



Chinese Views on How Artificial Intelligence Will Change Ways to Win Wars

OE Watch Commentary: Since Chinese President Xi Jinping took office, the country has been in a race for supremacy in artificial intelligence (AI). In July 2017, China released its first national artificial intelligence development plan, titled the “New-General AI Development Plan,” and elevated AI development to the national strategic level. Today, Chinese officials and researchers within the People’s Liberation Army (PLA) reflect a belief that AI will one day be critical to military power and will fundamentally change the characteristics of warfare. One such individual is Li Minghai, from China’s National Defense University. According to Li in the accompanying excerpted article from *Jiefangjun Bao*, AI will “bring about some striking changes to the battle-winning mechanisms.”

Li makes other salient points in the article, including how “algorithm superiority” is a key component to determining “one’s dominance in AI-centric warfare.” Algorithms are described as the “centerpiece of war efficiency enhancement” and they are a “series of clear commands for solving issues, representing the explicit steps for solving various types of issues according to certain rules.” Li goes on to explain that “in future warfare, the force that enjoys algorithm superiority will be able to rapidly and accurately predict the development of the battlefield situation, thus coming up with the best combat-fighting methods.” Algorithm superiority will lead to “cognition superiority,” “speed superiority,” and “decision-making superiority.”

Li also argues in the article that operational elements are shifting “information dominance” to “machine-led operations.” He sees AI technology permeating every element and process surrounding war-fighting. He points out that the Internet of Things, the Internet of Intelligence, and the Internet of Brains will make up the foundation of warfighting. He also talks about how battlefield decision-making, which is now conducted by humans, will one day be conducted by machines and/or a combination of man and machine. The human brain is creative, flexible, and takes the initiative, making it ideal for high-level decision making. The strengths of machines lie in rapid speed, high precision, and endurance.

Li addresses future extreme operations that will be highly disruptive in nature. He envisions an extreme expansion of the operational spaces and domains. “Future AI warfare will be multi-dimensional, all-domain operations, with the space of war-fighting being extremely extended from the traditional domains to the polar, deep sea, and outer space domains.” The boundaries of various operational domains will be blurred and will permeate the cognitive and information domains. Operational progress will become accelerated and actions and decision making will be so rapid that it will allow for preemptive deployments and attacks.

According to Li, Xi Jinping said, “If the battle-winning mechanisms in contemporary warfare cannot be clearly understood, then one may never be able to grasp the key link as if one is watching thaumatrope images.” While Li offers insight into his vision of a successful outcome to artificial intelligence on future battlefields, there is no indication that the PLA is following the steps and methods outlined by him. However, the content of the article, as well as myriad other academic papers that have been published, clearly point to the depth at which Chinese researchers are digging to understand AI and how it will be used on future battlefields. **End OE Watch Commentary (Hurst)**

“Future AI warfare will be multi-dimensional, all-domain operations, with the space of war-fighting being extremely extended from the traditional domains to the polar, deep sea, and outer space domains.”

Source: Li Minghai, “智能化战争的制胜机理变在哪里 (Where Exists the War-Winning Mechanisms of AI Warfare),” *Jiefangjun Bao*, 15 January 2019. http://www.81.cn/jfjbmap/content/2019-01/15/content_225335.htm

...artificial intelligence [AI] warfare in the future will bring about some striking changes to the battle-winning mechanisms.

In future warfare, the force that enjoys algorithm superiority will be able to rapidly and accurately predict the development of the battlefield situation, thus coming up with the best combat-fighting methods, and achieving the war objective of “prevailing before battle starts”.

Algorithms are the key link that determines one’s dominance in AI warfare. First, algorithm superiority leads to and determines cognition superiority... Second, algorithm superiority leads to and determines speed superiority... Third, algorithm superiority leads to and determines decision-making superiority.

The Internet of Things, the Internet of Intelligence, and the Internet of Brains will become the foundation of war-fighting.

Thanks to the AI decision-making support technology and the appearance of “cloud brains”, “digital staff members”, “virtual warehouses”, decision-making in war develops from purely human decision-making to man-machine combined decision-making, cloud brain AI decision-making, and neural network decision-making.

Man-machine combined decision-making... The strengths of human brains lie in creativity, flexibility, and initiative. The strengths of machines lie in fast speed, high precision, and great anti-fatigue endurance.

Future AI warfare will be multi-dimensional, all-domain operations, with the space of war-fighting being extremely extended from the traditional domains to the polar, deep sea, and outer space domains. In particular, it will permeate into the cognition domain, the information domain, and other domains, and will further blur the boundaries of various operational domains.