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Proceedings of the International Conference on Social Sciences, Engineering, and Medical Innovations (SEMI)

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Dr. Sennay Ghebreab

"Asian Academic Research Institute" is a platform that thrives to support the worldwide scholarly community to analyze the role played by the multidisciplinary innovations for the betterment of human societies. It also encourages academicians, practitioners, scientists, and scholars from various disciplines to come together and share their ideas about how they can make all the disciplines interact in an innovative way and to sort out the way to minimize the effect of challenges faced by the society. All the research work presented in this conference is truly exceptional, promising, and effective. These researches are designed to target the challenges that are faced by various sub-domains of the Society For Business, Economics, Social Science & Humanities, Society For Engineering & Technology, Computer, Basic & Applied Sciences, Medical, Medicine & Health Sciences.

I would like to thank our honorable scientific and review committee for giving their precious time to the review process covering the papers presented in this conference. I am also highly obliged to the participants for being a part of our efforts to promote knowledge sharing and learning. We as scholars make an integral part of the leading educated class of the society that is responsible for benefitting the society with their knowledge. Let's get over all sorts of discrimination and take a look at the wider picture. Let's work together for the welfare of humanity for making the world a harmonious place to live and making it flourish in every aspect. Stay blessed.

Thank you.

Dr. Sennay Ghebreab
Conference Secretariat

TRACK A

MULTIDISCIPLINARY STUDIES

RESEARCH AND IMPLEMENTATION OF HIGH AVAILABILITY ON A DISTRIBUTED DATABASE SYSTEM BASED ON BLOCKCHAIN MECHANISM

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Faced with challenges in high availability and data consistency within distributed databases, this study introduces a high availability mechanism for distributed databases integrating blockchain technology. By developing a blockchain-based data retrieval method, this research leverages blockchain to enhance data consistency and backup. Transaction requests are routed through a VIP address to the Master, where they undergo serialization control before being processed by the API Server, ensuring data consistency and accuracy. Additionally, this study implements a system backup plan based on Linux Virtual Servers (LVS) and an automated node failure recovery mechanism, aimed at improving the system's recovery speed and efficiency. Preliminary results demonstrate that the proposed strategies significantly improve fault recovery performance and data consistency, enhancing system resilience against network disruptions and single-point failures. The application of these technologies not only stabilizes the system but also bolsters the reliability of distributed database systems in critical sectors such as supply chain management. Future work will focus on further optimizing fault detection and the automated recovery process, and exploring the application of these strategies in a broader range of practical scenarios to address the challenges of distributed data processing.

Keywords: Distributed Database, High Availability, Data Consistency, Blockchain, System Backup

EFFICACY AND SAFETY OF CHINESE EYE EXERCISE OF ACUPOINTS IN REDUCING DRY EYE SYMPTOMS

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The prevalence of dry eye disorder (DED) can be attributed to the prolonged use of digital screens in modern lifestyles. In Chinese educational institutions, the Chinese Eye Exercise of Acupoints (CEA) has been used for over five decades to alleviate ocular discomfort that may be related to DED. However, there is limited evidence regarding the impact of CEA on DED. This study examines the efficacy and safety profiles of CEA as an alternative treatment for DED, compared to the standard lid hygiene treatment (STD). Fifty-six DED participants were enrolled from Thammasat University Hospital. Inclusion criteria required participants to have experienced DED symptoms for over three months; OSDI questionnaires (Thai version), Tear Break-Up Time (TBUT), and Schirmer 1 Test (SIT) results identified that they have DED. Exclusion criteria included uncontrolled disease or abnormalities that could impact DED symptoms, pregnancy, or breast-feeding. In this single-blind, randomized, controlled trial, eligible participants were assigned using block randomization. One group received (CEA), and another received STD. Equipment, video demonstrations, and practical handouts were provided to participants. They were trained for self-practice and checked for correction via video call. OSDI, visual acuity, TBUT, SIT, and CSS were assessed at baseline and follow-up at 4 and 12 weeks. An independent sample t-test was employed to compare study groups. A paired sample t-test and repeated measure ANOVA were used to compare the results across different time points.

Following the intervention, a significant decrease in OSDI was observed in both groups (CEA 37.50 to 19.35, STD 39.31 to 14.42) ($p < 0.05$). TBUT and SIT also significantly improved (increased) ($p = 0.05$) over time. CSS improved solely in the CEA group at week 12 follow-up ($p = 0.05$). The study findings suggest that CEA may serve as an alternative treatment for alleviating DED symptoms.

Keywords: Dry Eye, Chinese Acupressure, Warm Compress

EVALUATING CUSTOMER CREDENTIAL MODEL: THE IMPACT ON RETAIL LENDING PROCESSES IN COMMERCIAL BANKING SECTOR IN ODISHA

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This study evaluates the impact of customer credential models on retail lending processes in Odisha's commercial banking sector. It assesses how these models influence the efficiency, accuracy, and performance of lending operations. The findings reveal that robust customer credential models significantly enhance loan processing speed and accuracy, leading to higher customer satisfaction and lower default rates. Banks utilizing advanced credential verification technologies reported reduced fraudulent activities and operational costs. However, challenges such as initial investment costs and the need for regular updates to credential systems were identified. This study emphasizes the importance of technological integration in banking, particularly in Odisha's rapidly evolving financial landscape. By adopting sophisticated credential models, banks can streamline lending processes and build greater customer trust. The research concludes with recommendations for banks to invest in advanced credential technologies and continuous staff training to stay competitive, improve retail lending frameworks, and foster sustainable banking practices in Odisha.

Keywords: Customer Credential Models, Retail Lending Processes, Commercial Banking, Loan Processing Efficiency, Banking Sector in Odisha

ACCURATE UNCERTAINTY DATASET CLASSIFICATION USING HYBRID DEEP LEARNING MODELS

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Data uncertainty can be produced by a number of variables, including measurement and sampling mistakes, sensor networks, environmental monitoring, and medical diagnostics. The goal of this study is to classify uncertain data. Classifying uncertain data is critical for maintaining data quality, improving decision-making, optimizing system efficiency, and increasing predictive accuracy. Addressing data uncertainty thoroughly ensures that systems and processes run smoothly and provide accurate, actionable insights. To discover uncertainty data, we proposed a hybrid model based on two well-known deep learning approaches (CNN and ANN). In this work, the classification of the IoT data has been done, especially healthcare data. According to the findings in this work, the outcome of proposed hybrid model (CNN + ANN) has best results and boasts best success rate in comparison to the traditional machine learning-based methods in terms of performance. The results of proposed hybrid model based on famous evolution metrics (Accuracy, Precision, Recall, and F-Score) are (97 %, 96 %, 95 %, and 94 %) respectively. Our work treats with classification for uncertain data. For this purpose, A collection of people's Blood Glucose Levels (BGL) and numbers for some of their most noticeable body parts make up the dataset. Proposed a new hybrid model that combines CNN and RNN models. We have looked at measurements to see how the proposed method outperforms well-known machine learning algorithms. Finally, we have evaluated the proposed model, and based on conventional performance metrics, the tests also demonstrate that the suggested strategy finds ambiguous data more effectively than alternative approaches.

Keywords: Uncertain data, Machine Learning, Convolutional Neural Network, Artificial Neural Network

THE ROMANCE EFFECT: ROMANTIC STIMULATION INCREASES CONSUMERS' ACCEPTANCE OF NEW PRODUCTS

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This paper examines how to improve the success of new products by altering the environment (i.e., performing a romantic stimulation) in which consumers make decisions. Specifically, it investigates whether romantic stimulation can intensify consumers' willingness to accept new products. Three experiments using different romantic stimuli, product categories, and scenarios are conducted to investigate whether romantic stimulation affects consumers' acceptance of new products. The results demonstrate that romantic stimulation arouses a good mood in consumers, which in turn affects consumers' product evaluations. Specifically, romantic simulation increases consumers' focus on the benefits of products, which increases their acceptance of new products. However, this effect is diminished when resources are scarce and among highly innovative consumers. The findings address deficiencies in our understanding of the interaction of the acceptance of new products and romantic feelings. They also contribute to our understanding of the effects of emotions and product evaluations on the acceptance of new products, broadening our understanding of the influence of these two variables on consumer behavior. Companies and marketers can use romantic stimulation to increase the likelihood that consumers will accept new products. For example, they could play romantic music in shops and restaurants to create a romantic atmosphere. or add romantic elements such as romantic storylines or romantic music to advertisements to increase consumers' good mood, draw their attention to products, and create a positive attitude to the new products. Our research addresses a theoretical deficiency in the study of how environmental cues can increase consumers' acceptance of new products. It provides a theoretical explanation of the effect of romance on consumers' acceptance of new products.

Keywords: Acceptance of New Products, Romance, Resource Scarcity, Consumer Innovativeness

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