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In the era of big data, cloud storage services have become a fundamental tool for managing and storing large volumes of data. However, with the increase in data storage, the challenge of data deduplication—eliminating duplicate copies of repeating data—becomes critical to optimize storage space and reduce costs. ABATE (Deduplication Using Blockchain with Hybrid RSA) is a secure deduplication algorithm designed specifically for textual data in cloud environments. The algorithm employs a hybrid RSA encryption method combined with blockchain technology to ensure data integrity, privacy, and security during the deduplication process. The hybrid RSA mechanism allows for secure encryption and decryption, enabling the deduplication process to occur without exposing sensitive data to potential threats. Blockchain, known for its decentralized and immutable ledger, provides a robust framework to record deduplication events, ensuring transparency and traceability while preventing unauthorized data alterations. ABATE not only minimizes storage redundancy but also maintains a high level of security, addressing the critical concerns of data breaches and privacy in cloud environments. The proposed solution is evaluated in various cloud scenarios, demonstrating its effectiveness in reducing storage costs while safeguarding data integrity and confidentiality.

114. EVISEEK - ADVANCED GRIEVANCE RESOLUTION PLATFORM

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EVISEEK is an innovative digital grievance handling system designed to address inefficiencies, opacity, and delays in resolving issues, ensuring a more efficient and transparent process. The platform provides a streamlined approach to issue submission, tracking, and resolution, empowering users and administrators alike with a seamless and user-friendly interface. A unique feature of EVISEEK is its ability to display submitted grievances to all users anonymously, promoting transparency while safeguarding privacy. This ensures that users can engage with the platform without fear of retaliation, fostering collective accountability and engagement. Built on a robust role-based access model, EVISEEK ensures secure and efficient interaction among users, administrators, and staff within a scalable environment. The system allows users to easily register, submit complaints, track their status in real-time, and manage their profiles. Administrators and staff can efficiently monitor incoming grievances, manage resolutions, and track the progress of ongoing issues, ensuring timely and responsible action. Developed using PHP and MySQL, EVISEEK prioritizes data integrity, security, and scalability, making it adaptable to organizations of various sizes and structures. The system is designed to be flexible and customizable, ensuring its applicability in a wide range of contexts, from community organizations to large corporations. EVISEEK modernizes grievance redressal processes by fostering transparency, efficiency, and trust, offering a comprehensive solution to address critical challenges in issue resolution, improving communication, and ensuring a more accountable system for all stakeholders.

115. NOTE ON GRAPHS BASED ON SIDON SETS

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Sidon sets-SSs are subsets of real numbers possessing different totals for pair wise sums. Simon Sidon introduced it to settle a problem in harmonic analysis. Sidon, Erdos and Turan formed a group of three to popularize its study in 1934. In the field of combinatorics, the SSs are hotly pursued objects as these are employed in graph theory, coding theory, distributed computing etc. The task of determining the Turan number of a cycle graph on four vertices is pertinent and widely investigated since 1938 when Erdos posed it for the first time. It is one of the frequently studied problems in extremal graph theory. SSs are employed to build C_4 free graphs. We discuss here a useful generalization to the investigation about these sets with the help of graphs in graph theory. We have given a bird's eye view about a) Turan sets and SSs and b) almost perfect non-linear functions and SSs. C) SSs in graph coloring, d) SS subsets of Random set of Integers and e) Multiplicative SSs. We also derived a useful bound from below on the count of C_4 's in a bipartite graph.

116. SMART MOBILITY WHEELCHAIR USING IOT AND AI

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The IoT-enabled smart wheelchair designed for individuals with mobility impairments, traditional wheelchairs provide essential support, but they often lack the intelligence needed for enhanced safety, ease of use, and remote monitoring. This project focuses on developing an IoT-enabled smart wheelchair that not only improves mobility but also ensures user safety and allows caregivers to stay connected in real time. At the core of this smart wheelchair is an Arduino Uno microcontroller, which integrates several advanced features. To prevent collisions, an ultrasonic sensor detects obstacles and triggers a buzzer alert, and if needed, the system can automatically stop the wheelchair to avoid accidents. Additionally, an accident detection sensor continuously monitors for sudden impacts or tilts, which could indicate a fall or collision. If such an event occurs, the system immediately sends the GPS location of the wheelchair to caregivers or emergency services through an IoT platform, ensuring quick assistance. One of the standout features of this wheelchair is voice-controlled navigation, allowing users to move effortlessly by giving simple voice commands like "forward," "reverse," "left," and "right." This is especially beneficial for individuals with limited hand mobility. Users can control the wheelchair through an IoT-connected mobile app or a voice assistant, making operation intuitive and accessible. The IoT platform also provides real-time updates, including location tracking, battery status, and emergency alerts. Caregivers can remotely monitor the wheelchair's status, ensuring that users remain safe and that help is available when needed. By combining smart navigation, automated emergency response, and remote monitoring, this IoT-based smart wheelchair enhances both safety and independence. It is designed to empower individuals with mobility challenges, giving them greater freedom and peace of mind in their daily lives.

117. LMS PLATFORM USING GENERATIVE AI

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The "LMS Platform Using Generative AI" addresses the lack of personalized and engaging learning resources in traditional Learning Management Systems (LMS). By overcoming the limitations of static content, the platform enhances learning effectiveness, accessibility, and education quality. The solution integrates generative AI to create interactive, customized study materials tailored to individual learner needs. Key components include Clerk for authentication, Inngest, PostgreSQL and Drizzle for scalable database management, Gemini AI for accurate content generation, Next.js for a seamless frontend experience, and a payment gateway for monetization. This combination of technologies ensures a robust, adaptive, and user-centric learning experience.

118. HYBRID GRU-CNN APPROACH FOR INSIDER ATTACK CLASSIFICATION IN CLOUD NETWORKS

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Regarding cloud-based networking architecture, one critical task is categorizing attacks from insiders. Researchers found that insiders were likely responsible for around 27 per cent of all cyberattacks incidences. Despite the fact that there are already numerous research operations in this area, our suggested attack categorization methodology will help any cloud-based company cope with the interpretation of threat detection situations and develop effective defence tactics. The four types of insider assaults (accidental, negligent, mischievous, and malicious) are always taken seriously. In the realm of insider attacks, machine learning (ML) is presently rising in importance. Choosing the best ML classifier for detecting the type of insider attack, on the other hand, remains difficult. While machine learning (ML) has made great strides in the field of insider threat identification, existing research has not taken into account the insiders' time-sequence-centric dynamic behavior. To this end, we used a GRU-CNN (Gated Recurrent Unit-Convolutional Neural Network) hybrid ML approach to categorize the assaults. CNN can derive local aspects of static patterns but cannot extract the data or association activities in a sequence pattern. In contrast, GRU can efficiently derive the data or associated oecumenical activities in a sequence pattern, which a standard CNN classifier cannot do. Therefore, the model is first trained using pre-existing static patterns over a wide range of time sequences and contexts. The insider attack is then categorized using various case studies. The Insider Threat Test Dataset developed by the Software Engineering Institute (SEI) at Carnegie Mellon University was used to assess the effectiveness of the suggested model for threat classification. In the training phase, the proposed Hybrid Classification Strategy (HCS) was found to be 98.43% accurate and had a false positive rate of 0.17% for known insider threats. In contrast, in the testing phase, it was found to be 97.12% accurate and attained a false-positive rate of 2.88% for dynamic insider threats when compared to state-of-the-art methods.