BOOK REVIEW

Atlas of AI: Power, Politics, and the Planetary Costs of Artificial Intelligence
Kate Crawford (Yale University Press, 2022), 336

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In the contemporary digitalized world, Artificial Intelligence (AI) has predominantly evolved, revolutionizing socio-economic, political, government, and military functioning. This book provides an in-depth analysis of the impacts of AI on humans and the environment. During her research journey, Crawford, an Australian tech researcher at the Microsoft Research Lab (MSR), New York, observed various phenomena relevant to the technomism of AI and its implications on society.

The book consists of seven interconnected chapters. Its central theme is that the Fourth Industrial Revolution (4IR) neglects the phenomena of re-virtualization and the technomism of AI, which has affected the environment and society. Various images and geographical maps have been used by the author to explain the epistemic foundation of AI technology.

The first chapter, titled "Earth," outlines various aspects related to the extraction of rare techno-material (lithium from Nevada) and natural resources (oil and gas) with increasing demand from tech companies like Tesla for manufacturing car batteries. Crawford emphasizes that building the essential infrastructure for AI language processing models with computer vision makes its predecessors energy-hungry for rare materials. The rare mineral resources from China, Malaysia, Mongolia, and Nevada contribute to the supply chain for manufacturing AI processing models. However, the extraction of these resources has detrimental effects on both humans and the environment.

Lastly, she alludes to tech companies' lust for materials, which she deems pernicious.

In the second chapter, "Labor," the author elucidates the glaring reality of AI systems reshuffling the working style of humans by reducing their intervention. Advanced AI data systems can perform specific tasks more effectively than humans (like machinery and robots). The author mentions her journey at Amazon warehouses and Chicago Meat Authority, where algorithms are effectively deployed for greater efficiency and surveillance against the labor force. Furthermore, she adds that coordination always remains an integral component of the workplace, and AI is required for a precise and effective coordination system in the workplace. She asks how syncing time with comprehensive information about individuals could be achieved.

The third chapter, "Data," emphasizes the significance of data, which plays a vital role in the evolving world of AI systems. Referencing the contribution of big data in the AI model, it makes the AI model rationalistic and logical, enabling it to learn about the social sphere, from emotions to facial recognition, and from old conversations of the 1990s groups to new chat rooms. AI has now become capable of synchronizing its mechanism with millennium technologies in the nineteenth century. Crawford concludes this chapter by expressing her opinion about the intensity of "data fiction," making information regarding individuals integral to the "aggregate mass." She argues that the present usage of AI raises epistemological, ethical, and methodological concerns.

Chapter four titled "Classification," explains how big data is effectively used. Throughout human society's evolution, the classification process has remained a subject of ethical critique and scientific research. While elucidating the classification of big data, the author introduces different terminologies (proxy, sign, and toy model) and references the concept of "epistemic machinery" (coined by KK Cetina). These schematic data schemes help to develop a fair and unbiased system irrespective of social, economic, and political structures. Meanwhile, renowned

tech companies, including TikTok, Facebook, and Google, employ these data analytics schemes to target specific audiences.

In chapter five, "Affect," Crawford references psychologist Paul Ekman, who studies the effects of AI data systems investigating emotional and physiological states through face detection. On the contrary, leading skepticism has labeled it as very misleading. Further, with its highly compromising ability, AI plays a crucial role in recruiting, policing, health, and education management systems. To rejuvenate AI's learning capability, a vast cache of data tech sets is embedded with it to make it more logical and epistemological, learning in diversified fields, including research and development. Lastly, she alludes that AI systems establish a solid base for promotional and perception-building through various social media platforms.

In the chapter "State," the author highlights the vital part of the contemporary world, which is deeply interconnected between the military and tech industries. Since the evolution of military affairs, the military has remained highly dependent on high-tech and advanced equipped systems. With the incorporation of AI, intelligence, surveillance, and reconnaissance (ISR) capabilities have become more advanced, and AI has become a more intrusive and integral part of state craftsmanship.

In the concluding chapter, titled "Power," Crawford discusses the computational power of AI, how AI works, and the challenges that arise due to the use of this technology. Lastly, she suggests that states need to adopt a collective approach to address the multifaceted challenges that have arisen due to the use of AI.

Throughout the book, the author has adopted a general approach based on first-hand experience and an environmental lens to analyze the technomism of AI and its pertinent challenges to the human race. Another element is the dual nature of AI and human supervision for its effective functioning. AI works on the algorithms devised by humans, giving ultimate control of AI-based technologies to humans, not vice versa. AI can also be utilized to eliminate unprecedented challenges related to the environment, such as the eco-friendly usage that reduces

carbon emissions through the given algorithms.

The author has used pictorial and geographical images to explain the functioning of AI and the role of big data in various fields of life. However, the discussion of artificial neural networks (ANN) and natural language processing (NLP), which have greater significance for the behavioral study of AI, has yet to be included. Although she has comprehensively and effectively built the nexus of the history of tech with the contemporary debate of AI and its challenges for the environment, she has not mentioned how natural resources and AI are shaping global power politics and what the future challenges might be, other than environmental and digital rights.

The book effectively reflects a one-sided image by suggesting that, with the rise of environmental concerns due to these technologies, there is a dire need for a collective approach to climate justice, digital rights, and data protection. In sum, AI is a dual-use technology that requires minimal human assistance, but at the same time, humans define the role of AI. This technology may alter the lifestyle of humans and reshape global power competition.

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