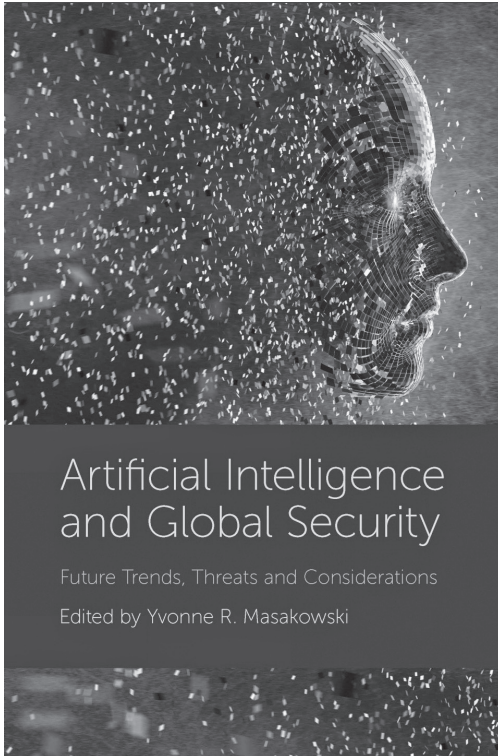


Capt. Róbert Stohl

A MULTIDISCIPLINARY APPROACH TO IMPLICATION OF ARTIFICIAL INTELLIGENCE

Book review



In the summer of 2020 Emerald Publishing presented a decent book in three different formats (online, epub and print) on one of the hottest scientific topics, Artificial Intelligence, from the viewpoints of global security. This one can be a niche for military scientists as it promises to examine the implementation of AI in daily life, and its influence on society and on war.

As the editor emphasised for the authors, the basic questions to explore were “*What are the implications of AI for the individual, for personal identity, privacy, and freedom, and for society? What are the consequences of AI advances related to national and global security?*” The answers are given by researchers of very different areas from many perspectives.

The detailed enumeration of contributors helps to support the book’s credibility. This is a fascinating list of erudite scholars and genial forethoughtful professionals. Their connection to the US

Naval War College indicates that this circle of researchers is contributing in many ways together, and it ensures the papers’ focus on practical military issues. Two Hungarian authors also appear on the list: a philosopher, Tibor Solymosi (Westminster College), and a soldier, Imre Porkoláb (Hungarian Defence Forces), in the fields of military ethics and leadership philosophy.

The book consists of eleven chapters, balancing between theoretical (moral) and practical questions of using AI in defence and security. In the first chapter (‘Artificial Intelligence and the Future Global Security Environment’), the editor, Yvonne R. Masakowski analyses the issues of emerging AI-driven technologies and ethical decision-making in military application of these technologies. She emphasises the importance of adaptability, learning ability, and awareness for military leaders. The use of AI-based technology raises some hard questions of ethics. During their service, soldiers may meet challenging ethical

decisions in the context of using new technologies. The author states that decision-makers need to be prepared to understand the AI systems at a certain level to be able to look through all the aspects of the application of AI-driven technologies. As declared, these technologies will determine not only our future daily life but also warfare in any domain. The author anticipates that the usage of AI technologies will “enhance military readiness capabilities” and “will continue to present ethical challenges for leaders and soldiers alike”.

The following chapter (‘Artificially Intelligent Techniques for the Diffusion and Adoption of Innovation for Crisis Situations’) discusses how diffusion and adoption (D&A) of technological innovation can help to manage crises. As the author, Thomas C. Choinski states, human and machine interaction may accelerate the D&A of innovation in crisis response, but the human factor of the solution will have little chance to be replaced by AI systems. AI can support crisis management in six ways: by identifying and prioritizing potential solutions, assisting in effective communication, revealing unintended consequences, assisting in building up appropriate partnerships, and finally, by adopting fast-follower strategies.

In the next chapter (‘Something Old, Something New – Reflections on AI and the Just War Tradition’) Timothy J. Demy argues that ‘Just war’ tradition will remain a strong framework for future warfare, though AI is a certain factor with growing importance. He points out that the challenge is to understand how to combine traditions and new technologies ethically. The following study from Keith A. Abney on “Space War and AI” examines new technologies in the context of the challenges of human existence in space. He finds that the ethics of war will change according to future technologies and environment as lethal autonomous weapons systems (LAWS) are used widespread.

Fifth, William D. Casebeer analyses the questions of the ethical use of AI in his study ‘Building an Artificial Conscience: Prospects for Morally Autonomous Artificial Intelligence’. The author agrees that autonomy has an increasing importance in future warfare and he concludes that building an artificial conscience is essential in cooperation between autonomous and human ‘teammates’ on the battlefield, as we need to equip soldiers with the best technology, but ‘machine teammates’ also have to possess “moral sensitivity, judgment, motivation, and skill”.

The following three chapters focus also on the moral questions of using AI technologies. James Peltz and Anita C. Street examine the topics of data privacy and data security in the context of AI and big data. For the best outcome, one option offered is transparency: education and open discussion on these topics can lead to handling and reducing the potential risks. Pauline Shanks Kaurin and Casey Thomas Hart point out that although the application of AI driven tools can be helpful in the process of decision making, they require further rigorous and detailed moral guidance, as until then they cannot replace human judgement and responsibility. In a further chapter, John R. Shook, Tibor Solymosi and James Giordano investigate the variability of the moral guidance as they state AI ethics are determined by the context it is used in (e.g. national security, intelligence, and defence). The authors provoke that for certain communities there could be “locally optimal moral programming for an AI”.

In his paper ‘An AI Enabled NATO Strategic Vision for Twenty-First-Century Complex Challenges’ Imre Porkoláb, urging for a new strategic vision, describes how NATO adapted to the arising challenges, and he raises the ideas how AI could support the Alliance’s digital transformation. He also points on that reliance on disruptive technologies may also create vulnerabilities as well. In his opinion, a new, AI-friendly mindset shift is necessary by reforming Mission Command concept and leadership training. The author also anticipates

that AI will support new generation leaders to “oversee increasingly complex operations and situations” and decentralized execution of human-machine teams will operate.

Gina Granados Palmer – making this review almost unnecessary – summarizes the key messages of some previous chapters on ethical questions with a detailed reflection. As epilogue, James Canton gives another summary on the previous chapters with an outlook on the future of AI. In his vision, Singularity Machines that defy human understanding will be the norm by 2040. He anticipates that digital wars might be the future of conflict, and synthetic cognition may replace humans in the future.

In the end, many ethical questions of using AI-driven technologies need further clarification, but AI supported technologies may help the Hungarian Defence Forces and NATO to cope with and to adapt to future challenges. This well composed book with various opinions on AI from very different viewpoints may be useful for an audience of future leaders and decision-makers.

Yvonne R. Masakowski (ed.):

Artificial Intelligence and Global Security: Future Trends, Threats and Considerations

London, Emerald Publishing, 2020, 187 pages

ISBN 978-1-78973-812-4, DOI: 10.1108/9781789738117