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How Robots and Autonomous Weapon Systems are Changing the Norms and Laws of War

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Introduction

In the last nine months, the Executive Branch, the Department of Defense (DoD), and the Army have created a multiplicity of strategies, centers, and programs on Artificial Intelligence (AI). On 12 February 2019, the DoD unveiled its AI Strategy. This was the day after the White House released an executive order that created the American Artificial Intelligence Strategy which is directly tied into the National Defense Strategy. Further, the Joint Artificial Intelligence Center (JIAC) was stood up at the Pentagon in June of last year to have oversight over almost all service and defense agency AI efforts. This coordination "is crucial to the emerging AI arms race with China and Russia." Additionally, on the first of last month (FEB 2019), the Army activated the AI Task Force at the birthplace of AI itself: Carnegie Mellon University.

Essential Course Questions

An interdisciplinary team of military and civilian professors of philosophy, electrical engineering, computer science, and robot engineers in the Robotic Research Center at the United States Military Academy at West Point are currently piloting a cutting-edge interdisciplinary project designed for cadets to explore, both in the classroom and lab environments, artificial intelligence (AI) powered robots, drones, self-driving cars, and explore emerging technologies such as robot swarms. Cadets learn how the increasing sophistication and autonomous decision-making capabilities of AI robots on the battlefield, and in conflict operations, is disrupting existing status quo legal and moral norms and requires rethinking the sacrosanct idea of traditional Just War Theory as the moral compass for justice in declaring and fighting wars. The unpredictable pace of change is revolutionizing the concepts of just war, agency, and human purpose.

The emerging international AI and automated weapon systems arms race raises essential questions we explore in this project: Should we legally allow machines the decision to kill or injure? Due to AI-guided automated weapons systems being more precise and making fewer mistakes than human agents, would they be more discriminate and proportional than humans? Who bears the ultimate responsibility of death caused by robots and automated weapon systems? Are all three approaches to technology in war legal and ethical: human in, on, and out of the loop?

Course

We present cadets the argument that the lack of legal and ethical constraint by potential adversaries compels the U.S. to develop and employ autonomous weapons, both defensively and offensively. Cadets are challenged to consider the legality of the U.S. entering into an Autonomous Weapon Systems (AWS) arms race, both lethal and non-lethal, and explore if there should be international legal restrictions on their use in regard to humans in, on, and/or out of the loop? West Point's recently-created Robotic Research Center aims to capture not just the engineering component of robotics, but also the crucial value and legal questions associated with these emerging technologies and their applications in war. In this way, the center contributes to West Point's overall mission to create leaders prepared for the challenges of future battlefields.

Even though autonomous weapons systems must still adhere to our commitments to discrimination and proportionality, removing humans from the loop is legally and morally significant from the perspective of respecting the sanctity of human life. Human out of the loop weapons notably undermines our traditional notions of agency, responsibility, a warrior's ethos, human dignity, and all nations should seek to mitigate that damage where we can. We challenge cadets ethical reasoning and strategic thinking to consider being reluctant to make a choice for full autonomy and only to make it in the direst of circumstances, but, ultimately, any rights-adhering nation that faces annihilation by a rights-violating, autocratic regime must be prepared to dirty its hands. If human beings face death or severe injury by algorithms and

microprocessors, we challenge cadets, the future leaders of the United States Army, to consider removing humans from the loop.

Early Findings

Our position as instructors of cadets is that AI, machine learning, and robotics are reshaping every aspect of public and private life, and national security and defense are no exception. At the same time, we are coming to understand the many ways in which these technologies raise deep ethical, legal, psychological, social, and existential issues (both positive and negative). The traditional conception of Just War Theory may require revision and the future of AI, AI Robots, and AWS development requires interdisciplinary cooperation and the inclusion of ethicists.

Note

The views expressed in this presentation are solely those of the authors and do not represent the views of the United States Military Academy, the Department of the Army, or the Department of Defense.