Integrated Warfare

How U.S. Special Operations Forces Can Counter AI-Equipped Chinese Special Operations Forces

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Artificial intelligence (AI) is becoming a dominant tool in various fields. It is on track to become a $1.3 trillion market by 2032, and numerous companies and industries are looking to "rethink how [humans] integrate information, analyze data, and use the resulting insights to improve decision

In an undated photo, People's Liberation Army soldiers browse the internet on desktop computers at a garrison. (Photo courtesy of the People's Liberation Army)

A technician adjusts the humanoids exhibited at the World Robot Conference 17 August 2023 in Beijing. The World Robot Conference aims to promote scientific and technological progress and highlights new industrial development trends in the world. China is attempting to become the global leader in AI technology by 2030. (Photo by FeatureChina via the Associated Press)

making."[1] From the medical field to the entertainment industry, AI changes how humans go about their private lives, redevelops how businesses function, and overall alters human society and culture.[2]

AI's use in the defense industry, military, and national security space is no different. It is becoming a highly discussed topic. Many individuals, from military officers to private sector executives, to politicians and government officials, have identified the numerous benefits that AI principles can have upon improving the U.S. military and counter emerging technology and mandates of other nation-states. Prior to his retirement in September 2023, chairman of the Joint Chiefs of Staff Gen. Mark A. Milley stated, "Artificial intelligence is extremely powerful. It's coming at us. I suspect it will be probably optimized for command and control of military operations within maybe ten to 15 years, max … Our military is going to have to change if we are going to continue to be superior to every other military on Earth."[3]

While the United States has become more proactive in recognizing the use of AI to improve the country's national defense and security frameworks, this recognition and activity has been slow, and only recently has it improved in speed. No country has been better prepared for using AI in modernizing its nation's military forces than China. Over the course of twenty years, China has improved its AI standing by enacting official government policies based around the tool and "organising to build capabilities in anticipation of future [intelligentised] warfare, in which AI will be integral to military power … [these initiatives reflecting] a candid recognition of current challenges and

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People's Liberation Army (PLA) soldiers prepare for an attack exercise to demonstrate China's military capabilities for visiting Gen. Joseph F. Dunford Jr., then the U.S. chairman of the Joint Chiefs of Staff, on16 August 2017 at the Chinese Northern Theater Command Army Force Haichung Camp in Shenyang, China. The efforts to modernize the Chinese armed forces include integrating AI into its military capabilities. (Photo by Petty Officer 2nd Class Dominique A. Pineiro, U.S. Department of Defense)

impediments to progress, which has motivated the Chinese defence industry's call for greater support from the government."[4]

China's entire AI policy and framework aim to make it a global leader in the field by 2030, and China is on track to, at the least, become a dominant national power that is powered by AI.[5] One of the main methods by which China integrates AI into its military capabilities is by supporting its special operations forces (SOF).

AI in Modern Warfare

Before describing the use of AI within Chinese SOF, it is beneficial to explain precisely what AI is and how it can be used in a military setting. According to *Encyclopædia Britannica*, AI is effectively "the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings," combining computer science, machine learning, and deep learning "to create expert systems which make predictions or classifications based on input data … to enable problem-solving."[6]

From a defense perspective, AI has immensely useful benefits for any nation's armed forces, from procurement to combat. It can be used to "highlight not only the direct costs of the decision [to purchase new aircraft] but also its effects on personnel, bases, aircraft availability, and other important domains … collect data from a platform's sensors and predict when and what kind of maintenance will maximize its readiness and longevity while minimizing costs."[7] In addition, it allows intelligence collection units to "better understand what's happening on the battlefield, make decisions faster, and then target the enemy faster and more accurately [by sifting] through satellite images and drone video feeds" while also making it a greater likelihood for unmanned aircraft to better carry out its operations, saving the lives of pilots and others in theater.[8]

From a data collection and storing aspect, AI has been adopted by the U.S. Army's Cyber Command with great success, and as AI continues to grow and nation-states put emphasis on outsmarting their enemies, it is likely to expect that AI-enabled militaries will soon become commonplace.[9] In terms of special operations, however, AI can be used in various ways, primarily in intelligence gathering and dissemination, language translation, and warfare in cyberspace.[10]

China's Special Operations Forces and Technological Innovation

As mentioned, China's military has increasingly relied upon AI and improving its current methods since the dawn of the twenty-first century to outpace and outsmart U.S. and Western militaries. Alongside developing a robust cyber intrusion network and integrating AI into its military schematics and operations, China has integrated its special-operations-capable units with AI, enabling them to make faster decisions; collating better warfighting information; and engaging in sea, air, land, and other forms of warfare to gain an advantage over its adversaries.

China's SOF units are relatively new, and the first was created in the late 1980s, but they have since "doubled in number in the last two decades," complementing China's overall "modernization and professionalization process."[11] While many popular publications cite the total amount of SOF capable units in China's military between twenty thousand and forty thousand members, this number includes units specializing in airborne insertion, amphibious warfare, and marine units, which cannot truly be considered as SOF units.[12] In fact, the real number is likely far smaller and no greater than five thousand to ten thousand members.[13]

The exact numbers and specifications are publicly unknown as China has kept its SOF capabilities and total strength a state secret and guards them closely. Yet, there is substantial evidence of China's limitations, namely that its supply and combat support systems lack quality when compared to the United States (alongside having no civil affairs teams), it fails to engage in foreign internal defense missions, it has little operational skill in psychological operations (PSYOP) or information warfare activities, and it has no "organic helicopter or fixed-wing formations" with which to support its aerial missions.[14]

While these limitations may not seem to be important, in a large-scale military conflict, having the ability to conduct PSYOP and civil affairs missions would prove ultimately beneficial in winning over an invaded or occupied populace. Furthermore, having a SOF unit with its own aerial capacity would (1) secure the force's operations from a security perspective and (2) allow them to have a more effective response to emergencies as they arise. In a Chinese invasion or occupation of Taiwan, for example, these limitations could very likely pose problems for the Chinese military. In these cases, AI and other technologies would be massively beneficial to China's warfighting and special operations teams.

In 2015, China created the People's Liberation Army Strategic Support Force with the express goal of shifting Chinese military "capabilities from a focus on land-based territorial defense to extended power projection for the purposes of securing China's interests in space, cyberspace, and the far seas" alongside increasing the intelligence, surveillance, and reconnaissance proficiencies of the entire military and enhancing the joint military capabilities of the entire armed forces.[15] In addition to the Strategic Support Force, 2015 and 2017 also saw the codification and publicization of Chinese policy on AI development and enhancement, largely focusing on domestic use.[16]

While some may not equate the development of AI for domestic purposes to relate to China's national defense mission, these two go hand in hand. Each year the Office of the Secretary of Defense prepares a report, *Military and Security Developments Involving the People's Republic of China*, to Congress. In 2023, they identified that China has been using its domestic AI production centers to

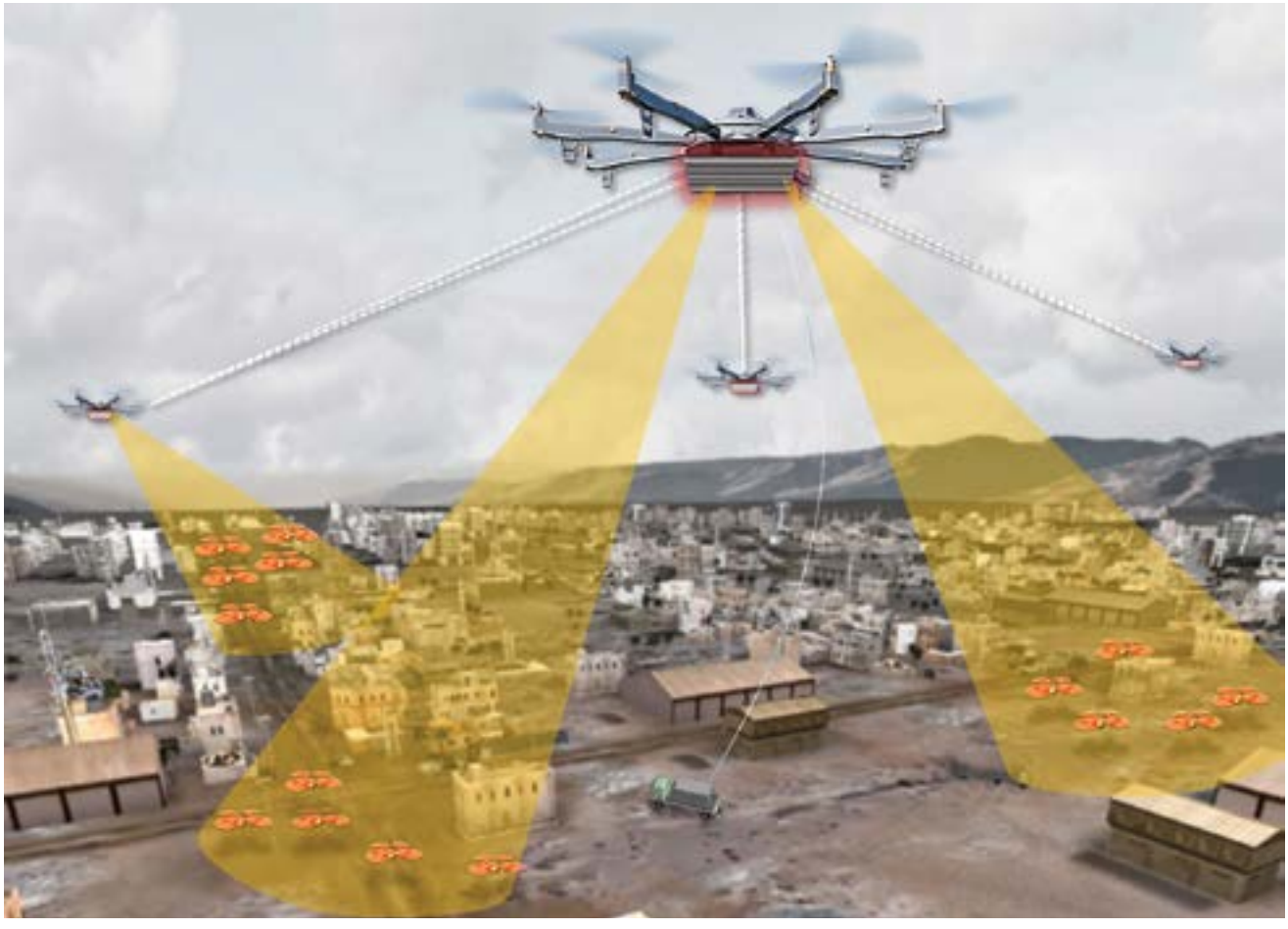
> leverage their [Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance] network that incorporated advances in big data and artificial intelligence to rapidly identify key vulnerabilities in the U.S. operational system and then combine joint forces across domains to launch precision strikes against those vulnerabilities.[17]

This is all part of a larger policy to integrate China's "military and civilian institutions … for developing AI-enabled military capabilities … [as well as

Soldiers of the 3rd Infantry Regiment (The Old Guard) receive supplies from a Joint Tactical Aerial Resupply Vehicle (JTARV) 22 September 2017 on Fort A. P. Hill, Virginia. The JTARV, a quadcopter also known as the hover-bike, could someday make it possible for soldiers to order a resupply and then receive supplies from an unmanned aircraft in tactical situations. (Photo by Pfc. Gabriel Silva, U.S. Army)

establishing] military-civilian R&D centers and procured commercially developed AI and robotic technologies to ensure PLA access to cutting-edge AI technologies."[18] In addition, it is a means of becoming self-reliant in the production of semiconductors, electronic software, and other technical material to more quickly and readily develop the means to make war in this new technological age. Already, with the assistance of U.S. companies, we see evidence of China "purchasing AI systems for all manner of applications, including autonomous vehicles, intelligence analysis, decision support, electronic warfare and cyber operations."[19]

From a tactical special operations viewpoint, China's efforts would allow its ground combat SOF units to gain access to better intelligence from unmanned aircraft (in which China is rapidly expanding and innovating). At the same time, from a strategic standpoint, China's fledgling PSYOP department would be supported with AI by way of "exploring the potential employment of intelligent agents to enable 'guidance' of public opinion" and in overall improving the control systems of vehicles and other armored equipment to function and respond similarly to a human brain.[20] From an information technology frame, China has not been keeping up with its own networks in the past and has been using AI to adapt and capitalize "upon today's technological trends, fearing the emergence of another 'generational gap' between its capabilities and that of the U.S. military" and ensuring that China's cyber operations remain capable of protecting against and performing cyberattacks when needed.[21] Finally, even from a leadership perspective, China is making headways by integrating its civil and private sector partnerships to reinforce the desire to be at the forefront of AI development and updating its national defense frameworks to fully reflect the state's commitment to AI.[22]



With Aerial Dragnet, DARPA is using drones to find other drones. The program's focus is on protecting military troops operating in urban settings overseas. The program could ultimately find civilian application to help protect U.S. metropolitan areas from unmanned aircraft-enabled terrorist threats. (Illustration courtesy of DARPA)

U.S. Special Operations Forces and Technological Innovation

Like Chinese SOF, the United States is making full use of AI and machine learning for its own warfighting effort. However, what sets it apart from China is that where China is faltering in its special operations fields, the United States has a robust framework to support its missions. Unlike China, the U.S. Armed Forces have been able to integrate the various branches upon strategic and geographic combatant commands since the 1980s, place emphasis on expanding its civil affairs and PSYOP capabilities, and continually innovate the supply chain and logistics systems to become a global role model in the combat support area.

However, the United States has not been cognizant of the benefits that AI and machine learning technologies can have upon its combat and combat support structures. It has only been since the late 2010s that the U.S. military, from active-duty and retired personnel to defense industry experts, has begun to focus on the advantages such technologies may offer, namely to its SOF.

As mentioned, SOF can be emboldened in its operations by using AI for faster intelligence collection or better supply systems, and this remains the primary method in which AI can be able to assist U.S. SOF units, but there are other areas in which AI can assist the warfighting mission.[23] For example, high-level leaders within the Air Force Special Operations Command (AFSOC), Marine Corps Special Operations Command (MARSOC), and U.S. Army Special Operations Command (USASOC) have all commented on how they use AI algorithms and systems in their recruiting and selection process to move away from a performance based process and "more toward one

A special tactics operator sets up satellite communications as part of a special reconnaissance course near Hurlburt Field, Florida, 25 September 2019. Special tactics is U.S. Special Operation Command's tactical air and ground integration force and the U.S. Air Force's special operations ground force that enables global access, precision strike, personnel recovery operations, and battlefield surgery. (Photo by Staff Sgt. Rose Gudex, U.S. Air Force)

based on attributes … [and] to control for any biases in their recruiting efforts" alongside analyzing for any technical skills that may provide them with an edge in the field or in a joint strategic center.[24] Another example of this is using AI algorithms to bolster U.S. Department of Defense health-care systems to "predict injuries or point to treatments to get operators in the fight more quickly" which could eventually benefit the entire U.S. Armed Forces, not simply SOF units.[25] From both an intelligence and recruiting standpoint as well, both the Army and Marines have been enhancing their IW capacities and even integrating AI into larger force restructuring design plans.[26]

In the late 2010s, U.S. Special Operations Command leadership highlighted their desire to become a leader in cyberwarfare and military science and technology development.[27] In the past four years, U.S. Special Operations Command has certainly lived up to this desire by developing a new office "to harness AI for language translation, scanning captured laptops and cellphones, collating and countering Taliban messaging, and … [create] visualization software that can show relevant tactical information"; helping stand up a Department of Defense program to process and automatically identify enemy targets from unmanned aircraft; and aligning with private companies to develop equipment and software intended to better assist in the warfighting mission.[28] While having initially been behind China in AI development and slower in recognizing the benefits that AI can offer to military forces in theater, the United States has made substantial gains in equipping its forces with high-tech gear and systems to compete with any enemy adversary.

Countering Chinese AI Operations

The question that remains is how U.S. advancements can counter Chinese AI operations in the field and how to prevent its military from further

The basic concept for artificial intelligence is to connect applied mathematical algorithms processed through computers to support human users in "thinking" and "acting" on refined analysis of data. (AI illustration by Gerardo Mena, Army University Press)

advancing or adapting its military technology capabilities. Naturally, there are many efforts and initiatives the United States and the international community can take to limit Chinese aggression and advancement.

According to Paul Scharre, an executive with the Center for a New American Security, perhaps one of the best measures nation-states and others can take is by "[establishing] global norms for lawful, appropriate and ethical uses of technologies like facial recognition" with the United States specifically needing to make "international standard-setting" a priority by "working with domestic companies to ensure that international AI and data standards protect human rights and individual liberty."[29] Scharre also highlights that China has been exceptional in setting international standards that benefit themselves. In this context, the United States can amplify pressure upon international agencies and organizations (e.g., the United Nations and International Organization for Standardization) to try to alter Chinese behavior.

It should be noted that China desires to be seen as a near-peer adversary in all aspects of strategic dominance, cyber included, and it is possible that some diplomatic overtures to limit such technological advancement would achieve minimal success.[30] It is nonetheless important to peacefully as possible make efforts to resolve situations among foreign nations.

In the event diplomatic efforts are not successful or achieve only minimal success, however, a more militaristic option is available in a physical and cyber battlespace. Scharre has stated that drone and counter-drone equipment and weapons would likely be some of the main devices used in a combat setting.[31] The Under Secretary of Defense for Research and Engineering released a "need statement" in May of 2023 indicating that the U.S. military must develop technologies to disable enemy drone fleets, utilize "kinetic,

Capt. Eric Tatum, assigned to the Artificial Intelligence Integration Center at Army Futures Command, conducts field testing with the Inspired Flight 3 drone during Project Convergence 2022 at Fort Irwin, California, 27 October 2022. Project Convergence's experimentation incorporates technologies and concepts from all services and from multinational partners, including in the areas of autonomy, augmented reality, tactical communications, advanced manufacturing, unmanned aircraft, and long-range fires. (Photo by Sgt. Woodlyne Escarne, U.S. Army)

directed-energy and control-link defenses to answer or avert physical and electronic attacks by uncrewed systems," create barriers to network intrusion by enemy agents, and improve internal assessment capabilities, this being in direct response to the 2022 Russian invasion of Ukraine.[32]

To make this kind of AI-enhanced warfare fully effective, having appropriately trained special operators is a must. Kelley Jhong, a commissioned U.S. Army PSYOPS officer, wrote in War on the Rocks that not only should all SOFs be well aware of AI technology and its uses, there should also be individuals who can "provide informed feedback to AI developers to facilitate continual improvement … [and those who] can act as a bridge between technical experts … and other members of their special operations team at the edge" with persons overall working "to identify and diagnose the more complex issues posed by AI."[33]

It is important to note that the U.S. military's gains, while impressive, are still only a starting point. Dr. Paul Maxwell, a retired U.S. Army lieutenant colonel and an associate professor at the U.S. Military Academy at West Point, wrote in 2020 how AI will continue to be a highly relevant aspect of future military operations:

> [AI] has many application areas where it will enhance productivity, reduce user workload, and operate more quickly than humans. Ongoing research will continue to improve its capability, explainability, and resilience … Given the high probability that our exposed AI systems will be attacked and the current

> lack of resilience in AI technology, the best areas to invest in military AI are those that operate in uncontested domains. Artificial-intelligence tools that are closely supervised by human experts or that have secure inputs and outputs can provide value to the military while alleviating concerns about vulnerabilities … All of these can provide value to the military while limiting the risk from adversarial attacks, biased data, context misunderstanding, and more.[34]

Furthermore, it is important to not forget the human component to AI advancement and integration. Some aspects of the warfighting mission will be heavily assisted by AI principles, algorithms, and practices, but they cannot replace human ingenuity or oversight. Chris Maier, assistant secretary of defense for special operations and low-intensity conflict, stated in March 2023 before the Senate Armed Services Committee, "At some point, probably there's going to be a human being that makes a decision."[35] Using AI as a means of assistance in a combat or combat-support setting is necessary, but it cannot be done without a watchful human eye that is cognizant of the potentiality of civilian casualties and can effectively manage the technical systems.[36]

Going in hand with proper human oversight, responsibility is the key. In the November-December 2023 issue of *Foreign Affairs*, Michèle A. Flournoy, managing partner of WestExec Advisors and former undersecretary of defense for policy during the Obama administration, writes that "without proper safeguards, AI models could cause all kinds of unintended harm," including the unintentional killing of U.S. troops or noncombatants, and argues for a speedy yet safe pathway "to implement better approaches to accelerating adoption as well as ensuring safety."[37]

Conclusion

In defeating AI-enhanced Chinese SOF, the United States must not only invest funding, research, and battlefield application in the appropriate weaponry, equipment, and hardware and software but also develop new training and skill development programs to specifically have AI-capable combat and combat support operators. They must have the skilled individuals needed to defeat China's monolithic and highly advanced cyberwarfare capability.

China's SOF units may not be the most advanced, best equipped, or best organized to perform on par with American Tier 1 and Tier 2 operators, but they still pose a formidable threat to American units in the field. Where they desire to be effective in and harness a tactical and strategic advantage, the world of AI and technological advancement may prove to be their downfall if the United States can invest and develop countermeasures to secure its systems, improve its vehicles and other equipment to be safe from foreign cyberattacks and network intrusion, and be able to cripple Chinese SOF teams before they engage in direct physical warfare.

AI and other advancements in military technology will become hugely important in the coming armed geopolitical conflicts around the world. As society becomes more and more interconnected and advancements continue to be made in technology of all kinds, other nation-states will utilize such advancements for its own national security and defense strategies. The United States must be proactive and be able to counter any threats before an enemy nation or nonstate actor uses them for a purpose that could harm American citizens or other innocents. ■

Any views, thoughts, or opinions expressed are solely those of the author and does not reflect the views, opinions, or official standpoint of any of the author's affiliations, including educational institutions, and past and present employers.

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