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The D.O.D's Approach to AI

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INTRODUCTION

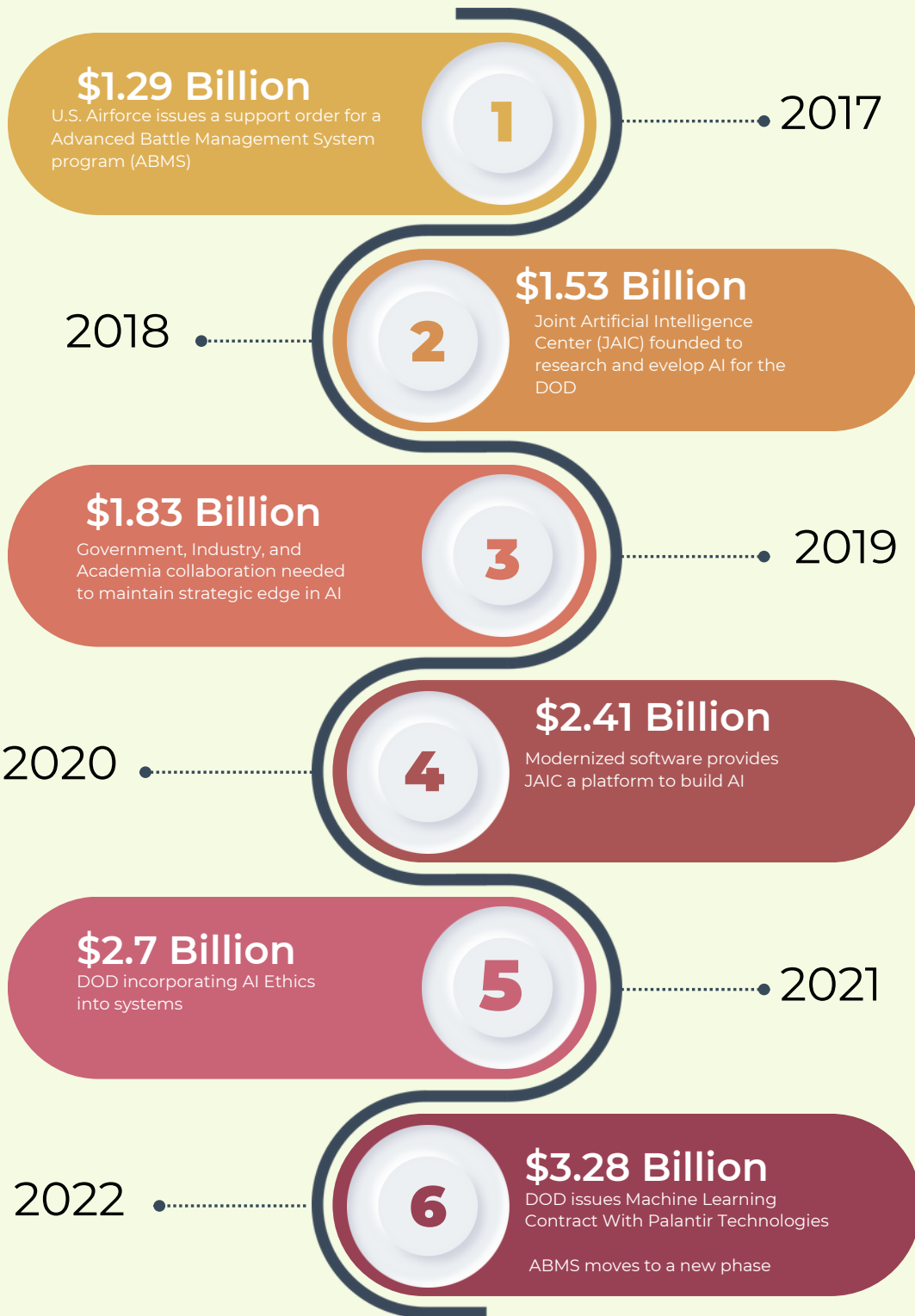
Much like the rest of the world, the United States Department of Defense (D.O.D.) is increasingly shifting towards the use and development of Artificial Intelligence (AI) in their military operations. Through observing developments in the ongoing war in Ukraine and attempting to stay ahead of rivals, the United States has begun investing in a range of AI initiatives that enhances decision making, intelligence gathering, cybersecurity, operational diversity, manpower supplementation, and medical support. (Sentient Digital, 2023) The D.O.D. is currently requesting over 3 billion dollars to research and develop this technology for 2023, over a billion dollar increase from 2019. (Harper, 2023; Maslej et. al, 2023) As the further adoption of AI technology in the D.O.D. is inevitable, it is vital for lawmakers to understand its possible military applications in order to properly guide its development in a safe and ethical manner in regards to conventional conflict. AI should not be used to fully replace soldiers in armed conflict, instead it should be used to augment and support combatants in their duties.



Source: Hartig, H. (2021, September 2). Two decades later, the enduring legacy of 9/11. Pew Research Center - U.S. Politics & Policy. <https://www.pewresearch.org/politics/2021/09/02/two-decades-later-the-enduring-legacy-of-9-11/>

DEPARTMENT OF DEFENSE ANNUAL AI BUDGET

2017-2022



AI IN THE DECISION-MAKING PROCESS



Source: Kean, C. (2022, December). Conceptualizing Information Advantage Using Boyd's OODA Loop. Military Review. <https://www.armyupress.army.mil/Journals/Military-Review/English-Edition-Archives/November-December-2022/Kean/>

One of the more interesting arguments about the application of AI in military operations has been centered around its use in speeding up the decision-making process. By speeding up one's decision-making process with AI, a commander could theoretically outmaneuver his or her enemy before they could effectively organize countermeasures to a given attack. (Morgan 2020, Kean 2022) Currently, the D.O.D. has contracts with companies such as Palantir Technologies Inc. and Anduril Industries Inc. to develop Artificial Intelligence platforms to assist the Pentagon with decision-making. (Manuel 2022, Ward & Sottile, 2019) The reasons systems like these could be useful is that AI has the ability to rapidly provide a course of action in high stress situations, which are free of human biases and prejudices that may have led that option not to be considered. (Morgan 2020) The problem with AI systems in general and this area in particular is that Artificial Intelligence is not far enough in development to simulate/comprehend emotion. This is significant because current AI technology lacks the ability to consider human ethical concerns such as battlefield casualties and collateral damage.

Although Artificial Intelligence will continue to be developed and utilized for strategic decision making, over reliance on AI's input for decision making can potentially lead to three types of conflict escalation. Inadvertent escalation can occur when an AI system is either vulnerable to cyberattacks, not properly conditioned for its task, or used for a different problem than it was intended for. (Hoffman & Kim, 2023) Using AI for offensive operations against combatants in the field or an enemy's own AI system can cause unaccounted for system failures or chain reactions, potentially leading to accidental escalations of conflict. (Hoffman & Kim, 2023) Decision makers being aware of a compromised AI system can lead to even more uncertainty, and therefore make them more likely to deliberately escalate a situation in order to compensate for their uncertainty. (Hoffman & Kim, 2023) To avoid this, the D.O.D. will need to further research, develop, and perfect its decision making AI in order to use it as a supplementary tool for decision makers rather than replacing human judgment.

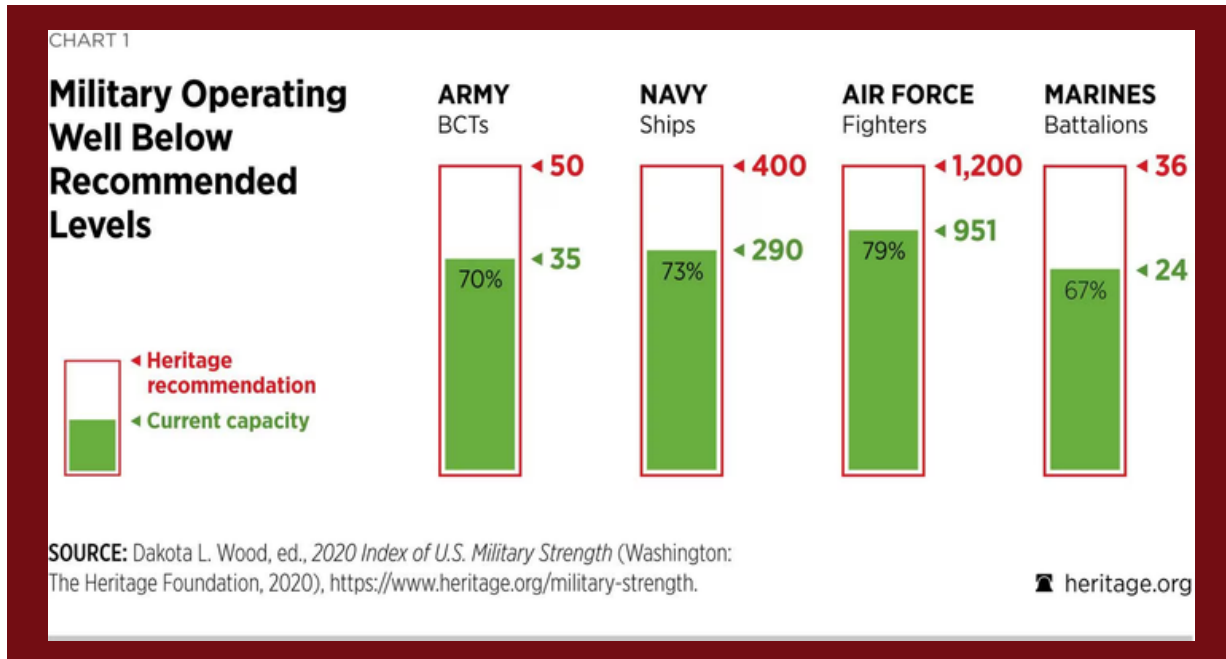
AI IN INTELLIGENCE GATHERING



Continuing with AI's ability to disseminate information at high speeds, another area where the Department of Defense is interested in applying AI is to data analysis. Much of the D.O.D.'s investigative ability is predicated on the work of data analysts who spend hours upon hours staring at screens attempting to draw connections between multiple unrelated data sets. Using AI to quickly filter out irrelevant data, the D.O.D. would allow analysts to focus their search and draw connections faster and more effectively. (ScaleAI., Qlik) By cutting away the proverbial minutia of irrelevant information present in large data sets, authorities will be able to locate previously hard-to-find data that could help them anticipate emerging threats faster. (Morgan 2020, Nouri, 2022) Allowing for more time to develop an appropriate response to the possible threat and creating a higher likelihood that the issue will be properly dealt with.

While AI presents the intelligence community with tools that could allow them to operate more efficiently, it comes with several risks. Firstly, AI can only know what information is important in large datasets after being told by whomever is utilizing a given program.() This means that without human inputs, AI would not be able to speed up the process at all, instead it would just be looking at a data set without any search parameters. This means that AI would potentially be unable to look at previously unused types of data sets and locate actionable data. (Morgan 2020, Nouri, 2022) Moreover, due to it being a new technology, there is a high probability that errors or bugs could lead to a system flagging irrelevant data. (Morgan 2020, Nouri, 2022) This has the potential to make inaccurate data seem actionable, leading to possible diplomatic or operational blunders occurring. In order to negate these issues, the D.O.D. as well as the intelligence community cannot fully autotomize intel analysis but rather use AI as a supplementary tool that could allow humans to go through large amounts of data more accurately and efficiently.

MITIGATING MANPOWER ISSUES



Another aspect of the military where the Department of Defense sees the applicability of AI is in the mitigation of manpower issues. Since the 1990's, the United States military has faced a continuing struggle when it comes recruiting as the U.S. economy has grown and diversified, limiting its ability to maintain its force capacity. (Morgan, 2020) By implementing AI into its force structure, the D.O.D. saves manpower on tasks that AI can complete on its own. In essence, D.O.D. would be able to automate tasks like logistician or language translation, enabling the department to train existing personnel to be medics or demolition specialists, tasks that can only be performed by humans. (Morgan, 2020) This would enable the D.O.D. to cut its investment into certain training schools, lowering its operating costs, and allowing those funds to either be returned to the taxpayer or re-invested into research and development or other programs that need additional funding.

While AI does offer the D.O.D. to better allocate its resources, it does not give it the ability to completely automatize. This is due to the ethical and legal ramifications that a fully automated military would both the American public as well as the international order writ large. The idea that humans could ever be completely removed from combat decision-making not only has the possibility of endangering non-combatants but also has wider implications for the relationship between artificial and human life, a power that a military body should not control. (Morgan 2022, Rowe, 2022) From a legal perspective, removing human actors from the battlefield means a country's leaders would be held responsible for military crimes rather than a soldier on the battlefield. This in itself might not be an issue necessarily, but does open up states to issues they would much rather avoid during a given crisis. (Rowe, 2022) While this type of case has not been seen in international court yet, the lack of a defined human party to blame if an AI system commits atrocities is not something bodies like the International Criminal Court will abstain from issuing a verdict on. Considering the United States role as a leader of international cooperation, it would behoove policy-makers to not ruffle our allies feathers unnecessarily.

CONCLUSION

As AI continues to be researched, developed, and implemented by the D.O.D., the military will see positive enhancements to its decision-making processes, intelligence gathering, and mitigating manpower deficits. These enhancements are already prevalent, seen in the speed in which AI can operate and successfully complete assigned tasks. The risks associated with AI tend to be the possibility of error, either on the programming side of AI or potentially with its field implementation, as well as legal implementations for solely relying on AI for combat purposes. These malfunctions could lead to tasks being completed incorrectly, shutdowns from bugs, or human officers using bad data or recommendations in their decision making process. Ultimately it falls to the D.O.D., as well as American lawmakers, to ensure AI is extensively researched, understood, and implemented in a way with minimal risks to the nation's security and to avoid ethical and legal dilemmas in the future.



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