, naval, etc.) and to decision-making support. It is also very important to monitor the impact of artificial intelligence on each of the seven combat functions: command and control, information, fire support, maneuver, protection, information activities and logistical support. Combat functions should reinforce and complement one another, therefore their integration is imperative through AI. AI has the ability to bring intelligent sensors, improved kinetic and non-kinetic systems, and more effective deception techniques to the modern combat system. AI is not a stand-alone system, but rather works in cooperation with numerous other digital technologies, contributing to a superior form of knowledge.

2. Methodology

One can agree with the fact that modern warfare is shaped by newly designed military technologies, tested and used precisely for this purpose. The present research aims to identify and highlight how the AI implemented in military conflict systems and processes has changed the methods of action and the strategies for leading forces, and what elements can be taken over and used successfully in the civilian field.

This article analyzes the hypothesis by which the desire to win a war (the desire for survival of a nation) forces scientific research, determines technological innovations in the military field, which then leads to fundamental technological transformations in many other areas of social life.

In order to develop this idea and to provide a more documented perspective, we used qualitative content analysis as a research method, both in terms of the concept of Artificial Intelligence (AI), and in terms of the transformations in the current operational environment with dual, military and civilian implications. To estimate the impact of the innovations developed during the Second World War on civilian areas, we used qualitative multi-criteria and historical analysis. These methods involved defining and applying evaluation criteria (scale of adoption, sustainability, economic impact, lifestyle transformation and scientific chain effect), which allowed the comparison and determination of the importance of each technology. Also, the data collection methods for the research were diversified, from studying specialized documents to case studies, involving extensive, but also in-depth analyses, from the country and abroad. The methods and techniques of information processing involved critical evaluation of documentation sources, organization and systematization of information from the perspective of the subject addressed, correlation of the data resulting from documentation, and identification of casual relationships between different variables, depending on the intended purpose.

3. The Use of AI in the Military and in the Russian-Ukrainian Conflict

The increasing applicability of artificial intelligence in the military field, as well as in ongoing military conflicts, has changed the way in which armed forces adapt their methods/concepts of operation. Emerging technologies such as autonomous military systems (such as drones) and AI are increasingly relevant. Including in NATO, "*the evolving nature of risks and threats challenge the Alliance requiring changes in the character of military operations and warfare*" (Cuccia, 2010).

In the current geopolitical context, it is essential to realize that the modernization of armies is based on the integration of innovation, advanced technology, information and knowledge. Military specialists expect modern autonomous systems and artificial intelligence to be essential in future armed conflicts. This is already visible in the Russian-Ukrainian conflict, where the structure of the Ukrainian Army has changed, introducing the "*Drone Forces*", which complement the other categories of forces: air, naval, land. According to the Deputy Minister of Digital Transformation in Ukraine, this country has tested an operational concept that will allow reducing the number of people in the combat troops due to the use of robotic systems such as: "*unmanned combat systems, robotic demining systems, Electronic Warfare (EW) equipment and other smart devices*" (Dumitrache, 2024). Given the experience of using autonomous technology in the military conflict in Ukraine, there is the possibility of exploiting experiences and lessons learned in which AI has proven its usefulness.

Intelligence gathering, surveillance and reconnaissance in military operations is one area where AI is making a contribution. Military research on the battle space brings together large data sets, including text documents, images and videos, electronic intercepts and other diverse information from open sources (Burt, 2021). AI algorithms, especially machine learning models, can efficiently select this data, identifying patterns, trends and anomalies. Machine learning algorithms, such as natural language processing and computer science, are useful applications in processing information about the operational environment, vital in conducting military actions. Artificial intelligence excels in making predictions based on the patterns and the trends in existing data, and information analysis plays a crucial role in military decision-making at all hierarchical levels.

AI in *Unmanned Aerial System* (UAS) operations is used within the "autopilot" system to stabilize the aircraft

and assist the navigation system. Also, in UAS detection systems, AI is used for: detecting objects in real time, tracking moving objects, image recognition (autonomously recognizes objects or patterns of interest – friend vs. foe), autonomous flight, etc. (Jain, et al., 2021). Improving systems also involves avoiding collisions with objects in the air or on the ground, and in this sense, AI is used in UASs for: flight planning, connection to the GPS global positioning system, detecting and avoiding obstacles using LiDAR (Light Detection and Ranging) systems, developing augmented video cameras, as well as communication and coordination between multiple UASs (Chhikara et al, 2020). The development of the concept of swarming warfare (Rațiu, 2016) has also been implemented in the conduct of autonomous UAS actions (Vladislav, 2025). Advanced artificial intelligence and machine learning algorithms are used for the purpose of communication and interaction between groups of UAS, as well as for their synchronization when carrying out attacks/actions.

In *electronic warfare operations*, for electronic reconnaissance, electronic protection and electromagnetic spectrum control, the exploitation of Electronic Warfare (EW) systems was traditionally carried out by humans/military personnel. In the digital age, the battle space is flooded with an overwhelming amount of information from various sources, such as communication networks, radar systems, satellites, drones and many other electronic devices. And because humans do not have the ability to analyze all of this in a timely manner, AI algorithms can process this data much faster, to determine actionable models in support of decision-making, but especially to identify threats that could escape the analysis of human operators. This capability not only increases the accuracy of threat detection, but also significantly reduces response times, giving forces a significant advantage, perhaps decisive in rapidly evolving situations (Thompson, 2023).

Military operations conducted in *urban environments* represent one of the greatest challenges military forces currently face. Military operations are conducted in areas where the presence of civilians is constant, where there are numerous elements of infrastructure, and various threats and operational limitations have a major influence on the conduct of urban hostilities. Regarding urban combat, it is important to bring case studies and experience from other current confrontations, such as those in the Middle East. Israel has integrated a wide range of artificial intelligence applications in the military. These include ISR (Intelligence, Surveillance, and Reconnaissance) platforms, missile defense systems, C4I (Command, Control, Communications, Computers, and Information) platforms, cyber security, maintenance, etc. A very good example of the use of AI technologies in military operations in urban environments is Guardian of the Walls, an operation conducted in 2021 in response to rocket attacks launched by Hamas. On the other hand, the Israel Defense Forces (IDF) approach to urban combat includes not only various military vehicles or sensor systems, but also the implementation of the AI-based "connected soldier" concept, "*ensuring real-time data analysis flowing from the fielded infantry for informed command decisions*" (Tekin, 2024). The connected soldier concept involves integrating advanced digital technologies into the combat gear of military personnel, aiming to enhance situational awareness, communication, and enable real-time data analysis on the battlefield. It involves equipping soldiers with wearable sensors, augmented reality interfaces, and portable communication devices, thereby facilitating a flow of critical information between soldiers and command.

As unmanned aerial vehicles and sensor-based technologies develop, they offer us more solutions for *mine detection* to protect forces during confrontation and their subsequent neutralization. Aerial survey

using drone technology has the potential to save many lives by making mine clearance in the field a safer, faster and more accessible process. Mined areas can be inspected in a short time using a UAS equipped with appropriate mine detection sensors. Landmine detection represents a significant challenge for the new AI-augmented technology, as accuracy and effectiveness are influenced by numerous elements: sensor power, altitude and flight speed, soil type, environmental factors, etc. Thus, the use of AI-augmented mine detection systems involves several aspects, such as (Barnawi, et al., 2023): optimization in the graphical interface (GUI – Graphical User Interfaces) of the search options and strategy, calculation and selection of the optimal trajectory for the search, increasing the accuracy of the coordinates of the area, faster processing of the collected data and generation of the image of the mined area in the digital map, classification and precise location of landmines. AI also has the ability to compile and analyze numerous aerial images from various sources (satellite, airplane, etc.) quickly detecting the threats represented by minefields or UXO – Unexploded Explosive Ordnance, transmitting their coordinates to decision-makers in a short time and with high precision.

Thus, the AI component in the *military decision-making process* represents a robust backbone, capable of generating intuitive schemes that military specialists can easily use and for the benefit of the successful conduct of military operations.

4. The Potential and Impact of AI in Areas of Social Life

Artificial intelligence is becoming an area of strategic importance given that many national governments and international communities have developed strategies regarding this emerging technology.

As AI algorithms become more sophisticated, their applications will continue to develop, giving individuals, businesses, and organizations a competitive advantage. Thus, the most important areas where the integration of AI technology would have a significant impact could be:

A. Education. If in the Russian-Ukrainian conflict AI is used in information analysis, in the process of military decision-making and in making predictions based on created models, I believe that this aspect also has a significant impact in the educational field. Along with other emerging technologies implemented in the educational system, such as Virtual and Augmented Reality (Allanach, 2025), the role of AI in education could be summarized in several sub-domains with specific utilities:

- AI for pupils, students and learners (adaptive learning tools, virtual assistant, personalized learning platforms, language learning applications, 3D virtual classrooms, interdisciplinary learning, simulation of real situations and the fields in which it operates);
- AI for teachers (web scanning tools, automated assessment of teaching tasks, classroom management tools, tools that measure attention and emotion, student progress analysis platforms, virtual extracurricular activities, virtual tours of various facilities/infrastructures/museums, virtual conference platforms, plagiarism detection platforms);
- AI for educational institutions (resource planning systems, management and forecasting tools, information security tools, student and staff transportation management, cybersecurity, connecting university campuses).

B. Public safety and urbanization. The war in Ukraine has accelerated the normalization of mass surveillance through the deployment of AI-powered *facial recognition technology* (FRT) and satellite-based remote sensing (Espindola, 2023). Although these tools are indispensable for documenting war crimes and identifying

combatants, their integration into the infrastructure of law enforcement services creates a blueprint for the surveillance and protection of the population. Ukraine has adopted FRT at an unprecedented scale, utilizing services like Clearview AI to screen individuals at checkpoints and identify both deceased Russian soldiers and Russian infiltrators. Clearview AI's database of billions of images scraped from social media platforms like VKontakte provides a capability that was previously unavailable to military forces, enabling the identification of enemies based on mere seconds of video footage (Rakhmetov & Murzagulova, 2025). However, the transition of this technology from a defensive counterintelligence tool to one used in peacetime poses significant risks to privacy and civil liberties. The same mechanisms used to identify a war criminal can be repurposed to track ordinary citizens, blackmail political opponents, or suppress peaceful protests.

As urbanization increases, the role of smart transportation systems in the transportation industry is becoming increasingly important. Currently, autonomous vehicles process the collected data and make decisions about the route, continuously adjusting the direction or the cruising speed, but intelligent transportation solutions that use AI will be on the rise, to analyze instantaneous information about the optimal route, to change traffic lanes according to real traffic conditions, to manage road blockages by controlling traffic lights, to streamline traffic and reduce travel time. The development of intelligent infrastructure, another noteworthy aspect, is achieved by introducing AI into the sensors and the equipment of roads, bridges and tunnels, etc. Also, through systems such as IoT (*Internet of Things*) sensors, smart lights and smart traffic signs that communicate with vehicles/trains and control software, the entire infrastructure can be developed with the aim of making transportation work better and safer (Sonar Technologies International, 2024). This allows the development of autonomous vehicles that use Computer Vision and Deep Learning Algorithms to navigate without a driver/mechanic, significantly reducing costs and accidents caused by human error. In terms of vehicle prevention and maintenance, AI sensors on trains, planes or trucks monitor the operating status of parts and predict when failures are likely to occur, preventing them and ensuring the safety of transport. Even clearer is the takeover in the civilian domain of military tasks carried out with drones, those of transport or of monitoring and ensuring the security of key elements of critical infrastructure. Such a project would have as its objective "*to develop a system of autonomous, self-charging, and collaborative drones that can inspect a large portion of transportation infrastructures in a continuous operation*" (*Drones4Safety* Project, 2023).

C. Medicine. Artificial intelligence applications in the field of health monitoring would allow for the efficiency of clinical trials for the development of new procedures and treatments, the continuous observation of patients providing real-time results on the state of health, and machine learning models could provide complex analyses and trends in the evolution of some diseases (Shpachuk 2024; IBM Resources, n.d.). Massive analysis of genomic data (individual DNA) to predict the risk of disease and create targeted treatment plans is another direction in which AI can be useful. Also, in terms of telemedicine, AI can make a significant contribution through virtual assistants and natural language processing (NLP), the remote interpretation of some tests, even some imaging ones, accelerating diagnostic processes and increasing their accuracy. From the broader concept of telemedicine, telesurgery developed, which represents

"*surgical operations carried out by a surgeon in a distant place by means of a computer or satellite link and robotic instruments*" (Collins English Dictionary, 2025). AI in robotic surgery allows for a clearer view of the surgical site, increases precision, flexibility, and control during surgery, compared to traditional surgical methods. Minimally invasive robotic surgery also offers the following benefits: fewer complications (such as infections), less pain, reduced blood loss, reduced hospitalization, faster patient recovery, smaller and less visible scars, etc.

D. Economic domain. The war has catalyzed a radical transformation in Ukraine's economic and industrial landscape, shifting from a state-owned defense model to a vibrant, private-sector-led innovation ecosystem. By training small AI models on specific battlefield datasets, such as the Brave1 Dataroom created with Palantir (Digital State UA, 2026), Ukraine is building a globally competitive edge in autonomous systems. Likewise, *in the industry* AI-guided robots can work alongside human workers, taking over repetitive or dangerous tasks, which leads to increased productivity and safety for human health. In predictive maintenance, the sensors on industrial equipment send data to AI algorithms, which can predict the exact moment when a production process will fail or a machine will break down, allowing planned repairs and eliminating the risk of unplanned production shutdowns. In the *logistics field* for supply chain optimization, AI can forecast product demand with much greater accuracy, significantly contributing to optimizing resource consumption, reducing costs and making inventory and deliveries more efficient. In the infrastructure area, 3D mapping through drone recognition and AI can contribute to urban planning, damage assessment in the event of natural disasters, and land auditing. In *agriculture*, computer vision for detecting tanks and other combat systems can transfer to accurately determining soil moisture levels, identifying pests, and mapping crop health (Arable, 2021). In the area of *public administration and justice*, improvements can be made in document management, digital archiving, analysis of demographic, economic or health data, planning public policies, detecting fraud or tax evasion, identifying areas with social risk (unemployment, crime, exclusion) or in citizen assistance through government chatbots and for basic legal advice. This economic transformation is supported by a sovereign *hybrid infrastructure* that combines local compute resources with global partner capacities, such as NVIDIA's AI platform and Google's Gemini model (Sampson, 2025). The goal is to move from a "*digital state*" to an "*agentic state*", where AI underpins proactive public services and economic resilience.

E. Cognitive domain. The most profound impact of AI on the social fabric of the conflict zone and the broader international community is the systematic erosion of epistemic trust. The proliferation of AI-generated disinformation and deepfakes has moved the discourse beyond the traditional "post-truth" reality into a state where visual and auditory evidence is no longer inherently credible. This crisis for video evidence undermines the fundamental shared reality required for social cohesion and democratic discourse.

The information side of hybrid warfare has reached a new stage of sophistication through the use of deep-learning algorithms to generate lifelike synthetic content. Russia and Ukraine have utilized these tools for both offensive psychological operations and defensive counters. For instance, the release of deepfake videos depicting President Volodymyr Zelensky surrendering and President Vladimir Putin announcing peace represents a watershed moment in the use of AI for strategic manipulation. While some early deepfakes were identified as crude, their psychological impact lies in the

subconscious idea they plant. It is a phenomenon where even debunked recreations can affect memory and decision-making by normalizing a controversial act in the mind of the viewer (leader, buyer or voter) (University College Cork, 2023). On the one hand, AI in the field of mass media, social media and communication, used in a negative sense, can automatically generate influencer articles, create images, videos and propaganda materials, personalize content for each user (message automatically adapted according to audience, location, age, interests, etc.), post-synchronize propaganda materials (trolling), carry out disinformation campaigns, develop and transmit messages emotionally adapted to each audience segment, etc. On the other hand, in a positive sense, to protect the information space and counteract the effects of hybrid warfare, psychological manipulation and social polarization, AI can be used to summarize vast analysis materials, compare articles from multiple sources to assess the consistency/reality of data/events/incidents, identify fake news and manipulative content (texts, images, videos), analyze sources to determine their credibility, identify coordinated disinformation campaigns, detect fake accounts, botnets, trolling patterns and troll farms, optimize PR campaigns through predictive analysis and anticipate image crises before they escalate.

5. Conclusions

The most important military powers of the moment pay great importance to the development of artificial intelligence in the military field, given the need to gain technological and military superiority in the current geopolitical competition.

The lessons learned in the field of artificial intelligence as part of the war in Ukraine, and not only, will represent for the military field results tested and validated in a "real laboratory" of emerging technologies. Most likely, the results will confirm the influence of AI on military operations and the prospects in other areas of social life. Artificial intelligence through machine learning, automation and cybernetization of the battlefield represent assets in ensuring the military capabilities necessary to achieve superiority in present and future military confrontations. This is not a plea in favor of war, namely that wars are beneficial in terms of research and development of technologies, which are then useful in many other civilian fields. But, it is true that in times of crisis, innovation accelerates. Surely, all these new technologies would have been developed without war, but there are times, like these, when substantial investment is made in research and innovation is accelerated.

Currently, information technology is in an obvious expansion, but artificial intelligence is probably the defining technology of the last decade and will certainly have a major impact on the development of modern society in the future. AI encompasses multidisciplinary areas oriented towards solving problems such as streamlining processes in all fields, increasing the quality of goods and services, diagnostics, competitive strategies, etc.

Artificial intelligence is considered the key component of all transformations, and, with the lessons learned from military conflicts, it progresses every minute and revolutionizes the way we fight, live and work. If some human activities seemed impossible just a few years ago, now they are becoming an integral part of our reality thanks to AI. While some social actors discuss whether these changes brought by AI are ethical, good or bad, organizations must adapt to new technologies in the field of AI in order to survive, remain competitive and develop in the current geopolitical context that changes constantly.

The impact of new AI technologies on each individual is increasingly strong.

This impact is manifested through human interaction with a smart device, an internet connection, and the use of AI-augmented technology both at work and at home.

Although artificial intelligence is already used in many companies around the world, the greatest opportunities have not been exploited yet. The effects of artificial intelligence will be amplified in the next decade, as manufacturing, commerce, transportation, finance, healthcare, education, media, social media, insurance, and, basically, any other industry or social domain transform their core processes and action/operational models to take advantage of machine learning.

Acknowledgements

The author expresses sincere appreciation to the translator, Oana-Alida BUȘE for the professional linguistic expertise and rigorous accuracy provided in the translation of the manuscript.

REFERENCES

Allanach, B. (2025). *5 Best Virtual Reality Examples in Education*. ClassVR. Available at: https://www.classvr.com/resource-hub/blog/5-best-virtual-reality-in-education-examples/, accessed on October 29, 2025.

Arable. (2021). *The Future of Ukrainian Agriculture Has Arrived*. Available at: https://www.arable.com/blog/future-of-ukrainian-agriculture-has-arrived/, accessed on January 26, 2026.

Barnawi, A., Kumar, K., Kumar, N., Thakur, N., Alzahrani, B., & Almansour, A. (2023). Unmanned Ariel Vehicle (UAV) Path Planning for Area Segmentation in Intelligent Landmine Detection Systems. *Sensors (Basel), 23*(16). Available at: https://pubmed.ncbi.nlm.nih.gov/37631800, accessed on October 30, 2025.

Burt, P. (2024). *None too clever? Military applications of AI*. (p. 5). Oxford: Drone Wars UK. Available at: https://dronewars.net/wp-content/uploads/2021/12/DW-None-too-clever-full-web.pdf, accessed on November 02, 2025.

Chhikara,, P., Tekchandani, R., Kumar, N., Chamola, V., & Guizani, M. (2020). DCNN-GA: A Deep Neural Net Architecture for Navigation of UAV in Indoor Environment. *IEEE Internet of Things Journal, 8*(6), 4449. Available at: https://ieeexplore.ieee.org/document/9207753, accessed on October 22, 2025.

Collins English Dictionary. (2025). *Definition of 'telesurgery'*. Available at: https://www.collinsdictionary.com/dictionary/english/telesurgery, accessed on October 31, 2025.

Cuccia, R.P. (2010). *Implications of a Changing NATO*. Pittsburgh, USA: The Strategic Studies Institute, U.S. Army War College. Available at: https://www.files.ethz.ch/isn/116551/pub990-1.pdf?utm_source=chatgpt.com, accessed on September 04, 2025.

Digital State UA. (2026). *Ukraine Launches Brave1 Dataroom with Palantir to Train AI Models Using Battlefield Data*. Available at: https://digitalstate.gov.ua/news/tech/ukraine-launches-brave1-dataroom-with-palantir-to-train-ai-models-using-battlefield-data, accessed on January 26, 2026.

Drones4Safety Project. (2023). Available at: https://drones4safety.eu/#objectives, accessed on October 30, 2025.

Dumitrache, C. (2024). *Cum arată "Terminator 7"? Roboții vor înlocui jumătate dintre soldații din prima linie. Bonus: Deminarea Ucrainei, realizată cu drone și vehicule speciale ajutate de AI*. Defense Romania. Available at: https://www.defenseromania.ro/cum-arata-viitorul-robotii-vor-inlocui-jumatate-dintre-soldatii-din-prima-linie-iar-deminarea-ucrainei-realizata-cu-drone-si-vehicule-sepciale-ajutate-de-ai_630603.html, accessed on November 02, 2025.

Espindola, J. (2023). Facial Recognition in War Contexts: Mass Surveillance and Mass Atrocity. *Ethics & International Affairs, Volume 37, Issue 2*, 177-192. Available at: https://www.cambridge.org/core/services/aop-cambridge-core/content/view/415F18063D278B7E9EDB15C764AC1E79/S0892679423000151a.pdf/div-class-title-facial-recognition-in-war-contexts-mass-surveillance-and-mass-atrocity-div.pdf, accessed on January 26, 2026.

IBM Resources. (n.d.). *What is artificial intelligence in medicine?* Available at: https://www.ibm.com/think/topics/artificial-intelligence-medicine, accessed on October 30, 2025.

Jain, A., Ramaprasad, R., Narang, P., Mandal, M., Chamola, V., Yu, F.R., & Guizan M. (2021). AI-Enabled Object Detection in UAVs: Challenges, Design Choices, and Research Directions. *IEEE Network, 35*(4), 133-134. Available at: https://ieeexplore.ieee.org/document/9520347, accessed on October 22, 2025.

Rakhmetov, B., & Murzagulova, K. (2025). Artificial Intelligence in Warfare: The Case of the Russia-Ukraine War. *Journal of Strategic Security, Volume 18, no. 4*, 64-77. Available at: https://digitalcommons.usf.edu/cgi/viewcontent.cgi?article=2470&context=jss, accessed on January 26, 2026.

Rațiu, A. (2016). Swarming – Doctrinary-Operational Concept – Possible Solution to the Challenges of the Current Military. *"Nicolae Balcescu" Land Forces Academy Scientific Bulletin, 21*(2), 128-134. Available at: https://reference-global.com/2/v2/download/pdf/10.1515/bsaft-2016-0047, accessed on November 02, 2025.

Sampson, C. (2025). *Ukraine's Agentic Ambition: Building the World's First AI State Under Fire*. Kyiv Post. Available at: https://www.kyivpost.com/analysis/63856, accessed on January 23, 2026.

Shpachuk, A. (2024). *Top 12 Real-World Artificial Intelligence (AI) Applications in Healthcare*. Empeek. Available at: https://empeek.com/insights/top-ai-applications-in-healthcare, accessed on October 31, 2025.

Sonar Technologies International. (2024). *Top 8 Trends In Intelligent Transport Systems (ITS) in 2024*. Available at: https://sonartechnologies.com/top-8-trends-in-intelligent-transport-systems, accessed on October 30, 2025.

Tekin, E. (2024). *Assessing Artificial Intelligence's Military Application in Urban War: A Study of the Israel Defense Forces Operations Since 2021*, 58. George Washington University. Available at: https://scholarspace.library.gwu.edu/downloads/sq87bv679?disposition=inline&locale=en, accessed on October 29, 2025.

Thompson, M. (2023). *Unlocking the Strategic Potential: Artificial Intelligence in Electronic Warfare*. The Journal of Electromagnetic Dominance. Available at: https://www.jedonline.com/2023/09/13/unlocking-the-strategic-potential-artificial-intelligence-in-electronic-warfare, accessed on October 31, 2025.

University College Cork, Ireland. (2023). *First ever study of wartime deepfakes reveals their impact on news media.* Available at: https://www.ucc.ie/en/news/2023/first-ever-study-of-wartime-deepfakes-reveals-their-impact-on-news-media-.html, accessed on January 26, 2026.

Vladislav, V. (2025). *Ukraine Uses Autonomous Drone Swarm Against Russian Forces*. Militarnyi Review. Available at: https://militarnyi.com/en/news/ukraine-uses-self-deciding-drone-swarm-against-russian-forces/#:~:text=Ukrainian%20troops%20have%20used%20a,coordination%20of%20groups%20of%20drones, accessed on October 22, 2025.