

Blockchain Technology and its Issues: Types, Applications, Challenges, and Future Directions

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Abstract:

Blockchain technology provides transparency, security, and efficiency, making it an amazing tool that could upend multiple industries...Brought to life from cryptocurrencies, blockchain now has a whole range of applications from finance and healthcare to supply chain management. Decentralization permits blockchain to maintain the integrity of data, leaving no space for any fraudulent manipulation. But this is still its growing phase;} As more users join and new applications grow apace with development, there will always be teething problems like these which cannot easily be resolved overnight However, there are still many serious obstacles facing blockchain technology, such as scalability, energy consumption, legal doubts and lack of compatibility-- all combine to obstruct its further development. It is expected that in addition to these challenges blockchain will have a key role in shaping future technologies; these include the Internet of Things (IoT), artificial intelligence (AI), and digital currencies. This paper attempts to provide an overview of the current status, applications and challenges surrounding blockchain technology. It discovers real-world examples and legal backgrounds and new trends in practice coming up now, from which we are able cloth a sense of where it might lead tomorrow throughout industry transformations.