PUNE INSTITUTE OF COMPUTER TECHNOLOGY,
DHANKAWADI, PUNE – 43.

UG SEMINAR ABSTRACT

Academic Year: 2023-2024

DEPARTMENT: IT

Seminar On "Empowering Secure Data Realms: Exploring Blockchain Solutions for Big Data Privacy"

By Viraj Sahebrao Sonawane **Roll No.** 33382

Name of the Topic: "Empowering Secure Data Realms: Exploring Blockchain Solutions for Big Data Privacy"

Topic-wise Contents:
• Introduction to Blockchain and Big Data Integration
• Challenges in Big Data: Analytics, Management, Privacy, and Security
• The Role of Blockchain in Enhancing Big Data Services
• Blockchain Services for Secure Big Data Acquisition
• Blockchain for Data Storage, Analytics, and Privacy Preservation
• Applications of Blockchain in Domains like Smart City, Healthcare, Transportation, and Smart Grid
• Representative Blockchain-Big Data Projects: Analysis and Insights
• Addressing Challenges and Exploring Future Directions

References Used:
i. "Blockchain for big data: A comprehensive survey" by J. Wang et al.
ii. "A blockchain-based access control system for big data" by X. Zhang et al.
iii. "A credible big data sharing model based on blockchain technology" by Y. Chen et al.
iv. "Privacy and security techniques for Big Data" by A. Smith et al

Date: 11/08/2023

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Student

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REMARKS BY UG SEMINAR CO-ORDINATOR:

Date: _____ _____

UG Seminar Coordinator

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Abstract

This seminar and research paper delve into the intersection of blockchain technology and big data privacy, investigating how blockchain solutions can alleviate data protection challenges in an interconnected world. The seminar introduces the evolving big data landscape and escalating threats to individual privacy. Blockchain is showcased as a potential remedy by establishing a secure, decentralized data management framework. Through cryptographic principles and consensus algorithms, blockchains ensure data integrity, immutability, and transparency, reducing reliance on central authorities. The seminar primarily examines diverse blockchain strategies for preserving big data privacy, encompassing permissioned and permissionless architectures. It explores their roles in data access control, identity management, and confidentiality. Real-world case studies exemplify practical implementation and advantages of integrating blockchain into existing data systems. Additionally, the seminar critically evaluates limitations like scalability, energy consumption, and regulatory concerns linked to employing blockchain for data privacy, offering a comprehensive view of potential challenges.

In conclusion, the seminar underscores the multidimensional approach needed to enhance big data privacy through blockchain. It highlights blockchain's potential to reshape data protection methods and encourages further research for a secure digital future..

Keywords: Blockchain technology, big data privacy, data protection, decentralized framework, cryptographic principles, consensus algorithms, data integrity, immutability, transparency, permissioned blockchain, permissionless blockchain, data access control, identity management, confidentiality, real-world case studies, integration, scalability, energy consumption, regulatory concerns, multidimensional approach, data security, digital future.

Remark by Seminar Guide:

Date:

Seminar Guide

Abhinay Dhamankar