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The People's Liberation Army's Perspectives on Artificial Intelligence Highlighting Integration as Key to "Intelligentization" Goals

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About This Paper

The People's Liberation Army (PLA) views artificial intelligence (AI) integration as central to "intelligentization," a top priority of Xi Jinping for integrating AI into military operations and strategy. This initiative directly supports the PLA's short-, medium-, and long-term goals of matching or surpassing the U.S. military by mid-century. We performed an open-source analysis of PLA publications and statements to assess the PLA's recent (as of mid-2025) direction, scope, and challenges of its AI-driven modernization efforts. For this paper, we compiled and analyzed more than 100 articles published between January 2024 and July 2025 from 16 academic journals with PLA affiliations. We also analyzed public statements that senior PLA officers made, as well as op-eds and media reports that discuss the PLA's adoption of AI. This paper is primarily intended for policymakers and defense analysts interested in the PLA's AI development, military competition, and national security.

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Contents

Chapter 1

The People's Liberation Army's Pursuit of Artificial Intelligence Integration Is Key to "Intelligentization" and a Leader-Level Priority

For China's People's Liberation Army (PLA), the integration of artificial intelligence (AI) into its military operations and strategy has become increasingly central to "intelligentization," a top priority of the Chinese Communist Party's General Secretary and Central Military Commission Chairman, Xi Jinping. The PLA views this initiative as essential to its short-, medium-, and long-term goals, the most ambitious of which is matching or exceeding the U.S. military's capabilities by mid-century. To analyze the PLA's perspectives about working and planning toward this goal, we reviewed more than 100 articles from 16 academic journals and newspapers related to the PLA, as well as public statements by senior PLA officers. Our review indicates that many of these publications emphasize integrating AI into the PLA's kill chains [杀伤链]. The literature and articles note that the PLA's goal is to use AI to enhance its kill chains by strengthening (1) AI integration across its components, (2) cross-domain information integration, (3) multiagent collaboration, and (4) data transmission. The literature also highlights the use of AI in military logistics, a topic that appears frequently in official PLA media coverage.

Our findings show that many PLA decisionmakers are starting to recognize that the path of AI integration will likely require overcoming some major challenges—and integration might create new vulnerabilities that the PLA's adversaries could exploit. The PLA publications we reviewed highlight potential problems that might come with AI integration, including data scarcity and insufficient algorithms, a lack of AI literacy among military decisionmakers, and other vulnerabilities (e.g., enemy use of AI-enabled capabilities against the PLA; backdoors and cyber vulnerabilities; and new sources of decisionmaking errors, such as "information cocoons").

Although the content of the PLA publications reflects a growing attention to AI's prospects and some of its challenges, we also discovered a lack of discussion around a set of problems routinely identified in Western literature. Indeed, our review of PLA literature found that there was little attention paid to potential problems with AI adoption, such as the proliferation of weapons of mass destruction, uncontrolled AI agency, political instability, and escalation risks. In this paper, we highlight these omissions from the PLA's published discussions of AI integration, thus providing insight into potential PLA blind spots, and we also suggest possible topics for Track 2

(nongovernment experts) or official dialogues between the United States and China to explore in the future.

As more-advanced AI capabilities become available to the PLA, we expect that the PLA will move beyond using AI to enhance kill chains and improve logistics to explore other, more-advanced applications. One possible use case worth watching closely could be the PLA's application of advanced AI to address self-assessed shortcomings in commanding officers' capabilities. Other use cases include the PLA using advanced AI capabilities to (1) further enhance cognitive domain warfare and cyber operations and (2) address the challenges and vulnerabilities it expects to encounter as it further integrates AI in pursuit of intelligentization and its future modernization goals. It will also be important to monitor whether PLA researchers become more preoccupied with some of the potential problems to which the PLA has, to date, paid relatively little attention.

Xi Jinping Urges the People's Liberation Army to Adopt Artificial Intelligence

In 2020, Xi Jinping summarized the steps for modernizing the PLA as "mechanization, informatization, and intelligentization" ["机械化、信息化、智能化"] with the goal of "fully building the people's armed forces into a world-class, first-tier military by the middle of this century" ["到本世纪中叶把人民军队全面建成世界一流军队"] (Yuan, Xu, and Li, 2020).

Mechanization refers to the large-scale modernization of weaponry that enables the PLA's weapon systems to reach the levels (in terms of both quantity and quality) of other major militaries. *Informatization* refers to the application of information technology to extract and digitize data from these weapon systems, thus facilitating management and interconnectivity. *Intelligentization*, in turn, builds on these two earlier stages: Once the PLA possesses a sufficient number of modern weapons that generate vast amounts of information, AI becomes necessary to manage this information and to automate weapon systems to accelerate decisionmaking processes and improve operational efficiency. Through AI-enabled integration and management and advanced algorithms, cross-service coordination becomes easier, thus creating opportunities for new forms of warfare that could help the PLA gain a strategic advantage. Although the PLA had already made considerable progress and accumulated experience in informatization before 2020, the PLA recognized that fully realizing the potential of informatization would require future advances in "big data" and algorithms (Burke et al., 2020).

The PLA's approach to intelligentization is closely linked to another concept that has been prominently featured in high-level speeches and often appears in PLA literature: the development of "new quality combat power" (Shan and Song, 2025). On March 7, 2025, during the plenary meeting of the delegation of the PLA and the Armed Police Force at the Third Session of the 14th National People's Congress, Xi emphasized that the PLA should "accelerate the development of new quality combat power" ["加快发展新质战斗力"] (Shan and Song, 2025). Major General Lu Yuanchen [吕运成], deputy director of the political work department of the Central Theater Command Army, elaborated that *new quality combat power* means that, "to win future wars, we must seize the opportunity of our country's vigorous economic development and strengthen technological research in emerging fields, such as artificial intelligence and big data" (Shan and Song, 2025).

According to Fu Wanjuan [傅婉娟], a professor at the National University of Defense Technology's (NUDT's) College of Military Education, the PLA's intelligentization strategy seeks to build on its mechanization and informatization foundations by using AI, machine learning, and cloud computing to comprehensively upgrade military capabilities and "creat[e] a new generational gap with the armed forces of developed countries" (Fu, 2025). These statements indicate that the PLA regards AI as a primary focus for future military modernization.

Paper Overview

We focus on how the PLA seeks to enhance its capabilities through the research and integration of AI into warfighting. Previous research has paid particular attention to the PLA's use of generative AI in cognitive warfare (Beauchamp-Mustafaga, 2024; Beauchamp-Mustafaga et al., 2024) and the PLA's AI-related contracts (McFaul, Bresnick, and Chou, 2025), as well as theoretical discussions on the impact of AI on incentives for U.S.-China competition, conflict, and cooperation (Chase and Marcellino, 2025). In this paper, we aim to examine the PLA's AI-related research and applications from a different aspect: the PLA's publications on using AI to enhance kill chains and strengthen logistics. We also examine the PLA's concerns about some of the gaps and vulnerabilities that could accompany its integration of AI, and we consider other potential challenges and problems that are conspicuous by their absence from the PLA literature. Additionally, we consider prospects for the future as the People's Republic of China continues to develop more-advanced AI technology and as that technology becomes available to the PLA.

We reviewed and synthesized academic research (the full list of 16 journals can be found in Table A.1 in the appendix) and news coverage related to AI that the PLA and its research institutions published from January 2024 to July 2025. Using an analysis of these open-source materials, we argue that, since 2024, the PLA's adoption and research of AI has emphasized the strategic objective of enhancing AI-driven kill chains ["杀伤链"]. The PLA aims to use AI to integrate information across multiple domains to improve decisionmaking and mobilization capabilities, thereby accelerating kill chain execution speeds, expanding operational scale, and reducing operational costs.

During our research period, *PLA Daily*, the flagship official newspaper of the PLA—and therefore a primary method of communication to the PLA writ large—published one to two articles each month discussing how AI can strengthen kill chains. The authors of these articles were affiliated with such units as the Eastern Theater Command's air defense brigade (Gao and Chen, 2025), the heavy combined-arms brigade, the PLA's Strategic Consultation Center of the Academy of Military Sciences (Lu, Wang, and Geng, 2025), the Henan Provincial Military District (Zeng, 2024), the PLA National Defense University's Joint Operations College (J. Chen, 2024), and NUDT (Zhou, 2025). Many of these articles were also republished by such Chinese news agencies or newspapers as Xinhua and Guangming Net. This demonstrates that these concepts are achieving attention not only among PLA operational units and military leadership but also among the wider public.

The academic research publications that we reviewed for this paper can be categorized into four thematic areas in which AI technologies are leveraged to enhance the effectiveness of PLA kill chains:

- AI integration across kill chain components

- expanding cross-domain information integration and decisionmaking
- multiagent collaboration
- data transmission and processing.

In addition to an AI-driven enhancement of kill chains, official PLA media outlets have repeatedly highlighted the use of AI in logistics. Applications include assisting with the digitization of logistics data, accelerating warehousing and logistics processes, and speeding up the delivery of supplies to the front lines. These applications can help the PLA accelerate mobilization and improve logistics efficiency.

The PLA literature also highlights three areas in which the PLA needs to strengthen its capabilities to fully realize the benefits of AI while avoiding negative consequences:

- data scarcity and insufficient algorithms
- AI literacy among military decisionmakers
- countering new vulnerabilities that might arise from the adoption of AI.

This rest of this paper is organized as follows: We begin Chapter 2 by discussing AI integration into PLA kill chains, and in Chapter 3 we present PLA perspectives on AI-enabled logistics. In Chapter 4, we discuss PLA perspectives on AI gaps and vulnerabilities; our ultimate goal is to help readers understand the PLA's ongoing research and engagement with these topics. Each of these chapters includes a discussion of strategic implications for military competition. We conclude the paper with Chapter 5, offering observations about potential use cases worth watching closely as more-advanced AI technology becomes available to the PLA. In Chapter 5, to strengthen our findings by using open-source evidence, we also review publicly reported cases of the PLA's applications of AI. In the appendix, we discuss our research methods and limitations.

As stated previously, one major limitation of our research methodology is the potential disconnect between academic discourse and operational practice; the findings published in academic journals might not be representative of actual PLA operational practices. Therefore, focusing solely on research directions found in academic journals could result in a skewed analytical perspective. To address this, we also summarize several real-world cases of the PLA's use of AI that appeared in news media during this period. These examples further illustrate how the PLA is translating academic research into practical AI applications.

Chapter 2

The People's Liberation Army Is Focused on Integrating Artificial Intelligence into Kill Chains

From January 2024 to July 2025, high-ranking PLA members have repeatedly discussed how to use AI to make kill chain elements more autonomous. For example, Major General Zeng Haiqing [曾海清] of the Henan Provincial Military District has described how intelligent combat systems can enable "instant kills" and how "intelligent combat systems can see, understand, learn, and think, effectively shortening the OODA [observe, orient, decide, act] loop" (Zeng, 2024). Gao and Chen (2025) from the Eastern Theater Command's air defense brigade wrote about how AI has the potential to upgrade traditional targeting processes into a new, faster, and more-precise order-dispatch model [订单, 派单], which they described as

> not predetermining strike platforms, but instead issuing real-time target lists, with the decision-support system rapidly evaluating the strike capabilities and expected damage of various weapon platforms, autonomously assigning strike tasks, quickly linking and coordinating multidomain firepower, and autonomously closing the kill chain [不预先确定打击平台，实时发布打击目标清单，由辅助决策系统对各种武器平台的打击性能与目标打击毁伤预期等进行快速评估，自主分配打击平台任务，快速链接调控多领域火力打击力量，自主闭合杀伤链].

Lu, Wang, and Geng (2025) and others from the Eastern Theater Command's heavy combined-arms brigade have described more broadly how intelligentization can enhance overall kill chains, stating that AI will be "ubiquitous across all domains, [and contribute to] intelligent decisionmaking, agile response, and precise lethality." Overall, conversations often focus on a few key themes: the potential to use AI to (1) accelerate OODA loops and increase the speed of warfare, (2) help integrate information across multiple domains, and (3) provide a low-cost asymmetric advantage in warfare (Zhou, 2025).

Much research and development is still needed before the PLA can fully realize its AI-integration goals. Through an examination of 16 AI- or PLA-related academic journals (listed in Table A.1 in the appendix), we have identified four research focus areas that contribute to the PLA's intelligentization efforts. They are (1) AI integration across kill chain components, (2) cross-domain information integration, (3) multiagent collaboration, and (4) data transmission and processing.

AI Integration Across Kill Chain Components

The PLA news articles we analyzed have shown that PLA leaders expressed interest in fielding AI-enabled autonomous systems that can rapidly identify, assess, and engage threats, leading to faster OODA loops and compressed operational timelines. PLA research publications have revealed research toward this goal by integrating AI across many kill chain elements. Some areas of this research are as follows:

- **Find:** In the "find" research area, studies focus on target detection (Feng, Guo, and Yan, 2025; Zhao, Zhang, and Guo, 2025), including improving the PLA's ability to find threats by using AI to identify radar jamming (S. Zhao et al., 2025) or to classify the operation modes of enemy radar (Fu et al., 2025).
- **Classify:** Research in this area focuses broadly on target recognition (Xie et al., 2025; Shen, Ge, and Wu, 2025). In the air domain, studies focus on identifying target group types (C. Li et al., 2025) and recognizing flight patterns (Shi et al., 2025). In maritime environments, research related to underwater image enhancement (Zhang and Lin, 2025) might help the PLA correctly classify underwater threats.
- **Track:** Studies related to tracking have addressed such topics as using deep learning for target tracking (Qin et al., 2025), methods for ship tracking (X. Li et al., 2024), and methods for drones to track targets (X. Yang et al., 2025).
- **Target:** Research related to targeting has focused on terminal guidance for weapons (Xiao, Li, and Liu, 2025), angle and field-of-view constraints guidance (S. Xian et al., 2025), and missile-trajectory planning (Zhang et al., 2025).
- **Predict intent:** Four PLA Air Force Engineering University researchers have worked on methods for predicting the intent of unmanned systems (Teng et al., 2022), a topic of high military importance for several reasons. In the article, the threat assessment (e.g., distinguishing between a reconnaissance drone, an attack drone, and a decoy system) is important to ensure that assets are not wasted on low-priority threats. Intelligent intent prediction can also inform engagement decisions, tactical planning, and force-protection decisions.
- **Decision support for command and control:** Many researchers have looked beyond individual elements of the kill chain to examine how integrated information can accelerate or automate decisionmaking processes. Recent publications in this area include articles on systems for command and scheduling (H. Li et al., 2024), fire planning (Zhang, Kong, and Huang, 2024), force-deployment planning (L. Chen, 2024), cross-domain mission planning (Yan and Guan, 2025), air combat command (Fang et al., 2024), unmanned command and control (Zhou et al., 2024), multidomain antijamming decisionmaking technology (Gao et al., 2025), and autonomous decisionmaking (X. Zhang et al., 2024).

Cross-Domain Information Integration

Many PLA members' comments and news articles take the view that AI is essential for synthesizing large volumes of real-time information across multiple domains (J. Chen, 2024)—

including land, sea, air, space, electromagnetic, and cyber domains—to achieve high-precision battlefield awareness (Gao and Chen, 2025) and establish decisionmaking advantages (Bai and Li, 2024). This perspective reflects a broader PLA strategy that emphasizes information superiority as fundamental to modern warfare. The focus on cross-domain integration seeks to overcome existing limitations in which domain-specific intelligence systems operate in isolation and commanders do not possess the full operational picture.

Research articles we found on this topic focus on solving the technical challenges associated with multidomain information integration (J. Liu et al., 2025; Weng et al., 2025), mission planning (Yan and Guan, 2025), and intelligence preparation of the battlefield (Zhu et al., 2025). Articles have often focused on specific challenges present in maritime environments. Researchers have also proposed ways in which AI can assist with multidomain combat modeling (Shi, Li, and Liao, 2025) and new test-data integration platforms can allow equipment test data and analyses to be more widely shared (Ding and Cui, 2025).

Multiagent Collaboration

In the literature we found, many researchers conceptualize future operations as involving coordinated AI agents operating across multiple platforms and domains simultaneously, and there is a particular emphasis on unmanned aerial vehicle (UAV) swarms. At its most complex, this approach involves swarms of autonomous systems sharing information and coordinating actions with variable levels of human control. Many PLA-related discussions mention the goal of having AI that can simultaneously control multiple weapons and modes of operation *and* carry out saturation attacks, enabling the rapid destruction of enemy forces. For example, Major General Zeng Haiqing of the Henan Provincial Military District describes how

> "Unmanned + Intelligent" is the future direction of weapons and equipment development. Low-cost unmanned vehicles, drones, and unmanned underwater vehicles, supported by cluster autonomous decisionmaking systems, can assign tasks to each unit according to operational objectives. These unmanned platforms can precisely coordinate, autonomously combine, and penetrate defenses covertly to conduct cluster saturation attacks against the enemy. (Zeng, 2024)

NUDT researchers describe future wars as increasingly involving unmanned systems and the numbers of unmanned systems eventually "reaching parity with manned combat systems." Then, as autonomy and intelligence levels improve, "unmanned system clusters will increasingly become the 'main actors' in warfare" (Pei, Shi, and Huo, 2024).

The PLA academic literature we reviewed demonstrated a sustained focus on the fundamental technical challenges of swarm operations, including swarm path planning (Hu and Sun, 2025; Lu, Wang, and Meng, 2025; Z. Zhou et al., 2025) and cooperative control algorithms that enable multiple autonomous agents to coordinate effectively (Sun et al., 2025). PLA researchers explored swarm coordination through research on algorithms for UAV formation control (Xi et al., 2025; Xiang et al., 2021) and event-triggered formation control (Z. Li et al., 2025; P. Hou et al., 2025). These ideas support operational concepts in which swarms must avoid collisions, maintain formations, and respond to changing battlefield conditions. These types of algorithms could be used to coordinate

formations, an example of which can be seen in footage of the PLA's GJ-11 drone working in a manned-unmanned teaming capacity with the crewed J-20 fighter jet (Wei, 2025).

Moving beyond fundamental challenges, PLA researchers have proposed advanced task and mission-allocation algorithms to determine how individual unmanned systems within a swarm should receive specific tasking orders (Y. Wang et al., 2025; C. Liu et al., 2025). This research thread suggests that the PLA anticipates future combat scenarios in which swarms of UAVs are tasked with engaging multiple targets simultaneously, which requires sophisticated algorithms to coordinate target selection among swarm elements. This area of development aligns with the focus observed in other countries (see, for example, Beason et al., 2024; Hughes et al., 2023; and Rinaldi et al., 2024). These concepts are already being tested on physical platforms—a January 2026 *CCTV News* program (Wei, 2026) reported that NUDT researchers have been testing swarm control algorithms on physical platforms and that a single operator can control more than 200 drones that could fly in precise formations and divide tasks to simultaneously conduct missions, such as multitarget reconnaissance.

The technical challenges that the research addresses indicate that swarm operations remain an active area of development rather than a mature capability. However, the breadth of mission types under consideration—area defense (C. He et al., 2025), air combat (Yong, Li, and Dong, 2025), multitarget strikes (Fei et al., 2025), air-to-ground attacks (T. Hou et al., 2025), and search (X. Zhou et al., 2025)—suggest that the PLA expects swarm-versus-swarm engagements to become a standard feature of future conflicts, which requires autonomous systems capable of complex coordination without continuous human oversight.

Data Transmission and Processing

Ultimately, both human-machine teaming and multiagent collaboration depend on robust data transmission and communication capabilities. Zhou Xiaoli [周小利] (2025) from NUDT emphasized this dependency, stating that

> [a]n intelligent battlefield information network is an important support for unmanned intelligent combat systems and also the foundation for constructing the kill chain. It enables the agile concentration and release of combat power within the kill chain and facilitates the overall emergence of operational effectiveness.

Although most of the PLA's public discussions do not explicitly address problems that might arise from insufficient data transmission capabilities, many military journal articles do highlight the need to strengthen communication between unmanned systems, across different domains, and among various sensing systems. This focus indicates that adequate communication remains a significant challenge rather than a solved problem.

PLA research literature addresses such technical challenges as improving data-transmission bandwidth (Q. Yang et al., 2025), reducing communication latency from sensor data (including data from internet-of-things and edge devices) (J. Li et al., 2025), detecting malicious interference during data transmission (Ge, Zhau, and Sun, 2024), and reducing the impact of communication disruptions (Zhang et al., 2025). These research directions reveal some of the data-transmission obstacles that must be overcome to achieve the AI-integrated kill chains that the PLA envisions.

Strategic Implications for Military Competition

Collectively, successful advances in the four research areas described in this chapter might allow the PLA to modernize kill chains and increase the pace of combat. AI integration across kill chains can help the PLA rapidly identify, assess, and engage threats. Cross-domain information integration strengthens the data input layer: Data synthesis from multiple sources and domains can contribute to creating comprehensive situational awareness. Multiagent collaboration can extend these capabilities across multiple platforms and systems and might enable coordinated actions across individual platforms. Finally, robust data-transmission and data-processing capabilities ensure that these AI-enabled systems maintain connectivity to transmit data that can be fed back into cross-domain information-integration systems. Taken together, success at developing and operationalizing these four components might enable the PLA to speed up kill chains and increase its military effectiveness. Successful advances in any one of these areas might have strategic implications for military competition, as follows:

- **AI integration across components of kill chains**—Integrating AI into kill chains might enable the PLA to identify, track, and strike targets before adversaries can react. Using AI to increase the tactical tempo might allow the PLA to better dictate the pace of military engagements, forcing any opponent into a reactive posture. Competitors can respond in several ways, including speeding up their own kill chains or investing in ways to interfere with or deceive components of PLA kill chains.
- **Cross-domain information integration**—If the PLA achieves integrated data fusion across domains, this might significantly challenge an adversary's ability to operate undetected or unimpeded in Chinese sovereign or contested territory. Advantages in information integration that contribute to sensing networks mean that militaries must place more of an emphasis on deception to remain stealthy.
- **Multiagent collaboration**—Advances in multiagent collaboration can make it easier to deploy (and command) large numbers of unmanned systems. These massed systems might be able to overwhelm adversary defenses through volume and might require new methods to effectively counter them. Recent RAND research has hypothesized that AI might give quantity an advantage over quality (Burdette et al., 2026), meaning that, in the future, employing large numbers of low-cost systems might become a more cost-effective strategy than relying on small numbers of expensive high-quality systems. China might already have an advantage in this domain because it is a global leader in cheap drone production (Yang, 2024).
- **Data transmission and processing**—Overcoming limitations in bandwidth and latency while ensuring secure communications is essential for enabling the success of all the other capabilities discussed above. However, one future trend to watch is whether advances in autonomy can reduce the reliance on constant high-volume data transmission, which could de-emphasize the importance of this component.

It is important to note that discrete steps in the OODA loop are not all equally amenable to AI support or AI automation. Observation and orientation actions—such as identifying and classifying possible targets—are well-suited for existing AI and machine learning systems. However, tactical decisionmaking and executing the resulting actions might require features that existing AI models do

not possess, such as robust world models.[1] Existing cutting-edge AI systems do not integrate targeting and execution capabilities with robust world models in ways that support full tactical autonomy (Lucas et al., 2024), meaning that the AI systems still depend on human decisionmaking.[2] Thus, automating kill chain decisionmaking steps will likely require a step change in the quality of AI. Of course, not all fire decisions and actions are complex or ambiguous, and there are likely a variety of sufficiently clear targeting actions that existing AI systems are well-suited for. However, we wish to highlight that, because of the complexity and fog of war, there are likely meaningful cases in which existing AI systems are insufficient to speed up all parts of kill chains. For the PLA, an overreliance on brittle technical means to approve and execute tasks might introduce new tactical vulnerabilities that adversaries can exploit.

[1] World models could include models of real-world physics, causal models, and ethical and social models of risk and mission accomplishment.

[2] Current-generation generative AI (as of late 2025), such as large language models, has some limited capacity for decisionmaking; however, these models, too, are limited and brittle because of the lack of robust world models (Marcellino et al., 2025).

Chapter 3

The People's Liberation Army Is Pursuing Artificial Intelligence–Enabled Logistics

Since the early 2000s, the PLA has sought to modernize its logistics processes to better support joint operations and force projection, most notably by centralizing logistics functions under a Joint Logistic Support Force (Wuthnow, 2021). From January 2024 to July 2025, the PLA has continued this trend of logistics reform and placed significant emphasis on the role of AI in logistics, and the Chinese media has provided the type of in-depth coverage on AI applications in logistics that it rarely provides for weapons or tactical applications. PLA researchers have identified possessing logistics capabilities as a foundational requirement that will determine the success of future military operations, even AI-enabled ones. Tang Xueqin et al. from Engineering University of the Joint Logistics Support Force at PLA [中国人民解放军联勤保障部队工程大学] have argued that the speed of executing logistics operations represents a critical bottleneck for achieving cross-domain, large-scale, and rapid-strike strategies (Tang, Wang, and Sun, 2025). Without adequate logistical support, even sophisticated AI systems cannot maintain operational tempo or effectiveness. Tang et al. emphasize that kill chain success depends on maintaining supply lines and ensuring equipment readiness, especially in remote environments. The academic publications and official media we reviewed have primarily focused on three core logistics functions that they suggest might be enhanced by AI: materiel supply and inventory management, transport, and maintenance.

Materiel Supply and Inventory Management

The PLA Army (Xu and Lai, 2025), PLA Navy, and PLA Air Force (Wang and Gao, 2024) have all reported that their local units (i.e., those not in Beijing but across the provinces) are using AI to improve warehouse management and are moving toward using fully automated "smart warehouse" systems to enable the efficient distribution of equipment and rapid support for emergency requests. PLA-affiliated academic literature discusses several applications for using AI (1) in information systems to support tasks, such as inventory management, (2) for data resource management (Zhao, Zhang, and Guo, 2025), and (3) as a business assistant (Jin, Wang, and Li, 2025).

Recent PLA literature has also discussed using AI to optimize resource allocation in the field. For example, one article suggests that AI can be used to dynamically adjust deliveries depending on the needs in a battlefield (Tang, Wang, and Sun, 2025). Another article proposes using AI to predict aircraft fueling requirements to enable better planning for distribution (Luo and Zhao, 2025).

Meanwhile, Tang, Wang, and Sun (2025) report that AI optimization cannot yet be realized given the challenges related to such issues as "energy supply, motion control [of humanoid robots], and the reliability of artificial intelligence algorithms,"

Transport

In this category, publications and media reports have focused on applying AI to optimize and accelerate the movement of forces and materiel, such as by speeding up deliveries to the front lines. In several journal articles, researchers have systematically reviewed theoretical frameworks on how AI can enable coordinated operations among multiple vehicles (Hong et al., 2025; Liu, Zhang, and Li, 2025). Advances in this area could allow the PLA to transport materiel using autonomous wheeled vehicles. Although PLA academic literature in this area is relatively sparse, China has a large commercial autonomous vehicle market (Liu, 2025), and additional research advances might come from this sector. PLA academic literature also discusses how AI might be able to help with transportation forecasting tasks, such as container truck arrival forecasting for port logistics (Xue et al., 2025). Looking to the future, the authors of one article discuss how digital service soldiers [数字勤务兵] and humanoid robots could be used to assist with delivering supplies to high-risk areas or areas that are inaccessible to wheeled vehicles (Tang, Wang, and Sun, 2025).

Maintenance

PLA researchers have identified many opportunities for AI related to predictive maintenance tasks, such as predicting equipment's service life and predicting potential equipment failure modes and failure times to facilitate planning (Dang et al., 2025; Tang, Wang, and Sun, 2025). Other researchers have proposed AI maintenance management systems for distributed military information systems (Yang et al., 2024). In the physical domain, humanoid robots have been proposed to perform equipment maintenance in the field, and some researchers even suggest that humanoid robots should carry mobile 3D printers to manufacture new parts directly on the battlefield (Tang, Wang, and Sun, 2025).

Strategic Implications for Military Competition

Previous research has found that the PLA is placing increasing importance on logistics modernization (Fleming et al., 2023). This focus is well-timed to capitalize on new advances in AI that can support these modernization efforts. In the sources we surveyed, research publications and media attention have largely focused on three main logistics functions: supply chain and inventory management, distribution, and maintenance. Within each of these functions, commercial success in adjacent industries might also contribute to successful AI integration as follows:

- **Supply chain and inventory management**—With the implementation of China's "Artificial Intelligence+" policy, AI is already being applied to inventory management and automation functions in factories across China (Zhao, 2025). It is reasonable to expect that the PLA will

transfer these advances to the military domain through civil-military fusion and leverage these technologies to improve the speed and efficiency with which the PLA can procure, store, and distribute supplies and materiel. Doing so might enable the PLA to achieve larger-scale logistics mobilizations with fewer personnel and at greater speeds than it can using existing capabilities. From a military planning perspective, this might mean that previous estimates of the PLA's capacity to mobilize materiel might need to be revised.

- **Transport**—In the autonomous vehicle space, commercial progress toward building vehicles that are more fully autonomous can be leveraged to support military operations. For example, the software that powers commercial autonomous vehicles could potentially be retrofitted into military transport vehicles, enabling autonomous deliveries of supplies and materiel. Similarly, in the air domain, the PLA is well-positioned to leverage China's commercial drone market—and its dominance of the global drone market—to increase the use of UAVs for transportation and resupply missions.
- **Maintenance**—PLA publications have shown that the PLA is investing in predictive maintenance capabilities, a finding that has been echoed in other analyses (Fedasiuk, Melot, and Murphy, 2021). Regarding personnel and staffing, RAND research has discussed how one of the key weaknesses in the PLA's maintenance system is the lack of a professionalized maintenance force (Fleming et al., 2023). If the PLA can successfully employ humanoid robots for maintenance tasks, the PLA could sidestep the need to build out its human maintenance force by supplementing human labor with robot labor. Although, as indicated by Tang, Wang, and Sun (2025), there are still considerable technological challenges related to realizing this vision in the foreseeable future.

The three functions discussed above are only a subset of the full list of six main functions that PLA logisticians consider when evaluating support needs for large-scale campaigns (McCauley, 2022). In the literature we surveyed, there was less discussion on how the PLA plans to incorporate AI into its other three core functions: medical, search and rescue, and logistics infrastructure protection. However, this does not necessarily mean that the PLA is not interested in integrating AI into these functions—this lack of evidence could be because publications on these topics might primarily be found in journals other than the ones we surveyed. Much of the PLA news coverage we reviewed indicated that AI and drones had been deployed for search and patrol operations, which means that they can also be used for search and rescue operations. In particular, medical and search and rescue functions serve both civilian and military purposes, making it relatively easy to transfer technological advances from civilian sectors into military applications.

Chapter 4

The People's Liberation Army's Perspectives on Artificial Intelligence Recognize Some Gaps and Vulnerabilities

In Chapters 2 and 3, we explored how AI might enhance PLA kill chains and logistics. In this chapter, we turn the discussion to the PLA's views on potential problems that AI integration might introduce. Indeed, the PLA is starting to recognize that the path of AI integration is likely to require overcoming some major challenges—and integration might create new vulnerabilities that the PLA's adversaries could exploit. Overall, China's military analysts do not view AI as a silver bullet for achieving decisionmaking clarity on the battlefield. Some analysts have cautioned that, once AI enters the battlefield, it might "change the nature of the fog of war," instead of making it disappear entirely (Zeng and Li, 2024). Introducing AI into kill chains might lead to errors in decisionmaking by autonomous systems, create blind spots for decisionmakers using AI, and introduce additional vulnerabilities that adversaries can exploit. In this chapter, we summarize PLA academic literature that reflects on and addresses these challenges.

Data Scarcity and Insufficient Algorithms

Efforts to successfully integrate AI into kill chains face significant challenges, especially the scarcity and poor integration of real-world data (W. Wang et al., 2025). Real-world data are necessary inputs for creating AI systems that can respond to unpredictable and rapidly changing battlefield environments. The nature of this challenge varies significantly across operational environments. Underwater environments present challenges because of sensor limitations and a lack of existing environment datasets (Ling, 2024), and aerial domains might lack sufficient real-world training data for scenarios, such as complex air combat (Y. Xian et al., 2025).

PLA academic researchers identify several possible solutions to address the problem of insufficient real-world data. First, researchers propose expanding data-collection efforts to gather more data from diverse operational scenarios (Weng et al., 2025), standardizing measurement protocols across different systems (Gao et al., 2019; Zhang and Li, 2025), and using more synthetic (i.e., virtual) data to supplement limited real-world datasets (Yong, Li, and Dong, 2025).

Second, in situations in which data remain limited and highly specialized, research focuses on improving algorithms so that they perform effectively with constrained information. These

algorithmic improvements include adopting learning modes with fewer parameters (Wei, Dong, and Yu, 2025), correcting for interference in underwater and aerial detection data (Zhang and Lin, 2025; Lv et al., 2025), conducting additional fine-tuning of models using small-sample data (Shi and Wang, 2024), and combining game-theoretical concepts with algorithms (Yong, Li, and Dong, 2025).

Artificial Intelligence Literacy Among Military Decisionmakers

Even if the PLA solves the technical challenges related to AI integration, human decisionmakers remain a critical component of the process—it is human decisionmakers who must act on AI-generated options. As quoted in the *PLA Daily*, "No matter how good the violin is, what really matters is the skill of the player" ["无论小提琴多好，关键还要看琴手"] (Bu, 2025).

Liu Kui [刘奎], from the Nanjing Army Command College, emphasizes that the quality of AI users determines the success of "intelligentized" operations. As Liu explains, because AI models cannot take responsibility for actions, users must ask appropriate questions, understand AI limitations, and establish clear accountability mechanisms (Liu and Qin, 2024). Consequently, many within the PLA have come to recognize that units need additional training with AI-integrated technologies to achieve enhanced effects with human-machine collaboration rather than experiencing conflict between the two. Lin Qibo [林琪博], a Naval Submarine Academy cadet, emphasized this point in a CCTV interview on June 19, 2025, noting that future warfare will be "fast-paced, high-intensity, and highly informationized" and preparing for this future requires extensive training (Z. He et al., 2025).

We learned that researchers are approaching the task of improving AI users' decisionmaking skills in two ways. First, military personnel can be given comprehensive AI-related education to enhance their AI literacy (Yu, 2024). Some examples of proposed programs include establishing a unified and standardized curriculum of AI training courses (Zeng et al., 2025), establishing a case library of instructional examples for human-machine collaborative tasks (Wang et al., 2024), and establishing an incentive-based talent-development ecosystem through institutional reform (Y. Li et al., 2025).

The PLA's second way to improve AI users' decisionmaking skills is by ensuring that when AI models present options after computation, those options are structured so that users can more easily make appropriate decisions—for example, by ensuring the adequate structuring and presentation of input data (Y. Li et al., 2025). Research literature addresses how AI systems should adapt options and recommendations depending on the user's demographic (Jin, Wang, and Li, 2025), domain of interest (H. Li et al., 2024), step in the OODA loop (Sun, Wang, and Li, 2024), and level of uncertainty (J. Liu et al., 2025). Additional studies highlight the application of AI to assist with wargaming (T. Wang et al., 2025; Chen et al., 2025) and knowledge management (Yang et al., 2024).

As the volume of input data and the number of AI-recommendation systems increase, AI-literate military personnel will be essential for conducting effective decisionmaking without becoming

overwhelmed (Yu, 2024). In addition to the "five incapables" that the PLA has been concerned with in the past,[3] AI brings additional challenges to human-AI collaboration.

New Vulnerabilities That Might Arise from the Adoption of Artificial Intelligence

In addition to data challenges and a lack of AI literacy among soldiers, PLA researchers have noted other vulnerabilities that might arise from the adoption of AI. We briefly describe these additional vulnerabilities in the sections that follow.

The People's Liberation Army's Adversaries Will Also Adopt Artificial Intelligence

Xi Jinping and the PLA view AI as essential for creating a world-class military, but their strategic planning also considers how adversaries, particularly the U.S. military, might employ AI. Professor Shi Haiming [石海明] et al. from NUDT have warned that introducing AI-enabled weapons might start an arms race, stating that

> taking an individual hegemonic country as an example, once AI-enabled autonomous weapons are widely deployed, the factors deterring regional military interventions will be reduced, and the threshold for external military action will be lowered, posing significant challenges to the security and stability of related regions. (Pei, Shi, and Huo, 2024)

The PLA has publicly criticized U.S. military AI developments; for example, one of the PLA's official social media accounts, Junzhengping Studio [钧正平工作室], strongly criticized Google's decision to loosen AI restrictions for military use (Jun, 2025). The PLA has claimed that Google's move "could pose immeasurable risks to the world" and cautioned the United States against "opening Pandora's box and becoming a culprit endangering the world" (Geopolitechs, 2025). These concerns have prompted academic studies examining scenarios in which both China and adversaries deploy AI systems. Research areas include countering adversary radar (L. Zhang et al., 2024), drone warfare (Ji, 2024), the use of unmanned equipment (Jin, 2024), and defense against cyberattacks (Chang et al., 2024).

Artificial Intelligence Might Introduce New Cyber Vulnerabilities

The PLA has also worried that AI integration might introduce new attack vectors that adversaries can exploit and that potential backdoors within AI systems might become targets for enemy operations (Bai, Zhang, and Fang, 2024). In response, scholars from the PLA Army Research

[3] The PLA uses the term *five incapables* to describes areas in which PLA officers often struggle: the ability to (1) independently evaluate situations, (2) understand the intent of higher authorities, (3) make independent operational decisions, (4) deploy forces, and (5) manage unexpected situations.

Institute [中国人民解放军陆军研究院] have developed a framework for assessing vulnerability levels across various PLA AI systems (Xie et al., 2024). Other literature discusses how to detect and defend against such attacks as malicious code injection (Yan, Tan, and Huang, 2025). Beyond targeting AI software, researchers, such as professors Kang and Li (2025) from the PLA Army Engineering University [中国人民解放军陆军工程大学], also worry that adversaries might attack supporting infrastructure, such as computing centers or power plants.

Artificial Intelligence Might Create New Sources of Decisionmaking Error

Although the PLA is hopeful that the deployment of AI will increase kill chain speed and effectiveness, they remain aware of the potential for AI to introduce new sources of decisionmaking error. For example, adversaries might be able to manipulate AI systems and create a new kind of fog of war using fake signals, maps, and videos designed to deceive PLA AI systems (Zeng and Li, 2024). Chinese scholars worry that adversaries could use AI-generated disinformation and influence operations to disrupt the PLA's judgment and strategic decisionmaking (Yuan et al., 2024).

Authors of PLA news articles also warn readers about how AI systems might malfunction even without enemy intervention. The authors describe how AI algorithms might form "information cocoons" (Yuan and Zhao, 2024), causing users to overlook alternative information sources and explanations other than those that the AI system presents. This can potentially cause decisionmakers to miss critical intelligence or strategic options that fall outside AI-identified patterns. In the academic sphere, many PLA researchers also worry about issues caused by AI hallucinations (Hu, 2025), and researchers are exploring ways to reduce AI hallucinations. Scholars also worry that AI systems will make nonhuman-like errors that might be overlooked or underestimated by AI users precisely because they are hard for humans to imagine.

The introduction of AI into military operations presents a paradox for the PLA: Although these technologies promise significant advantages, they simultaneously introduce new sources of error and create new attack vectors and vulnerabilities that adversaries can exploit. The recognition of these many risks in PLA-affiliated publications and news reports suggests an understanding that AI integration will not be simple and will require comprehensive strategies for mitigating AI limitations. Success in AI-enabled warfare might depend on the PLA's ability to manage these new vulnerabilities while harnessing AI's many potential benefits.

Strategic Implications for Military Competition

Although the PLA is already aware of the challenges it faces in undergoing its intelligentization, its efforts to address these issues provide opportunities for external observers to monitor changes within the PLA. In terms of addressing data scarcity, the best methods for acquiring the necessary data are by deploying AI systems in real-world environments, either through military exercises or combat deployment. Closely tracking PLA exercises and the fielding of new unmanned systems might provide some insight into the PLA's progress in collecting data for AI models.

When the PLA encounters problems, such as insufficient AI literacy among its personnel, it is highly likely to address these shortcomings through outsourcing procurement or external training. For

example, Y. Li et al. (2025) suggest that, to improve the AI literacy of PLA personnel, AI can first be applied in major national construction projects, and PLA personnel can be temporarily transferred to these projects to gain hands-on human-machine collaboration experience. When these individuals return to the PLA, they will be better equipped to operate AI-related hardware. Therefore, observing such PLA personnel transfers could be a method for tracking the PLA's AI development. In addition, monitoring the PLA's outsourced procurement contracts can provide insights into the PLA's progress in AI development (McFaul, Bresnick, and Chou, 2025).

Another noteworthy point from our literature review is that we did not find PLA journal articles or reports specifically focused on the development of "politically reliable" AI. In contrast, other Chinese government departments have introduced multiple pieces of legislation during our review period regulating AI-generated content, including provisions that penalize AI outputs that defame or undermine the image of the PLA. A possible explanation for the PLA's supposed lack of developing politically reliable AI is that the PLA assumes the use of politically reliable AI by default—that any AI systems employed or developed for military purposes are already aligned with political and ideological requirements. However, future research is required to examine whether this default assumption is valid or practicable.

Chapter 5

The People's Liberation Army's Initial Achievements in Intelligentization, Gaps in the Literature, and Areas to Watch in the Future

We used a systematic review of PLA literature to argue that the PLA views intelligentization as a key step toward becoming a world-class military, and the PLA's initial efforts have concentrated on academic research studying how AI can comprehensively enhance kill chains and logistics. The PLA is building a theoretical and academic basis for accomplishing its intelligentization goals. However, how has the PLA actually translated these theoretical concepts and academic journal discussions into real policies and combat capabilities? Organizational reforms and displays of new AI-enabled capabilities offer some initial indications.

The People's Liberation Army's Initial Achievements in Intelligentization

The PLA has implemented organizational reforms aimed at strengthening network information systems. In April 2024, the PLA established the Information Support Force (ISF) [信息支援部队] as part of the restructuring associated with the dissolution of the PLA Strategic Support Force ("Newsflash: The Founding Ceremony of the People's Liberation Army Information Support Force Was Held in Beijing. Xi Jinping Presented the Military Flag to the Information Support Force and Delivered an Address," 2024). At the ISF's founding ceremony on April 19, 2024, Xi Jinping described the organization's purpose as

> a key pillar for the overall planning, construction, and operation of the network information system, playing an important role and bearing significant responsibility in promoting the high-quality development of our military and winning modern wars. ("Founding Conference of the PLA Information Support Force Held in Beijing," 2024)

In June 2025, the PLA announced the establishment of a university under the ISF that is named the Information Support Force Engineering University (Army-Level Unit [正军级]). This university was previously named the College of Information and Communication at NUDT [中国人民解放军国防科技大学信息通信学院] (Deputy Army-Level Unit [副军级]). The Information Support

Force Engineering University offers ten majors—including such majors as big data, intelligent vision, electromagnetic spectrum, and data chain—and it will train future technical officers for the PLA (Wang, 2025).

Beyond these organizational changes, the People's Republic of China's September 3, 2025, military parade showcased some of the PLA's initial intelligentization results. According to a People's Republic of China State Council Information Office press release, the parade was to display selected new-generation combat forces, such as unmanned intelligent systems, underwater combat units, "cyberelectromagnetic" attack and defense capabilities, and hypersonic weaponry. The PLA's official news platform, *PLA Daily*, specifically highlighted the participation of "unmanned intelligent forces" in the parade ("Newsflash: Some New Types of Combat Forces, Such as Unmanned Intelligent Units, Will Be Included in the Parade," 2025). The existence of these combat forces is closely related to the PLA's aspirations to leverage AI for multiagent collaboration and kill chain enhancement.

Reflecting this emphasis on displaying some of the PLA's initial AI integration results, ahead of the parade, on August 21, 2025, the Ministry of National Defense (State Council Information Office, 2025a), Xinhua ("This Parade Training Focuses on Scientific Methods, Using BeiDou Positioning, Intelligent Evaluation Systems, and Simulation Techniques for Assistance," 2025), and *People's Daily* ("Parade Weapons and Equipment Feature High Levels of Informatization and Intelligence; Preparations Are Basically Complete [Authoritative Release]," 2025) all published news articles with headlines highlighting the "high degree of intelligentization" of the forces that would participate in the event. The *People's Daily* article "Parade Weapons and Equipment Feature High Levels of Informatization and Intelligence; Preparations Are Basically Complete (Authoritative Release)" (2025) mentioned three main directions related to intelligentization that would be featured in the parade: (1) unmanned combat systems, (2) using simulation methods to rehearse the parade, and (3) the registration and monitoring of military equipment with AI. Because these articles were published in China's leading news media, they represent the PLA's and the Chinese government's visions and promotional narratives for AI applications. These developments demonstrate that the PLA has already made intelligentization a core priority, and the PLA appears to have made at least some progress of intelligentization in its organizational structure, force design, weapon manufacturing, and technological research and development—some of the results of which were showcased in the September 3 parade.

Gaps in the Literature

At this relatively early stage in the PLA's intelligentization, we cannot determine whether the PLA's research and AI integration efforts around kill chains can truly achieve expected effects, such as shortening the OODA loop and realizing multiagent collaboration. In our literature review, we noticed considerable differences in the level of visibility (i.e., whether mentioned in academic studies only, the news media only, or both) across various aspects of the PLA's application of AI. We analyzed reports from multiple regions in China describing how different PLA units have employed AI in logistics information management. There have also been numerous articles and news stories on the PLA's use of AI for education and simulation-based training. However, regarding the use of AI to accelerate the OODA loop or enable multiagent collaboration, we found only conceptual discussions

in PLA publications, and we did not find any evidence of concrete applications or publicized outcomes.

In the ongoing Russia-Ukraine war, most drones are still operated manually and do not coordinate or collaborate with other UAVs, and whether the PLA can make breakthroughs in this area remains to be seen, especially given the lack of operationally relevant data. Since the start of the Russia-Ukraine war, the PLA has closely observed changes on the battlefield and developments in military applications of UAVs (Wang and Zakheim, 2025). Whether the PLA will further develop its own tactics that are based on the use of drone swarms in the Russia-Ukraine war is an issue that warrants continued monitoring.

Another possible reason for the mismatches between PLA academic research and news reporting lies in differences in audience and purpose. Compared with academic studies, news reports or opinion pieces tend to place a greater emphasis on maintaining political correctness and promoting specific propaganda; as a result, their content and framing are likely to align more closely with the Chinese Communist Party's positions. At the same time, news media might deliberately omit certain weaknesses or sensitive issues that the Chinese Communist Party might find inconvenient to mention.

Areas to Watch in the Future

Given AI's ongoing development and deployment, a key question is whether the PLA can maximize AI's benefits while minimizing risks and vulnerabilities that using AI might introduce. Cybersecurity incidents involving commercial AI systems serve as a cautionary example of rapid and uncritical AI adoption (Richard, 2025). At the same time, China has recently announced that it will exercise a whole-of-society approach to fully promote and integrate AI agents (State Council Information Office, 2025b), indicating a continued commitment to expanding AI's use despite these risks. Therefore, the extent to which China will balance rapid AI adoption with efforts to reduce AI vulnerabilities warrants continued observation.

The aspects of AI's adoption and development that the PLA focuses on do not differ markedly from those that other countries emphasize. However, when considering the development of intelligentization, there are two factors that give the PLA greater motivation and confidence than other militaries. First, the PLA views intelligentization as part of a "new quality combat power," implying that it foresees the AI era bringing transformative changes across multiple domains—including both commercial and military power—thus presenting China and the PLA with a rare historic opportunity to leapfrog the United States. Second, China generally has strong confidence in its ability to develop humanoid robots and possess a complete humanoid robot supply chain, which, in turn, could provide advantages both in research and development and in manufacturing.

In summary, our literature analysis of PLA-related academic journals and PLA propaganda from in 2024 and the first half of 2025 shows that the vast majority of the PLA's AI-related research remains focused on strengthening weapons, weapon collaboration, and overall kill chains. The PLA literature also underscores the importance that the PLA attaches to using AI to improve its logistics capabilities. In terms of proportions, the number of PLA studies on AI applications in weapon systems far exceeds those on AI applications in logistics. Whether this will repeat the historical trend of logistics modernization lagging behind weapon development is also an issue worth paying attention

to (Fleming et al., 2023). Although articles in PLA publications reflect a growing attention to AI's prospects—and some of its challenges—what is largely absent from the literature is almost equally striking. It is noteworthy that some problems with AI, which U.S. and other international observers have shown a growing interest in, have received little attention in the PLA publications we reviewed. Our review of PLA literature found relatively little research on some of the problems that specialists in other countries frequently discuss, such as the proliferation of weapons of mass destruction and escalation risks (Chase and Marcellino, 2025), although some nonmilitary experts have had discussions on these topics (Cyberspace Administration of China, 2025). It is important to note that we are unable to determine why PLA researchers are not writing about these topics in depth or in some cases at all. It could be because of a lack of interest or a lack of appreciation of the potential risks. Another possibility is that any consideration of such potentially sensitive topics is restricted to classified or internally circulated journals. Still another possibility is that the PLA considers at least some of those problems to be properly covered by researchers outside the military who are more focused on safety issues.

Looking to the future, as more-advanced AI capabilities become available, we can expect the PLA to search for AI applications in several areas other than kill chains and logistics. Future research questions about key areas include the following:

- **How will the PLA use advanced AI to address self-assessed shortcomings in the capabilities of commanding officers and their staff?** PLA senior leadership have said that overcoming personnel quality challenges is equally as important as hardware modernization for Xi's "world-class" military ambitions (Liang and Snyder, 2007). More-advanced AI could offer an attractive means of accelerating these reforms.
- **How will the PLA use advanced AI to enhance its external propaganda, engage in cognitive domain warfare and influence operations, and conduct offensive and defensive cyber operations?** There is already a considerable amount of PLA literature regarding these topics, and technological developments could give the PLA new opportunities (Beauchamp-Mustafaga, 2024).
- **How will the PLA address the challenges and vulnerabilities it expects to encounter as it further integrates AI in pursuit of intelligentization and its future military modernization goals?**
- **Whether or to what extent will PLA researchers become preoccupied with some of the potential problems to which they have given relatively little attention to date—such as the proliferation of weapons of mass destruction, uncontrolled AI agency, instability, and escalation risks?** We have highlighted some of these omissions from the PLA's published discussions of AI integration, providing insight into potential PLA blind spots. These omissions also suggest that, in the future, there might be opportunities for China and the United States to engage with each other through backchannels and similar mechanisms to exchange views and deepen discussions on these issues.

Future research could build on our analysis by systematically tracking PLA field tests, training exercises, and operational deployments to assess how academic concepts transition to battlefield capabilities. Synthesizing open-source intelligence related to PLA exercises with the academic

literature we analyzed might shed light on two key questions: How frequently do concepts from PLA academic publications reach operational deployment, and does PLA academic research reliably serve as an early indicator of capabilities that the PLA will field in the future?

Appendix

Methods and Limitations

Open-Source Methodology: Sources and Techniques

To examine the PLA's perspectives on the development of AI, we conducted a systematic review of the 16 journals listed in Table A.1. Some of these journals are published by PLA-affiliated organizations, while others hold significant status within China's AI research community or defense industry and are journals in which many PLA-affiliated researchers frequently publish. In addition, we reviewed the complete set of journal publications from faculty members of the College of Intelligence Science at NUDT [国防科技大学智能科学学院]. The list of journals was compiled and gradually expanded using the previously mentioned data-collection and analysis approach (also known as a *snowballing approach*). All selected journals contain multiple articles on AI research written by PLA-affiliated authors, which indicates that the PLA-related research community recognizes and values the authors and, therefore, that the authors hold a certain degree of representativeness. Although this snowballing method might not capture every academic study on AI associated with the PLA, our findings show that the research directions reflected in these publications align closely with the PLA's publicly stated goal of advancing AI-enabled kill-chain capabilities. Therefore, we conclude that this set of journals provides a meaningful representation of the PLA's concrete efforts to promote research on AI-driven kill-chain development.

Table A.1. Journals Reviewed for Analysis of the People's Liberation Army's Perspectives on Artificial Intelligence

Journal Name (English)	Journal Name (Chinese)
Acta Armamentarii	兵工学报
Acta Automatica Sinica	自动化学报
CAAI Transactions on Intelligent Systems	智能系统学报
Chinese Journal of Intelligent Science and Technology	智能科学与技术学报
Command Information Systems and Technology	指挥信息系统与技术
Communication Countermeasures	通信对抗
Computer Engineering and Applications	计算机工程与应用
Computer Engineering and Science	计算机工程与科学
Control Theory and Applications	控制理论与应用

Journal Name (English)	Journal Name (Chinese)
Electronic Information Warfare Technology	电子信息对抗技术
Journal of Air Force Engineering University	空军工程大学学报
Journal of National University of Defense Technology	国防科技大学学报
Journal of Naval Engineering University[a]	海军工程大学学报
Modern Defense Technology	现代防御技术
Pattern Recognition and Artificial Intelligence	人工智能与模式识别
Tactical Missile Technology	战术导弹技术

[a] We do not cite any articles from this journal.

We used keyword searches to collect views that the PLA expressed in news media, including China Central Television and *PLA Daily*, from January 2024 to July 2025. Overall, we reviewed more than 100 journal articles and news and commentary pieces.

A major limitation of this paper is that many journals do not offer full-text access via web platforms. As a result, our analysis incorporates abstracts, summaries, or full articles, depending on the content available online. In addition, we can further improve the data collection and literature review in the future by incorporating the funding sources of these research articles and journals.

Another limitation of this paper lies in the scope of our review, which covered AI-related journal articles and news reports published between January 2024 and July 2025. We designed our analysis this way for two reasons: First, our research builds on earlier RAND research conducted prior to 2024, so our original purpose for publishing this paper was to provide an update to existing work. Second, with this paper, we aimed to capture the PLA's most-current areas of attention (as of 2025), and, given time constraints, we chose to conduct an in-depth examination of data from this one-and-a-half-year period only. Admittedly, this design might overlook certain AI developments that the PLA has researched or AI capabilities that the PLA has accumulated over several years because neither the developments nor capabilities have appeared in any journal publications or media coverage during this specific time frame. Nevertheless, because our review spans a full 19 months—a period during which AI progressed rapidly, marked by the release of the ChatGPT-4 and DeepSeek large language models—we consider this window to be highly representative of the PLA's major accomplishments related to AI.

A final limitation of our research method is that we cannot accurately assess the relative importance of each journal article. Because all the publications we reviewed were released after 2023, there was not sufficient time for other authors to be cited in these works, making citation counts—often a measure of scholarly significance—unreliable in this case. Moreover, citation frequency might not necessarily reflect whether a particular study has been practically applied in military strategy or operations. Future research could therefore explore more-suitable indicators for evaluating the importance and impact of academic studies in this field.

Abbreviations

AI	artificial intelligence
ISF	Information Support Force
NUDT	National University of Defense Technology
OODA	observe, orient, decide, act
PLA	People's Liberation Army
UAV	unmanned aerial vehicle

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Unless otherwise indicated, the authors of this paper provided the translations of bibliographic details for the non-English sources included in this paper. To support conventions for alphabetizing, sources in Chinese are introduced with and organized according to their English translations. The original rendering in Chinese appears in brackets after the English translation.

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