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RESEARCH ARTICLE

Blockchain With Hierarchical Auto-Associative Polynomial Convolutional Neural Network Fostered Cryptography for Securing Image

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ABSTRACT

Nowadays, the image security is one of the most challenging issues to address the technological age. Security is the primary issue in data management and transmission because of the original data form that is read, abused and destroyed. The cloud companies struggle to secure the file. The cloud security is the major concern in cloud computing context. Numerous researches have been presented so far to protect the cloud environment. But, none of them provides the sufficient security. Therefore, this paper proposes a Blockchain-based technique for Image Security that combines Hierarchical Auto-Associative Polynomial Convolutional Neural Network Fostered Cryptography (BC-SIE-HAPCNN-FODCE). The Flickr30k dataset is used to collect the input images. At that point, cryptographic pixel values of picture are kept on blockchain to defend security of picture information. It uses Delegated Proof of Stake Consensus (DT-DPoS) approach appointed confirmation of stake agreement approach. The performance parameters, like processing time, reaction time, runtime, correlation coefficient analysis, entropy analysis, mean square error, and availability are used to determine the efficacy of the proposed BC-SIE-HAPCNN-FODCE approach. The performance of the proposed technique attains 18.81%, 32.05%, and 22.28% higher correlation coefficient and 25.38%, 20.81%, and 26.04% higher entropy compared with existing methods, such as Multiple Rossler lightweight Logistic sine mapping dependent Federated convolutional method with cyber blockchain in medical image encryption (BC-SIE-FCAL-MRLLSM), color image encryption under Hénon-zigzag map with chaotic restricted Boltzmann machine over Blockchain (BC-SIE-CRBM-HZM) and blockchain-assisted safe picture transmission along

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Data Availability Statement

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

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