3rd International Conference on Computing and Information Technology Trends (CCITT 2024)

January 13-14, 2024, Virtual Conference

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We invite you to join us in **3rd International Conference on Computing and Information Technology Trends (CCITT 2024)**

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Registration Participants

Non-Author / Co-Author / Simple Participants (no paper)

200 USD (With proceedings)

Here's where you can reach us: **ccitt@ccitt2024.org** (or) **ccittconf@yahoo.com**

Accepted Papers

Scalable Action Mining Hybrid Method for Enhanced User Emotions in Education and Business Domain

Sanchari Chatterjee[1], Angelina A. Tzacheva[2], and Zbigniew Ras[1], [1]Department of Computer Science, University of North Carolina at Charlotte, Charlotte, NC, 28223, USA, [2]Computer Science and Information Technology, College of Computing and engineering, WestCliff University, Irvine, CA 92614

ABSTRACT

Education sector, Business field, Medical domain and Social Media, huge amounts of data in a single day. Mining this data can provide a lot of meaningful insights on how to improve user experience in social media, users engage in these domains collect and cherish the data as they hope to find patterns and trends and the golden nuggets that help them to accomplish their goal. For example: How to improve student learning; how to increase business profitability; how to improve user experience in social media; and how to heal patients and assists hospital administrators. Action Rule Mining mines actionable patterns which are hidden in various datasets. Action Rules provide actionable suggestions on how to change the state of an object

from an existing state to a desired state for the benefit of the user. There are two major frameworks in the literature of Action Rule mining namely Rule-Based method where the extraction of Action Rules is dependent on the pre-processing step of classification rule discovery and Object-Based method where it extracts the Action Rules directly from the database without the use of classification rules. Hybrid Action rule mining approach combines both these frameworks and generates complete set of Action Rules. The hybrid approach shows significant improvement in terms computational performance over the Rule-Based and Object-Based approach. In this work we propose a novel Modified Hybrid Action rule method with Partition Threshold Rho, which further improves the computational performance with large datasets.

KEYWORDS

Implementation of Artificial Intelligence for the Prediction of Mortality in Chronic Kidney Disease

Escalona González Sergio[1], González Milán Zoraida[2], Ricardo Paez Beatriz[3], [1]Department of Nephrology, University of Medical Sciences of Las Tunas, Las Tunas, Cuba, [2]Department of Nephrology, General Teaching Hospital: "Dr. Ernesto Guevara de la Serna", Las Tunas, Cuba, [3]Department of Nephrology, University of Medical Sciences of Las Tunas, Las Tunas, Cuba

ABSTRACT
Artificial neural networks are a promising field of artificial intelligence in disease and mortality prediction. A retrospective cohort study was conducted in 54 patients. The training and testing of a multilayer neural network with architecture for the prediction of mortality from chronic kidney disease was carried out, the efficiency of the neural network was evaluated by means of the area under the curve of the C statistic. Finally, the importance of the variables was analyzed. The training of the artificial neural network showed 81.0% accuracy for survival prediction, 93.8% for mortality and 86.5% overall. The test showed 100% accuracy for survival prediction, 81.8% for mortality, and 88.2% overall. The area under the curve was of 0.936. An artificial neural network was implemented for the prediction of mortality due to chronic kidney disease with optimal statistical indicators.

KEYWORDS

Advanced Drone Attack Detection Using 5g Open Ran Platform

Mohamed Jacem Guezguez[1] and Olfa Besbes[2], [1]Cogicom, Paris, France, [2]University of Monastir, Monastir, Tunisia

ABSTRACT
The fifth generation (5G) network represents the latest evolution in mobile communication technology, offering several significant advancements over its predecessors, including 4G (LTE) and 3G. These advancements include faster speeds, lower latency, and a wealth of new capabilities. In parallel, unmanned aerial vehicles (UAVs), commonly referred to as drones, are gaining increasing popularity and becoming more ubiquitous. Integrating drones with 5G networks unlocks new possibilities and applications that harness the high-speed, low-latency, and extensive connectivity features of 5G technology. However, the misuse of drones can pose various risks and concerns, including issues related to privacy invasion and safety hazards. In response to these challenges, this research paper presents an innovative 5G Open RAN platform, featuring programmable software deployed on 5G gNodeBs, enabling the collection and monitoring of radio-sensitive events in relation to drone intrusion attacks. Additionally, a radio-based detection technique is proposed to identify threats and block unauthorized drones, thus safeguarding private infrastructures. To illustrate the effectiveness of this platform, a case study is included, demonstrating its capabilities in addressing drone intrusion attacks at an airport.

KEYWORDS

How Computationally Powerful Are Transformer Language Models?

Jesse Roberts, Computer Science Department, Vanderbilt University, Nashville, TN

ABSTRACT

In this article we prove that the general transformer model undergirding modern large language models (LLMs) is Turing complete under reasonable assumptions. This is the first work to directly address the Turing completeness of the underlying technology employed in GPT-x as past work has focused on the more expressive, full auto-encoder transformer architecture. From this theoretical analysis, we show that the sparsity/compressibility of the word embedding is an important consideration for Turing completeness to hold. From our results we categorize Transformers as variants of B machines studied by Hao Wang.

KEYWORDS

Large Language Models, Transformers, Decoder-Only, Machine Learning, Transformer Theory.

Improved Navigation System of Marine Unmanned Robot Based on Sensor Fusion

Meysam Radmanesh and Samira Darabi, Samaneh Iman Gostar Hoshmand Company, Tehran, Iran

ABSTRACT

Improving navigation systems for unmanned marine robots is one of the challenging issues in recent decades. In this paper, an Unmanned Surface Vehicle (USV) is introduced, which has an improved navigation system to carry out its various missions in the sea. This marine robot works with wind, wave, and solar energy, and the robot's navigation includes a global navigation satellite system (GNSS), compass sensors, and inertial measurement unit (IMU). Also, an algorithm is designed to improve navigation, which combines sensor information with classical filters such as Extended Kalman Filter (EKF) and Particle Filter (PF). Finally, the simulation results showed that EKF and PF filters have very similar and acceptable results in determining the robot's position. However, due to the ease of implementing EKF on the USV control board, in the implementation part, the combination of sensors' information based on EKF was investigated.

KEYWORDS

USV, Sensor Fusion, IMU, EKF, PF.

Bridging the Gap: Selenium and Rpa for Unparalleled Automation

Rohit Khankhoje, Independent Researcher Avon, Indiana, USA

ABSTRACT

In the ever-changing technological landscape of today, the incorporation of test automation has become an essential element in the realm of software development and quality assurance. Selenium, known for its robust capabilities in web application testing, has long served as a fundamental pillar in the field of test automation. Simultaneously, Robotic Process Automation (RPA) has experienced increased utilization in order to streamline repetitive business processes across various industries. However, the true potential of these two automation approaches lies in their integration, which provides an opportunity for unparalleled efficiency, productivity, and comprehensive test coverage. This article delves into the synergistic relationship between Selenium and RPA, examining how their combination ushers in a new era of test automation. We explore the seamless integration of Selenium within RPA frameworks and demonstrate how it expands automation beyond web applications, encompassing desktop applications and diverse systems. Our research outlines practical use cases, technical implementation, and the benefits of this amalgamation. Furthermore, we discuss its potential to revolutionize not only software testing but also broader business processes. The fusion of Selenium and RPA signifies a transformative shift in test automation, enabling organizations to bridge the gap between isolated testing efforts and comprehensive automation, ultimately resulting in unparalleled efficiency and reliability.

KEYWORDS

Test Automation, RPA, Selenium, Integration, Software testing.

Learning Analytics Dashboards for Advisors – a Systematic Literature Review

Suchith Reddy Vemula and Marcia Moraes, Department of Computer Science, Colorado State University, Fort Collins, Colorado

ABSTRACT

Learning Analytics Dashboard for Advisors is designed to provide data-driven insights and visualizations to support advisors in their decision-making regarding student academic progress, engagement, targeted support, and overall success. This study explores the current state of the art in learning analytics dashboards, focusing on specific requirements for advisors. By examining existing literature and case studies, this research investigates the key features and functionalities essential for an effective learning analytics dashboard tailored to advisor needs. This study also aims to provide a comprehensive understanding of the landscape of learning analytics dashboards for advisors, offering insights into the advancements, opportunities, and challenges in their development by synthesizing the current trends from a total of 19 research papers used for analysis. The findings will contribute to the design and implementation of new features in learning analytics dashboards that empower advisors to provide proactive and individualized support, ultimately fostering student retention and academic success.

KEYWORDS

Learning Analytics, Advisor's Dashboard, Feedback, Self-Regulated Learning, and Learning Management Systems.

Practice in Using English for Programming Skill Instruction

Bao-ming Wu, Department of artificial intelligence, Neijiang Normal University, Neijiang City, Sichuan Province,China

ABSTRACT

Owing to the lost of original English text book real meaning after translated into Chinese, the author carries on the teaching reform to select English textbook for the software programming teaching, and take into practice in the lesson of "introduction of software testing" and "technology and practice in software testing". The innovation detail include the textbook selecting from all language version, the giving lessons in English, content concentration based on the predecessor courses, the demonstration of the occupational operating environment in experimental scenes, and so on. After four years practice, the renovation have achieved good effective and efficiency. The causality analysis method is applied In selection of English-native textbook from all language.

KEYWORDS

English-Native textbook, Bilingual teaching, programming professional training.

Cardiac Control Nano Drug for Prevent Surgery

Homayoon Yektaei, Hanieh Yektaei, Yasaman Hoseyni

ABSTRACT

Heart health has always been a major concern for both humans and animals alike. With cardiovascular diseases on the rise, medical professionals are constantly striving to find innovative solutions that can reduce the burden of heart surgeries and improve overall cardiac health. Nanomedicine is one of the most promising therapeutic modalities researchers are working on. It involves development of drugs and devices that work at the nanoscale. We are leading a research wich has a groundbreaking drug emerged, which holds enormous potential in preventing the need for heavy heart operations. This wonder drug, with its unique mechanism of action, breaks down LDL and HDL fats in the heart veins and efficiently directs them towards elimination, safeguarding the heart from potential harm. The drug, which specifically targets the heart, has been engineered to selectively break down LDL (low-density lipoprotein) and HDL (high-density lipoprotein) fats present in the heart veins. These fats, if left untreated, can accumulate and form plaques, leading to a condition called atherosclerosis. This condition obstructs blood flow to the heart, increasing the risk of heart attacks or strokes. By effectively breaking down these harmful fats, the drug prevents the development of atherosclerosis and subsequently mitigates the need for complex heart surgeries.