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Deploying Blockchains to Simplify AI Algorithm Auditing

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Abstract

Artificial Intelligence has largely occupied various sectors in the world. A huge number of business companies have incorporated several machine learning algorithms for day-to-day decision making. With increasing applications of AI algorithms, the concerns regarding its outcomes have also increased due to bias. In AI algorithms, bias occurs due to multiple reasons including incomplete data, skewed data, human error and so on. These algorithms have the tendency to amplify partially and discrimination in the results instead of benefiting them. This makes it compulsory for the algorithms to be audited. Currently, AI algorithm auditing processes have several challenges including tendency of biases to be deeply ingrained into the system, making these difficult to mitigate; lack of transparency in decision making and many more. This study presents the emerging technology of blockchains to be a viable solution to the existing problem. It comprehensively discusses the suitability of blockchains for transparency in the process of algorithm auditing which is bound to easily capture the issue and the layer consisting it. Consequently, the process of algorithm auditing will be more convenient and more productive. Moreover, this review also discusses some potential challenges that need to be addressed and some future recommendations for this integration. © 2023 IEEE.

Author Keywords

Algorithm Auditing; Algorithmic Bias; Blockchain Networks; Digital Transparency; Fairness in AI

Index Keywords

Blockchain, Decision making, Learning algorithms, Machine learning; AI algorithms, Algorithm auditing, Algorithmic bias, Algorithmics, Block-chain, Blockchain network, Business companies, Decisions makings, Digital transparency, Fairness in AI; Transparency

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