DATA SECURITY TO CLOUD COMPUTING

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Abstract: The need for cloud storage grows day after day due to its reliable and scalable nature. The storage and maintenance of user data at a remote location are severe issues due to the difficulty of ensuring data privacy and confidentiality. Some security issues within current cloud systems are managed by a cloud third party (CTP), who may turn into an untrustworthy insider part. This paper presents an automated Encryption/Decryption System for Cloud Data Storage (AEDS) based on hybrid cryptography algorithms to improve data security and ensure confidentiality without interference from CTP. ● Three encryption approaches are implemented to achieve high performance and efficiency: ● Automated Sequential Cryptography (ASC), ● Automated Random Cryptography (ARC), and ● Improved Automated Random Cryptography (IARC) for data blocks. In the IARC approach, we have presented a novel encryption strategy by converting the static S-box in the AES algorithm to a dynamic S-box. Furthermore, the algorithms RSA and Twofish are used to encrypt the generated keys to enhance privacy issues. We have evaluated our approaches with other existing symmetrical key algorithms such as DES, 3DES, and RC2. Although the two proposed ARC and ASC approaches are more complicated, they take less time than DES, DES3, and RC2 in processing the data and obtaining better performance in data throughput and confidentiality. ARC outperformed all of the other algorithms in the comparison. The ARC's encrypting process has saved time compared with other algorithms, where its encryption time has been recorded as 22.58 s for a 500 MB file size, while the DES, 3DES, and RC2 have completed the encryption process in 44.43, 135.65, and 66.91 s, respectively, for the same file size. Nevertheless, when the file sizes increased to 2.2 GB, the ASC proved its efficiency in completing the encryption process in less time.

Keywords: advanced encryption standard; cloud computing; cryptography; data privacy; improved data encryption standard.

Fuzzy Authorization on Cloud Computing By Using Merging Technique

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AbstractDespite the growing deployment of mission critical applications on computing systems, trust and security continues to hinder its full adoption and deployment on cloud computing platforms. In addition to accountability and non-repudiation on the cloud deployment, endusers want to be confident of availability and reliability of services. For any cloud platform to be secure and trusted, the individual layers of the platform must be secure as there is no 'one fits all solution' for securing all the layers. This work presents a multi-layer trust security model (MLTSM) based on unified cloud platform trust that employs a fuzzy logic combination of on-demand states of several different security mechanisms, such as identification, direct and in-direct trust, across all cloud layers. In addition, results from a MATLAB-based simulation of the model are also presented. A MLTSM can improve the secure deployment of cloud infrastructure in mission critical sectors such as electrical

power system operation, as it provides empirical evidence that allows direct (on-demand) determination and verification of the trust state of any given cloud computing platform or service. Such a modelling approach is useful for comparison, classification and improving end-user confidence in selecting or consuming cloud computing resources.

KEYWORDS- Genetic Algorithm, Virtual Machine migration, Bandwidth utilization

Literature Review On

" Optimal Storage Services In Cloud Computing Ensuring Security "

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Abstract: Cloud computing has revolutionized the way data is stored and managed. With the increasing volume of data generated by individuals and organizations, the need for efficient and secure storage services in the cloud has become paramount. This literature review aims to explore the current state of optimal storage services in cloud computing and their emphasis on ensuring security. By analyzing existing research and industry practices, this review identifies the key challenges, security requirements, and best practices for achieving optimal storage services in cloud computing environments. The findings of this review contribute to the understanding of secure storage in cloud computing and provide insights for future research and development.

Literature Review On "Autonomous Network Security For Detection of Network Attacks"

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Abstract: The increasing complexity and scale of modern networks have rendered traditional security measures inadequate for effectively detecting and mitigating network attacks. To address this challenge, autonomous network security solutions have emerged, leveraging advanced technologies such as artificial intelligence and machine learning. This research paper explores the concept of autonomous network security and its potential for enhancing network attack detection. Various techniques, including anomaly detection, behavioural analysis, and threat intelligence integration, are examined to illustrate the effectiveness of autonomous systems in mitigating network attacks. The findings highlight the significant advantages of autonomous network security solutions, including improved real-time threat detection, reduced response time, and enhanced network resilience.

Index Terms: Autonomous network security, network attacks, threat detection, anomaly detection, behavioural analysis, artificial intelligence, machine learning.

Machine Learning Models in Stock Market Prediction

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Abstract :- Stock market prediction has been a significant area of research in Machine Learning. Machine learning algorithms such as regression, classifier, and support vector machine (SVM) help predict the stock market. The currently overblown market economy has given rise to numerous variables which need to be considered before making a beneficial transaction in the stock market . Therefore, a Machine Learning approach is best suited for analysis of such a seemingly chaotic system. In this project we are using Machine learning, which give a prediction of various aspects of a particular stock or an index, such as future values of the opening price, closing price, index value etc. This will help investors and traders make better and faster decisions. This article presents a simple implementation of analysing and forecasting stock market prediction using machine learning.
Keywords: Stock market; Prediction; Machine learning; Artificial neural network

Cloud Computing and Database Management

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Abstract : Cloud computing has been trustworthy and has a central tenet of the European Union cloud strategy for nearly a decade. In this topic we discusses the origins of computing and specifically how the goals of cloud computing - security and privacy, reliability, and business integrity are represented in computer science research. We call for further inter- and multidisciplinary research on trustworthy cloud computing that reflect a more holistic view of trust.

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