

Home (<http://ipindia.nic.in/index.htm>) About Us (<http://ipindia.nic.in/about-us.htm>) Who's Who (<http://ipindia.nic.in/whos-who-page.htm>)
 Policy & Programs (<http://ipindia.nic.in/policy-pages.htm>) Achievements (<http://ipindia.nic.in/achievements-page.htm>)
 RTI (<http://ipindia.nic.in/right-to-information.htm>) Feedback (<https://ipindiaonline.gov.in/feedback>) Sitemap (<http://ipindia.nic.in/itemap.htm>)
 Contact Us (<http://ipindia.nic.in/contact-us.htm>) Help Line (<http://ipindia.nic.in/helpline-page.htm>)

[Skip to Main Content](#) [Screen Reader Access \(screen-reader-access.htm\)](#)



(<http://ipindia.nic.in/index.htm>)



(<http://ipindia.nic.in/inc>)

Patent Search

Invention Title	OPTIMIZED RESOURCE MANAGEMENT IN BLOCKCHAIN-BASED INTERNET OF EVERYTHING
Publication Number	06/2022
Publication Date	11/02/2022
Publication Type	INA
Application Number	202211006032
Application Filing Date	04/02/2022
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	ELECTRONICS
Classification (IPC)	H04W0004700000, H04L0029080000, H04W0072040000, H04L0009060000, H04W0048100000

Inventor

Name	Address	Country	Nationality
Neha Gupta	Phd Scholar (ECE), Graphic Era Deemed to be University, Uttarakhand, India	India	India
Dr. Pradeep Kumar Juneja	Professor, Department of ECE, Graphic Era Deemed to be University, Uttarakhand, India	India	India
Amit Kumar Mishra	Assistant Professor, Department of CSE, Graphic Era Hill University, Uttarakhand, India	India	India
Dr. Neeraj Kumar Pandey	School of Computing, DIT University, Dehradun, Uttarakhand, India	India	India
Falaq Jeelani	Student, Dev Bhoomi Uttarakhand University, Uttarakhand, India	India	India
Aman Chauhan	Senior Data Engineer, Larsen & Turbo Infotech Limited, Mumbai, India	India	India

Applicant

Name	Address	Country	Nationality
Neha Gupta	Phd Scholar (ECE), Graphic Era Deemed to be University, Uttarakhand, India	India	India
Dr. Pradeep Kumar Juneja	Professor, Department of ECE, Graphic Era Deemed to be University, Uttarakhand, India	India	India
Amit Kumar Mishra	Assistant Professor, Department of CSE, Graphic Era Hill University, Uttarakhand, India	India	India
Dr. Neeraj Kumar Pandey	School of Computing, DIT University, Dehradun, Uttarakhand, India	India	India
Falaq Jeelani	Student, Dev Bhoomi Uttarakhand University, Uttarakhand, India	India	India
Aman Chauhan	Senior Data Engineer, Larsen & Turbo Infotech Limited, Mumbai, India	India	India

Abstract:

The vision of the Internet of Everything (IoE) applications is to develop the transaction relationship of real-time response applications. There are various frameworks in the world to support the IoE applications, but issues like security, platform independence, multi-application assistance, and resource management are considerable. Fog Computing (FC) has been introduced to scale back the energy consumption and latency for the heterogeneous communication approaches within the Internet of Things (IoT) which is extended to the Internet of Everything (IoE). While fog computing decreases the computation delay and anticipates traffic data, it also brings the severe challenge on computing resource allocation of the available computation and communication resources under the stringent quality of service (QoS) requirements. The security issue of communication in IoE is enhanced by Blockchain technology. Blockchain is a data structure consisting chain of blocks that grows with each transaction and is linked through cryptography. The third party involved in controlling and accessing data. Although the latency and security challenges in IoE would be covered by a Blockchain Fog-based Architecture Network (BFAN) for IoE, optimized resource management is yet considerable. This work is motivated by two different concepts of algorithms and BFAN. The first concept is known as a deterministic algorithm such as Algorithmic Game Theory (AGT) and the second one is heuristic/evolutionary algorithm such as whale optimization algorithm (WOA). The goal of this work is to investigate the optimized resource allocation algorithm in Blockchain Fog-based IoE networks. Game theories are used in an uncertain decision-making situation with certain determinants while evolutionary algorithms are used without predefined factors, therefore the focus is on solving the problem using an evolutionary/heuristic algorithm, WOA in particular. In a heterogeneous Fog-based IoE network with numerous FN, selecting the best node to communicate with is uncertain therefore AGT or WOA help in finding the nearest node with regards to not increasing the latency and energy.

Complete Specification

IoT applications such as smart cities need to be energy-aware, low latency, and scalable. The designed framework Blockchain Fog-based Architecture Network (BFAN) deploys an efficient solution for urban regions to provide Fog-based applications with energy-efficiency, scalability, and security. The contribution of this work is to the optimization of resource allocation in BFAN through an evolutionary/heuristic algorithm called whale optimizing algorithm (WOA) with compare to an Algorithmic Gaming Theory called Nash Bargaining Solution (NBS). The system energy consumption and the latency could be impacted by the different computing modes, and it is expected that the proposed scheme would make an optimal decision for choosing the proper computing model to achieve a good performance. This work analyses the result of the WOA and NBS on the BFAN framework.

Description of the InventionThe ascent of blockchain innovation gives the likelihood to tackle the asset, the board issue of fog computing. Simultaneously, it cryptographically ensures the information's irreversible and renewable attributes and secures the information

[View Application Status](#)

भवा पोर्टल
IS' SERVICES PORTAL



Terms & conditions (<http://ipindia.gov.in/terms-conditions.htm>) Privacy Policy (<http://ipindia.gov.in/privacy-policy.htm>)
Copyright (<http://ipindia.gov.in/copyright.htm>) Hyperlinking Policy (<http://ipindia.gov.in/hyperlinking-policy.htm>)
Accessibility (<http://ipindia.gov.in/accessibility.htm>) Archive (<http://ipindia.gov.in/archive.htm>) Contact Us (<http://ipindia.gov.in/contact-us.htm>)
Help (<http://ipindia.gov.in/help.htm>)

Content Owned, updated and maintained by Intellectual Property India, All Rights Reserved.

Page last updated on: 26/06/2019