

Book Review

Kearns, M. & Roth, A. (2020). *The ethical algorithm*. Oxford University Press. 218 pp., \$24.95 (Hardcover), ISBN 9780190948207

Reviewed by Muhammad Akram¹, *Concordia University, Montreal, Canada* and Shama Perveen, *Eastern Mennonite University, United States*.

There is an increasing concern over the privacy of people's data amidst this digital era (Ohkubo et al., 2005). The debate includes whether this much data being collected is ethical for the protection of peoples' information and their privacies. Over the last two decades, two questions are obvious: "Should a company be allowed to acquire and store information about people without their knowledge or consent? Should a company be allowed to disclose information about people to other parties without their knowledge or consent?" (Martin & Murphy, 2017, p. 140). But how the companies collect and utilize the massive amount of internet users' data? The answer is, Algorithms.

Since the start of 21st century, internet access has surprisingly increased to 3.97 billion internet users, more than half of the world population, with largest user-base of Facebook as 2.7 billion (Johnson, 2021). It has shifted various daily chores requiring in-person interactions to the online activities, digital interactions, and services. Though it has eased the access to various services, but it has also raised concerns over people's data privacies that they put online to communicate or access various services available online.

Since technology of algorithms are used to shape the data for various needs, Karen and Roth are concerned about ethical use of algorithms which should have socially aware design rather than solely led by machines. Their key argument covers the decision-making aspect of algorithmic data. They view that decisions solely based upon algorithmically processed data can misguide the decisions due to the lack of contextual information and limited critical thinking involved by the decision maker themselves. The *Ethical Algorithm* book is a leap towards building the understanding of policymakers for the scale of reliance on big data and the need for human inputs while decision making is based on the data. This book contributes its part by highlighting the potential risks of solely reliance on the data generated by algorithms that can generate a misinformation sensitive to security, health, and other areas of individual and national concerns.

The quality aspect of this book is the usage of examples from various areas of daily life and the readers engagement techniques of those examples. This book has placed the individual and social ethics on the top of the economic or business benefits and has urged for socially aware usage of algorithms. The language, along with examples, of this book has made its content understandable for the readers with no technology background which is certainly helpful for the social and political policymakers.

¹ Corresponding Author: PhD scholar at Concordia University, Canada. E-mail: akramuhammad1@gmail.com

Summary of the Primary Argument

The Ethical Algorithm is a whistleblower book on unethical aspects of algorithms which are affecting individual privacies and freedoms. The world has entered the era where algorithms are being used to generate and shape the colossal amount of data to make more informed decisions supported by the figures. Algorithms are “those little bits of machine code that increasingly mediate our behavior via our phones and the internet” (Kearns & Roth, 2020, p. 3). This book has an example of a forty-six-year-old schoolteacher in New York whose daily movement was from her home to the school. But this data led to identify her visits to the dermatologist’s office and her ex-boyfriend’s home. “It’s the thought of people finding out those intimate details that you don’t want people to know” (Kearns & Roth, 2020, p. 2), she said. It could require a specific team to spend a few months to acquire this information in a few decades ago. Another critical example in the book is about an app Fitbits which tracks its users’ daily physical activity. Fitbits released its visualized report in 2017 where the physical activities of U.S. military personnel were identified inside military base in Afghanistan’s Helmand province.

The authors are mainly concerned about increasing reliance on the data generated by algorithms, especially when it comes to the decision making in different areas of routine life. The book contextualized various examples where algorithms could influence the decisions towards unwanted direction. For example, the usage of algorithmic data to review the applications of credit cards, health benefits, sorting job applicants, and insurance coverages. But the situation gets complicated when the algorithmic data is used in criminal justice system, political decisions towards certain groups or countries, measuring racism, or even in prescription of medications. In such circumstances, the authors argue for socially aware algorithms where human element is not missing while machines or computers are making decisions. The use of algorithmic data to predict the situation does not guarantee the contextually informed decisions but place the individuals’ personally sensitive information at the forefront of being misused.

This book has multiple references to the algorithms of Google and Facebook since both platforms have largest internet traffic. It talks about various incidents when these platforms used their users’ personal information without their consent or knowledge. It is surprising to know that “87 percent of US population can be uniquely identified from their data triple – birthdate, sex, and zip code” (Kearns & Roth, 2020, p. 23). I can relate this in routine communication with my insurance company or medical office as they only ask these three details whenever called. Netflix use the collaborative algorithms to suggest movies relevant to those previously watched or trending among the circle of friends. Amazon urge to buy the products arguing that other customers who bought the same product also bought others too which is a prediction for the customer either to buy those now or will need to buy in future. The Facebook’s algorithms analyze your profile details and friends’ list to suggest the friends from your potential networks. The book also has an example of a dating app named Coffee Meets Bagel which reflects a critical aspect of algorithms. If users are not comfortable to give their personal information and preferences, the app’s algorithms will generate unwanted results for a user, and the app will suggest unwanted potential partner. Hence, the users of online platforms for various services get trapped to put their personal details at risks of being misused to predict their behaviors, preferences, and even the personal traits of their private life.

This book helps to understand the indirect data collection techniques used by technology companies portraying the users of their services for not asking their personal information. But they use differential algorithms to not only collect the information but to analyze for their further usage. Again, the book has quoted the example of Google and Apple who use differential algorithms in effort to gain the trust of their users, but the data has massively been used for many other purposes.

The book refers to the leaks by Edward Snowden about individuals' data flowing without their knowledge or consent and Google producing data of more than 157,000 users to entertain the 65 percent of the requests by the U.S. government authorities. So, there is no guarantee of data privacy even if the companies claim for privacy policies.

The book has highlighted other side of the story claiming that algorithms are not always a problem, sometimes people are the problem too. It makes sense that sometimes people put their excessive information online that they could chose not to do so. This invites the data companies to access the maximum they can utilize for their business purposes - either to use by themselves or share with their clients or partners' usage.

The key argument in this book is to advocate for incorporating the social welfare thinking while designing algorithms. It calls the algorithm developers to work in collaboration with the social science researchers to incorporate the human element and contextual understandings in the design of algorithms with social welfare focus. Such collaboration could bring socially aware algorithms derived from tested theories or hypothesis. It is understandable that flipping the coin technique mentioned in this book is helpful to collect the sensitive information through randomized algorithms, but we do not agree with the notion that people speak the truth as three-quarter of the time in a survey. This hypothesis lacks the contextual description or a theoretical support in the book as this ratio could vary depending upon the dynamics of population and sensitivity of the survey subject. The untested hypotheses could multiply the lack of reliability of the findings generated with support of algorithms and hence lead to the less informed decisions.

Conclusion

The Ethical Algorithm book talks about an emerging subject amidst increasing dependence on algorithms to generate the huge volume of data and its further utilization in routine life services. This book advocates for human element if decision making is based upon the data generated by computer generated algorithms because algorithmic decisions may just be data-driven and blindly pose risks to the individuals. The book is an effort to bridge the divided between technology (algorithms) and social sciences as both fields often work in alienation. Since there is the limited practice of coordination between social sciences researchers and information technology professionals, most of the technological innovations are not pre-studied for social welfare integration. Though this book has touched upon the legal aspects to regulate the data privacy and fair treatment to the individuals' information, but that seems still an open debate when bureaucracy would not respect the privacy of citizens' data. Realizing the fact that the world cannot escape from algorithms, the researchers could work more to identify and list down the areas of potential collaboration between social sciences and algorithmic technology for socially aware algorithms. The research areas could range more from the contextual comparisons, incorporation of social sensitivities, and more realistic samples of algorithmic models defying the privacy issues and biased directions of data flow. The book could recommend some policy measures to promote the socially aware algorithms as a way forward for the governments and institutions. There could be some recommendations for the collaborative education programs where technology students' curriculum is embedded with respect for social welfare and ethics for the common good.

References

- Johnson, J. (2021). Global number of internet users 2005-2019. *Statista*. www.statista.com/statistics/273018/number-of-internet-users-worldwide/#:~:text=In%202019%2C%20the%20number%20of,billion%20in%20the%20previous%20year
- Kearns, M. & Roth, A. (2020). *The Ethical Algorithm*. Oxford University Press.
- Martin, K. D., & Murphy, P. E. (2017). The role of data privacy in marketing. *Journal of the Academy of Marketing Science*, 45, 135-155. <https://doi.org/10.1007/s11747-016-0495-4>
- Ohkubo, M., Suzuki, K., & Kinoshita, S. (2005). RFID privacy issues and technical challenges. *Communication of the ACM*, 49(9), 66-71.

Notes on Contributors

Muhammad Akram is PhD scholar at Concordia University, Canada, and graduate of MA Conflict Transformation from Eastern Mennonite University, USA. He publishes routinely on disinformation, radicalization, and extremism. <https://orcid.org/0000-0002-0379-7030>

Shama Perveen is pursuing MA Organizational Leadership at Eastern Mennonite University, Virginia, USA.

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