Journal of Computer Engineering & Information Technology

Opinion Article A SCITECHNOL JOURNAL

Computer Engineering Applications for Block Chain Technology

Arjmandi Amar Cody*

Department of Chemical and Materials Engineering, University of Auckland, Auckland, New Zealand

***Corresponding author:** Arjmandi Amar Cody, Department of Chemical and Materials Engineering, University of Auckland, Auckland, New Zealand; E-mail: a.arjmandi@acody.ac.nz

Received date: 28 February, 2023, Manuscript No. JCEIT-23-95478;

Editor assigned date: 03 March, 2023, Pre QC No. JCEIT-23-95478(PQ);

Reviewed date: 17 March, 2023, QC No JCEIT-23-95478;

Revised date: 24 March, 2023, Manuscript No. JCEIT-23-95478(R);

Published date: 31 March, 2023, DOI: 10.4172/2324-9307.1000260

Description

Block chain technology is a decentralized ledger system that records transactions in a secure, transparent, and immutable manner. It was first introduced in 2008 by Satoshi Nakamoto to serve as the underlying technology for the cryptocurrency, Bitcoin. Block chain has since evolved to find many potential applications in various industries, including computer engineering.

The block chain technology consists of a network of nodes that work together to verify and validate transactions. Each block of transactions is encrypted using complex mathematical algorithms, and once validated by the network, it is added to the existing chain of blocks. Once a block has been added to the chain, it cannot be altered or deleted, making it an immutable record of all transactions.

One of the significant benefits of block chain technology is its ability to provide a secure and transparent method of storing data. In computer engineering, block chain can be applied in many ways, including.

Traditional cloud storage relies on centralized servers that are vulnerable to hacking and data breaches. However, block chain technology enables decentralized cloud storage, where data is stored across a network of nodes, making it difficult for hackers to gain access to the data. One example of such a platform is Storj, which allows users to store their files on a network of computers in exchange for cryptocurrency.

Block chain technology can be used to develop a secure and decentralized identity management system. It can enable users to control their digital identities, reducing the risk of identity theft and fraud. One example of such a platform is Civic, which uses block chain to verify user identities and provide secure access to online services.

A smart contract is a self-executing contract that automatically enforces the terms and conditions agreed upon by the parties involved. Block chain technology enables the creation of smart contracts that are secure and transparent, reducing the need for intermediaries. One example of such a platform is Ethereum, which enables the creation of decentralized applications that run on its block chain.

Block chain technology can be applied in supply chain management to track and trace the movement of goods from the manufacturer to the consumer. This enables stakeholders to verify the authenticity of products and reduce the risk of fraud. One example of such a platform is VeChain, which uses block chain to track the origin and authenticity of luxury goods.

Block chain technology can enhance cybersecurity by providing a secure and decentralized method of storing data. It can also enable the creation of decentralized applications that are less vulnerable to hacking and cyber-attacks. One example of such a platform is Nexus, which uses block chain to secure and decentralize its network.

The IoT involves the use of connected devices that communicate with each other and with the internet. However, traditional methods of data storage and communication are vulnerable to hacking and data breaches. Block chain technology can provide a secure and decentralized method of storing and sharing data in the IoT. One example of such a platform is IOTA, which uses block chain to enable secure and decentralized communication between IoT devices.

Block chain technology has many potential applications in computer engineering, from decentralized cloud storage to identity management and supply chain management. Its ability to provide secure, transparent, and immutable record-keeping makes it an attractive option for many industries. As the technology continues to evolve, it is likely to find even more applications in the future.

Citation: *Cody AA (2023) Computer Engineering Applications for Block Chain Technology. J Comput Eng Inf Technol 12:2.*