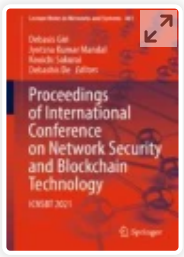

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Proceedings of International Conference on Network Security and Blockchain Technology

ICNSBT 2021

Editors: Debasis Giri, Jyotsna Kumar Mandal, Kouichi Sakurai, Debashis De

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Sections

Table of contents (32 papers)

Search within book

← Previous Page 1 of 2 Next →

Network, Network Security and their Applications

← Previous Page 1 of 2 Next →

Back to top ↑

Other Volumes

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Back to top ↑

About this book

The book is a collection of best selected research papers presented
at International Conference on Network Security and Blockchain Technology (ICNSBT 2021), organized by Computer Society of India—Kolkata Chapter, India, during December 2–4, 2021. The book discusses recent developments and contemporary research in cryptography, network security,
cyber security, and blockchain technology. Authors are eminent academicians, scientists, researchers, and scholars in their respective fields from across the world.

Back to top ↑

Keywords

Network Security **Cyber Security**

Virtual Private Networks **Blockchain**

Digital Watermarking **Social Networking**

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Back to top ↑

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Back to top ↑

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Back to top ↑

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Topics

Communications Engineering, Networks, Mobile and Network Security, Cryptology, Blockchain, Artificial Intelligence

Back to top ↑

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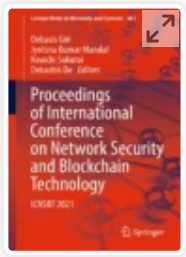

International Conference on Network Security and Blockchain Technology

ICNSBT 2021: **Proceedings of International Conference on Network Security and Blockchain Technology** pp 18–27

Monitoring, Recognition and Attendance Automation in Online Class: Combination of Image Processing, Cryptography in IoT Security

Pritam Mukherjee, Abhishek Mondal, Soumallya Dey, Avishikta Layek, Sanchari Neogi, Monisha Gope & Subir Gupta

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Part of the Lecture Notes in Networks and Systems book series (LNNS,volume 481)

Abstract

According to Oxford and Cambridge dictionary, the attested meaning of monitoring is an uninterrupted observation towards a particular circumstance for a specific period and inventing some new thing in it. In a word, we can tag it as “Supervision.” Regarding automation, the aphorism of both dictionaries is a work executed using self-operating machinery without any control of human beings. “Mechanization” is a substitution for the same.

During the online class, continuous monitoring is essential and on the other hand, taking attendance is an obligatory task. It takes an adjunct effort and additional time involvement aside from the class hours. But if both these exigencies come under one umbrella with a very new aspect and a firm conviction, how will it be? IoT security and automation have collaborated to make this successful. This paper is an amalgamation of uninterrupted cognizance and guaranteed genuine automation on attendance marking. It contains the feature of data encryption using Fernet Cryptography to eschew manipulation. Another quality of this paper is that it shows a trail to detect human faces dexterously using Haar Cascade and Shape Predictor. The paper proposes a razor-sharp face authentication, discrepancy elimination and acts as a selectively permeable membrane. This paper provides a substantial replacement for manual attendance. The intention of generating this report is to bring ease to the online monitoring and attendance-taking system. The information presents its Promethean features with a minor error of 4% using Percentage error.

Keywords

Cryptography **Eye blinking**

Image processing **IoT security**

Online class monitoring

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