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An analytical study of Open Access Resources for Blockchain and its Applications

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Abstract

In the recent years due to popularity of Bitcoin and other cryptocurrencies Blockchain has gained attention of industries and academia. Lots of research and case studies are coming up which are trying to identify the potential of blockchain in several applications other than cryptocurrencies. The basic motto of blockchain is to provide a secured way or a secured mechanism to record and share the data among several parties on a computer network in a peer to peer fashion so that there is no central controller over the database. This survey aims to provide the understanding of building blocks of blockchain, the available blockchain frameworks and the application areas of blockchain. This research work mainly focusses on addressing the questions like, what is blockchain? What are the applications of blockchain? What are the different blockchain frameworks? and What are the challenges in adoption of blockchain? To find answers of these questions, more than 240 open access papers, research articles were studied. There are several areas of application of blockchain including finance and banking, internet of things, energy, healthcare, government etc. The study reveals that blockchain is in infancy stage, the challenges include heavy computational cost, lack of resources and knowledge base still the researchers and industries are trying to put every possible effort in utilizing the potential of blockchain in the application areas. This study provides a useful insight on open access resources available in IEEE Xplore digital library and also provide directions to novice users and beginners who want to work on blockchain and its applications.

Keywords: Blockchain, Blockchain Applications, Open Access Resources for Blockchain, Blockchain Challenges

1. Why IEEE Xplore digital library?

IEEE Xplore is world's largest online digital library that publishes quality technical content and scientific research studies. It has more than four million documents published in 195 journals, 1400 plus conference proceedings, 400 plus educational courses etc. The documents are accessible through web using various membership plans and products. It was aimed to find open access resources that can help the beginners to gain the understanding of blockchain.

2. Research Method

This research is carried out in systematic steps that are described below.