

Artificial Intelligence and National Security

by Vijay S. Khare and Amit Sinha, (Pentagon Press LLP, 2024).

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The two words that perhaps are driving the engine of growth for the contemporary world are Information Technology and Artificial Intelligence (AI). Present society being knowledge society the technology that regulates production and dissemination of this knowledge has become vital for diverse organizations and countries across the globe. AI these days stands as the lone factor of contributing to rapid change of any country's economy and military power. All of us in some or the other ways are an indispensable part of this driver of change. The history of any national security can be now be divided into two eras, the time before AI and after it. While widespread use of AI in all domains of life is a fact the most important question is how it can be deployed in most beneficial manner for the national security.

Demystification undoubtedly is one of the most important contributions of any scholarship. The book on *Artificial Intelligence and National Security* serves the above purpose successfully and adequately justifies its title, as it actually demystifies the world of AI for a common reader. It leads reader into an enigmatic world and allows him or her to be at home there. Written in an extremely lucid manner it takes reader to a highly interesting journey into the world AI, the concept and a contemporary reality. Explanations on some fundamental terms and concepts will offer a good starting point for informed and rational debates on emerging challenges related to AI, with greater chances for proper solutions to deal with same. The book performs an extremely difficult task of explaining a highly technical world of AI in such a simple manner. Dotted with examples the book has converted what could be an otherwise dry subject matter into a highly interesting read. Possibility to learn difficult concepts 'Artificial Narrow Intelligence', 'Artificial General Intelligence', 'Artificial Super Intelligence' creates a desire to read further and know more.

It is almost trite to say that no innovation, especially technological innovation, ever comes alone. It comes accompanied by threats, potential of turning into a Frankenstein monster.

Ensuring deployment of technological innovations into growth of humanity is possible only when it is understood properly with its strengths and weakness. This book

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serves that purpose as it makes readers aware that AI is an unavoidable reality and at the same time cautions on what aspects of AI have potential of misuse.

A near perfect example of interdisciplinary scholarship the book would be a great help for non-technical persons, AI Strategist and policy makers. As claimed by the authors it avoids jargon, but at the same time ensures that concepts are explained in proper depth despite simplification. Chapter 1 Introduction contains several lengthy and overly elaborate statements which, at times, obscure the intended message and may lead to unnecessary confusion for the reader. For instance, the sentence: “These instruments of power that form the concept of National Security, exist along the entire Spectrum, wherein military power is about control whereas diplomacy is about influencing and persuading others to achieve an objective,” appears in the opening paragraph and exemplifies this issue. Such complex constructions could be more effectively communicated by dividing them into shorter, clearer sentences, thereby enhancing reader comprehension. Figure 1 contains better insights of AI technologies like Computer Vision, Natural Language Processing, Machine Learning, etc. However, a brief description of these technologies is not included in the text referring to the figure for the better understanding of the readers. The chapter traces the origin of the AI.

The book gives readers a clear message- AI is the future of national security and warfare, it is here to stay howsoever it may be apprehended or disliked. However, on a very positive note, it highlights meaningful impact of AI on our lives. It in its own way aims to prepare the world to understand and find ways to deal with its challenges rather closing our eyes to them or looking at them as threats both for civilian and national security strategist. The book carries an interesting discussion on inherent biases in the AI system and how even AI can reflect mind-set prevalent in society at a given point of time for civilian and armed forces.

It was expected that the introductory chapter should have introduced the topic and its significance. Role of Regulatory, Scientific and Mathematical Tools in Determination of AI role in national security should have been clearly introduced. In the Section 1.1.2 many definitions by the National Defence Authorization Act (NDAA) (2019), have been quoted, however, rationale for AI is not clearly delineated. A reading the chapter 1 does give an impression that the focus of study is on artificial intelligence as discussion on artificial intelligence and national security is not present which takes one's eye off the ball.

Chapter 2 demonstrates a comprehensive understanding of the AI and national security, with sources ranging from foundational studies to recent advancements. Although the content is rich, some sources could benefit from clearer thematic grouping to enhance

readability. Inclusion of studies from David J Lonsdale (2004) covering Information Warfare and AI Commander, Ambuj Saha (2019) for AI in Defence, and Manish Kumar Jha and Amit Das (2021) for inevitability of AI in military is appreciated. The study of Kenneth Payne (2018) mentioning AI still favours the offence as compared to the nuclear weapons which favour defence needs to be backed with a good reasoning. How AI can be used for such purpose given its speed, precision, acquisition and analysis need to be more explained in detail. The mention of Association for the Advancement of AI (AAAI) in Section 2.5 should have been expanded by covering the AAAI conference which is a top-level Computer Science conference in today's world. It is a flagship AI conference recognised globally. This will provide more support to the description in this section. Studies from Kim R Holmes (2015), Air Vice Marshal Arjun Subramanian (Retd) (2022) and Pranay Kotasthane (2021) have not covered any direct or indirect inference of AI. It is therefore suggested to connect them relatively to the overall theme of the book. The book brought together contributions of different scholars that addressed a wide range of topics relating to AI and National Security.

The chapter 3 of the book reports on the various aspect of AI and national security. The chapter offers a clear explanation of 'niche technology', 'emerging technology' and 'disruptive technology' and brings out the fact that that AI is no longer a niche technology today. Authors argue that AI qualifies as emerging technology, and is differentiator for business in industry as it has resurged over the last decade. It has all the traits of an emerging technology with endless scope and applications yet to be unearthed. Finally, authors opine that it is AI is one of the technologies which tend to cloud 'emerging technology' versus 'disruptive technology' narrative. It discusses in detail the changing character of war in the era of AI and disruptive technologies. The book critically examines a range of global challenges and addresses concerns related to national security within the context of Fifth-Generation Warfare (5GW), Hybrid Warfare, Grey-Zone Tactics, and Algorithmic Warfare. These issues are explored in relation to the emergence and impact of disruptive technologies. This chapter also discusses national security strategy and AI strategy by examining Defence Acquisition Procedure,2000, modernisation and restructuring of the armed forces and way forward. In my opinion, authors have succeeded in developing a plausible argument.

The book under review contains a comprehensive chapter in the form chapter 4 on the key initiatives by the Government of India. It discusses NITI Aayog's initiative in AI, AI accelerators and enablers and leveraging AI in defence applications. With its comprehensive coverage of legal and policy-oriented efforts at the global level, it will also prove to be an



important starting point for approaches in different jurisdictions and philosophical underpinnings of legal efforts. Authors also taps different ethical issues and how India deals with AI.

A notable aspect of the book is chapter 5, which presents a comparative analysis between India and the P5 nations. This analysis provides readers with a comprehensive understanding of India's position concerning AI strategy and preparedness. The chapter further highlights India's current status and progress in leveraging AI for military applications, emphasizing its role in strengthening the core dimension of national security. However, link between AI and 5GW is missing.

Chapter 6 of the book deals with the roadmap outlining the strategic integration of AI into national security and presents a forward thinking and comprehensive vision. A critical examination existing framework reveals several areas that warrant deeper consideration and caution. Authors argue that roadmap for AI in national security is necessary strategic effort, but it must be approached with due care and attention. Mere technological advancement is insufficient without simultaneous development of ethical safeguards, legal frameworks, transparency standards, and public trust mechanisms. Authors fails to discuss the role of private actors in the way forward of AI deployments in in national security.

This book falls short of the expected standards which includes discussions on the core issues relating to the uses of AI in national security. In this, it seems that the emphasis of the author is more on providing information rather than deciphering the key issues in view of the global context of AI. One can not appreciate and practice AI if the technological and its practical aspects are not explained clearly. The book does not endeavor to explain clearly and comprehensively even the core legal issues. This book is a useful resource for any professional and student who wants to take a plunge in the world of AI and national security with clarity about basic concepts, regulatory and ethical issues.