BOOK OF ABSTRACTS

FACULTY RESEARCH PUBLICATIONS

UNIVERSITY OF SCIENCE AND TECHNOLOGY
OF FUJAIRAH

ACADEMIC YEAR
2022-2023

SEPTEMBER 2023

جامعة العلوم والتقنية في الفجيرة
UNIVERSITY OF SCIENCE & TECHNOLOGY OF FUJAIRAH

Book of Abstracts

USTF Faculty Research Publications

Academic Year 2022-2023

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I. Introduction

University of Science and Technology of Fujairah (USTF) stresses the importance of research and scholarly activities of faculty, teaching assistants, and students. USTF supports faculty publications in international reputable journals of high impact factors. USTF also encourages faculty participation in conferences on national, regional, and international levels and provides.

As a new proactive university, USTF aligns its research efforts with the UAE Vision 2021 in addressing global problems of national impacts. The importance of research to USTF community is well addressed in Goal 2 of USTF Strategic Plan 2018-2023. In fact, research is one of the main criteria for recruitment and promotion of faculty members.

According to USTF Research Strategy, USTF research initiatives comes in line with the UAE Vision 2021 and focuses on sustainability, artificial intelligence, smart cities, automation, COVID-19 pandemic, and distance learning. USTF encourages faculty and students to concentrate on these themes in their research efforts.

The University requires and encourages its faculty members to conduct high-quality research in their areas of specialization and publish their research results in highly reputable international journals. The publication of scientific research is considered as one of the most essential activities of faculty members at USTF. The University supports its faculty in achieving this goal. To stress this fact, USTF has adopted a compensation policy to provide a financial compensation for the publication of quality research in SCOPUS-indexed journals and USTF-A peer-reviewed journals.

Table 1: USTF Faculty Scopus-Indexed Publications and Category-A Arabic Journals during the Last Four Years.

No.	College	2019-2020	2020-2021	2021-2022	2022-2023
1	Engineering and Technology	12	12	11	38
2	College of Humanities and Sciences	3	0	9	1
3	College of Business Administration	4	3	6	3
4	College of Dentistry	15	9	1	2
5	Pharmacy and Health Sciences	15	12	17	16
6	College of Law	1	4	2	0
Total		50	40	**46**	**60**

College of Engineering and Technology

Deep Learning for Automatic Defect Detection in PV Modules Using Electroluminescence Images

IEEE Access

Fatma Mazen Ali Mazen; Rania Ahmed Abul Seoud; Yomna O. Shake

Solar energy, in the form of photovoltaic (PV) panels, is important for achieving clean energy solutions. The photovoltaic health index must be monitored and improved because of the high demand for green energy. Unfortunately, defective solar cells are a significant source of performance degradation in photovoltaic (PV) systems. Experts often manually analyze electroluminescence (EL) images by visually inspecting them, which is personal, time-consuming, and requires extensive expertise. This work presents a comparative analysis of YOLOv8 and an Improved YOLOv5 for an automatic PV defect detection system in EL images in which Global Attention Module (GAM) is incorporated into the traditional YOLOv5s model for better object representation. Adaptive Feature space fusion (ASFF) was added to YOLOv5's original structure for feature fusion. The Distance Intersection over Union (Non-Maximum) Suppression (DIoU-NMS) is aggregated to produce a more accurate bounding box. The ELDDS1400C5 dataset was used to train and evaluate the proposed system. Experiments on the ELDDS1400C5 test set revealed that the Improved YOLOv5 algorithm achieved a mean Average Precision of 76.3% (mAP@0.5), which is a 2.5% improvement over the standard YOLOv5 algorithm for detecting faults in PV modules in EL images. Furthermore, the experimental results demonstrated that Test Time Augmentation (TTA) significantly increased the mAP@0.5 to 77.7%, surpassing the YOLOv8 model, which achieved 77.5% under the same conditions

'DOI: https://ieeexplore.ieee.org/abstract/document/10146258

Scopus

Optimum Tilt Angle and Solar Radiation of Photovoltaic Modules for Gulf Collaboration Council Countries

international journal of energy research

Raghed Melhem, Yomna Shaker

This article focuses on the optimization of tilt angle for solar panels in the Gulf Cooperation Council (GCC) countries. The tilt angle is a crucial factor that affects the amount of solar radiation received by the solar panel. The study uses a mathematical model to calculate the optimal tilt angle based on the latitude and longitude of the location and compares the results with the PVWatts calculator. The importance of selecting the optimal tilt angle for maximizing solar energy production is emphasized. The study finds that the mathematical model and PVWatts calculator are in good agreement, except for the negative tilt angles calculated by the model. The article also provides monthly, seasonally, and yearly irradiance values for the GCC countries calculated using the PVWatts calculator. It suggests that changing the tilt angle 12 times during the year can enhance the power output by 10.9%. The results show that the monthly automated angle has a maximum in December and a minimum in June, with Oman having the highest maximum angle of 50.5 and the lowest minimum angle of -10.58. Kuwait has the highest maximum angle of 58.33 and the lowest minimum angle of -2.75. The results are verified by the PVWatts calculator, showing a good similarity with a percentage of error around 3%. The study highlights the importance of selecting the optimal tilt angle to achieve maximum solar energy production in the GCC countries. The mathematical model and PVWatts calculator can serve as tools to calculate the optimum tilt angle for solar panels.

'DOI: https://doi.org/10.1155/2023/8381696

Scopus

Estimating The Optimum Tilt Angle of Solar Panel of Fujairah

IEEE Explore

Raghed Melhem, Yomna Shaker

A shift is taking place toward using renewable energy sources, with solar energy being one of the most prominent. The challenge with solar energy is that the power output is low or in other words, low efficiency. therefore, the sunbeam must be directed toward photovoltaics (PVs) to catch the maximum irradiance. The proposed solution is to use a MATLAB program to calculate the optimum tilt angle in Fujairah and the find the irradiance too, taking into account the location, day, declaration angle, and hour angle. also, by comparing the results found by our mathematical model with a real application called (PVWatts) which is developed by the NREL (US National Renewable Energy Laboratory) and by previous studies done before on the same topic. The results have been verified and the values are very similar.

'DOI: https://ieeexplore.ieee.org/xpl/conhome/10180403/proceeding

Scopus

Accurate and efficient forecasted wind energy using selected temporal metrological variables and wind direction

Energy Conversion and Management: X

Amir J Abdul Majid

The aim of this work is to find the most efficient and suitable input features to be selected for forecasting monthly wind energy accurately. Machine learning is employed for a modular pipelined neural network, composed of time-delayed and feedforward networks with features of metrological variables such as atmospheric temperature, humidity, wind direction, and wind speed frequency distribution parameters. Logged data over a year's period at a UAE site are analyzed on daily and monthly bases depending on their variation characteristics, in which standard Weibull probability distribution function is used for the feedforward neural network together with wind direction data, while daily average ambient temperature and humidity are attempted for the composite time delay networks. Different network abstractions of input features are compared, and it is found that wind direction data offer a better wind speed forecast. Wind energy is calculated based on monthly forecasting. A detailed adaptive probabilistic analysis is conducted to predict thresholds in variations of the forecast analysis. Error estimation tools are performed for adopting this method.

'DOI: https://www.sciencedirect.com/science/article/pii/S259017452200109X

Scopus

A Novel Method of Forecasting Chaotic and Random Wind Speed Regimes Based on Machine Learning with the Evolution and Prediction of Volterra Kernel

Energies

Amir J Abdul Majid

This study aims to focus on using the Volterra series and machine learning for forecasting random and chaotic wind speed regimes, since the calm weather is mostly noticed at the local site, making the dataset selection difficult. A novel method is proposed to predict Volterra kernels up to the third order, using a forward-back propagation neural network with 12-month measurements at Fujairah site (UAE). Both daily and monthly wind speed data sets are investigated for forecasting. The three dominant hourly and daily kernels are extracted for each day and each month. Predicted future Volterra kernels are estimated from past values using both statistical analysis and individual neuro networks for each of the Volterra kernel coefficients. Due to the random nature of wind speed at the local site, a two-layer with 4 neurons per layer neuro network is used to locate the most variable and intense speed during 8-hours in the day. Forecasted wind speed is determined with errors arising from different sources such as the utilization of only 3rd-order Volterra kernels and the difficulty of machine training of the employed shallow network. Nevertheless, this work depicts a useful algorithm to forecast chaotic and random wind speed regimes. Computational time is a trade of the complexity of Volterra mathematical analysis.

'DOI: https://www.preprints.org/manuscript/202305.0674/v1

Scopus

Accuracy of Wind Speed Forecasting Based on Error Estimation and Joint Probability Prediction of the Parameters of Weibull Probability Density Function

Front. Energy Res

Amir J Abdul Majid

This work aims to evaluate different error estimations of the shape and scale parameters of the Weibull probability density function of wind speed measured at the Fujairah site over a 1-year period. This study estimates trends in the variation of Weibull parameters using moving averages and Markov series methods. The focus is on the scale and shape factors, which are evaluated by mapping monthly mean wind speeds into a Weibull probability distribution function. Due to the imprecise nature of these factors, multiple data simulations are used to predict Weibull factors based on data measuring interpolations. A procedural algorithm is proposed to select the overall best forecast based on several estimation methods that evaluate raised prediction errors. A probabilistic analysis is followed to predict future wind speed and wind energy based on variations in the scale and shape factors. This study focuses on the scale factor variation as it is found to be more dominant than the Weibull shape factor. The forecasted wind speed is checked with the measured value in future months and found to be within trend values. The results suggest that the proposed algorithm provides an accurate and reliable method for predicting future wind speed and energy output.

'DOI: Frontiers | Accuracy of wind speed forecasting based on joint probability prediction of the parameters of the Weibull probability density function (frontiersin.org)

Scopus

Forecasting Monthly Wind Energy Using an Alternative Machine Training Method with Curve Fitting and Temporal Error Extraction Algorithm

Energies

Amir J Abdul Majid

The aim of this research was to forecast monthly wind energy based on wind speed measurements that have been logged over a one-year period. The curve type fitting of five similar probability distribution functions (PDF, pdf), namely Weibull, Exponential, Rayleigh, Gamma, and Lognormal, were investigated for selecting the best machine learning (ML) trained ones since it is not always possible to choose one unique distribution function for describing all wind speed regimes. An ML procedural algorithm was proposed using a monthly forecast-error extraction method, in which the annual model is tested for each month, with the temporal errors between target and measured values being extracted. The error pattern of wind speed was analyzed with different error estimation methods, such as average, moving average, trend, and trained prediction, for adjusting the intended following month's forecast. Consequently, an energy analysis was performed with effects due to probable variations in the selected Lognormal distribution parameters, according to their joint Gaussian probability function. Error estimation of the implemented method was carried out to predict its accuracy. A comparison procedure was performed and was found to be in line with the conducted Markov series analysis.

'DOI: Forecasting Monthly Wind Energy Using an Alternative Machine Training Method with Curve Fitting and Temporal Error Extraction Algorithm - ProQuest

Scopus

Towards an ML-based semantic IoT for pandemic management: A survey of enabling technologies for COVID-19

Neurocomputing

Rita Zgheib , Ghazar Chahbandarian , Firuz Kamalov , Haythem El Messiry , Ahmed Al-Gindy

The connection between humans and digital technologies has been documented extensively in the past decades but needs to be evaluated through the current global pandemic. Artificial Intelligence(AI), with its two strands, Machine Learning (ML) and Semantic Reasoning, has proven to be a great solution to provide efficient ways to prevent, diagnose and limit the spread of COVID-19. IoT solutions have been widely proposed for COVID-19 disease monitoring, infection geolocation, and social applications. In this paper, we investigate the usage of the three technologies for handling the COVID-19 pandemic. For this purpose, we surveyed the existing ML applications and algorithms proposed during the pandemic to detect COVID-19 disease using symptom factors and image processing. The survey includes existing approaches including semantic technologies and IoT systems for COVID-19. Based on the survey result, we classified the main challenges and the solutions that could solve them. The study proposes a conceptual framework for pandemic management and discusses challenges and trends for future research.

'DOI: Towards an ML-based semantic IoT for pandemic management: A survey of enabling technologies for COVID-19 - ScienceDirect

Scopus

Off-Shelf Deep Learning Architectures as Feature Extractor in CT COVID-19 Classification

IEEE Explore

Rita Zgheib , Ghazar Chahbandarian , Firuz Kamalov , Haythem El Messiry , Ahmed Al-Gindy

The connection between humans and digital technologies has been documented extensively in the past decades but needs to be evaluated through the current global pandemic. Artificial Intelligence(AI), with its two strands, Machine Learning (ML) and Semantic Reasoning, has proven to be a great solution to provide efficient ways to prevent, diagnose and limit the spread of COVID-19. IoT solutions have been widely proposed for COVID-19 disease monitoring, infection geolocation, and social applications. In this paper, we investigate the usage of the three technologies for handling the COVID-19 pandemic. For this purpose, we surveyed the existing ML applications and algorithms proposed during the pandemic to detect COVID-19 disease using symptom factors and image processing. The survey includes existing approaches including semantic technologies and IoT systems for COVID-19. Based on the survey result, we classified the main challenges and the solutions that could solve them. The study proposes a conceptual framework for pandemic management and discusses challenges and trends for future research.

'DOI: Off-Shelf Deep Learning Architectures as Feature Extractor in CT COVID-19 Classification | IEEE Conference Publication | IEEE Xplore

Scopus

Chest X-ray Images to differentiate COVID-19 from Pneumonia with Artificial Intelligence Techniques

International Journal of Biomedical Imaging

Rumana Islam, Mohammed Tarique

This paper presents an automated and noninvasive technique to discriminate COVID-19 patients from pneumonia patients using chest X-ray images and artificial intelligence. The reverse transcription-polymerase chain reaction (RT-PCR) test is commonly administered to detect COVID-19. However, the RT-PCR test necessitates person-to-person contact to administer, requires variable time to produce results, and is expensive. Moreover, this test is still unreachable to the significant global population. The chest X-ray images can play an important role here as the X-ray machines are commonly available at any healthcare facility. However, the chest X-ray images of COVID-19 and viral pneumonia patients are very similar and often lead to misdiagnosis subjectively. This investigation has employed two algorithms to solve this problem objectively. One algorithm uses lower-dimension encoded features extracted from the X-ray images and applies them to the machine learning algorithms for final classification. The other algorithm relies on the inbuilt feature extractor network to extract features from the X-ray images and classifies them with a pretrained deep neural network VGG16. The simulation results show that the proposed two algorithms can extricate COVID-19 patients from pneumonia with the best accuracy of 100% and 98.1%, employing VGG16 and the machine learning algorithm, respectively. The performances of these two algorithms have also been collated with those of other existing state-of-the-art methods.

'DOI: Chest X-Ray Images to Differentiate COVID-19 from Pneumonia with Artificial Intelligence Techniques (hindawi.com)

Scopus

Voice Features and Artificial Neural Network to Diganose Parkinson's Disease Patients

International Journal of Biomedical Imaging

Rumana Islam, Mohammed Tarique, Esam Abdel-Raheem

This paper presents an algorithm to detect Parkinson's disease using voiced features and an artificial neural network (ANN). It uses 44 audio features extracted from the sustained vowel'/a/' sound of the Parkinson's disease patients and healthy subjects. To fully characterize a healthy and a Parkinson's patient's voice, audio features of different domains have been investigated. A simple two-layer feed-forward neural network (FFNN) has been deployed to avoid an overwhelming computational burden on the system. Significant statistical parameters are measured to evaluate the performance of the proposed algorithm. The simulation results show that the proposed algorithm achieves an accuracy of 85% and G-mean of 85.19% in identifying Parkinson's patients.

'DOI: Voiced Features and Artificial Neural Network to Diagnose Parkinson's Disease Patients | IEEE Conference Publication | IEEE Xplore

Scopus

Voice pathology detection using convolutional neural networks with electroglottographic (EGG) and speech signals

Computer Methods and Programs for Biomedicine

Rumana Islam, Mohammed Tarique, Esam Abdel-Raheem

This paper presents a convolutional neural network (CNN) based automated noninvasive voice pathology detection system. The proposed system functions in two steps. First, it discriminates pathological voices from healthy ones, and then, it classifies the discriminated pathological voices into one of the three pathologies. Two CNNs are used for these purposes; one works as a binary classifier to identify pathological voices. The other one works as a multiclass classifier for categorizing the voice pathologies. This work investigates the effectiveness of electroglottographic (EGG) and speech signals to detect and classify pathological voices using sustained vowel ('/a/') samples. EGG signals can assess the vibratory pattern of the vocal folds during voiced sound. On the other hand, the speech signals add spectral color to the EGG signals. Hence, their contributions for pathology identification and segregation differ, as demonstrated in this work. The Saarbrücken Voice Database (SVD) is used in this investigation. The results show that the proposed system achieves a higher accuracy (more than 9%) in identifying pathological voices from healthy ones with speech signals than EGG signals. However, categorizing pathological voices into different pathology types demonstrates higher accuracy (more than 12%) with EGG signals than speech signals. A comparative performance analysis of the proposed system is presented with these two signals in terms of clinical and statistical measures. The obtained results of this work are also compared with those of other related published works.

'DOI: Voice pathology detection using convolutional neural networks with electroglottographic (EGG) and speech signals - ScienceDirect

Scopus

Deep Learning Based Pathological Voice Detection Algorithm Using Speech and Electroglottographic (EGG) Signals

IEEE Explore

Rumana Islam, Mohammed Tarique, Esam Abdel-Raheem

This paper presents a convolutional neural network-based pathological voice detection system using speech and electroglottographic (EGG) signals. Speech signals have been popularly used to detect voice pathology. Recently, the EGG signals have drawn considerable attention from researchers in this field. They argued that the EGG signals could detect the vocal fold vibration more accurately than speech signals and hence can be considered more appropriate for voice pathology detection. This work investigates the effectiveness of the EGG and speech signals in detecting pathological voices using sustained vowel ("/a/") samples collected from the Saarbrücken Voice Database (SVD). The Mel frequency cepstral coefficients (MFCCs) extracted from the speech and EGG samples are employed as discerning features for this investigation. The results show that the proposed system achieves a higher accuracy (more than 23%) in identifying dysphonic voices from healthy ones with speech signals.

'DOI: Deep Learning Based Pathological Voice Detection Algorithm Using Speech and Electroglottographic (EGG) Signals | IEEE Conference Publication | IEEE Xplore

Scopus

A novel convolutional neural network based dysphonic voice detection algorithm using chromagram

International Journal of Electrical and Electronic Engineering

Rumana Islam, **Mohammed Tarique**

This paper presents a convolutional neural network (CNN) based non-invasive pathological voice detection algorithm using signal processing approach. The proposed algorithm extracts an acoustic feature, called chromagram, from voice samples and applies this feature to the input of a CNN for classification. The main advantage of chromagram is that it can mimic the way humans perceive pitch in sounds and hence can be considered useful to detect dysphonic voices, as the pitch in the generated sounds varies depending on the pathological conditions. The simulation results show that classification accuracy of 85% can be achieved with the chromagram. A comparison of the performances for the proposed algorithm with those of other related works is also presented.

'DOI: A novel convolutional neural network based dysphonic voice detection algorithm using chromagram | Islam | International Journal of Electrical and Computer Engineering (IJECE) (iaescore.com)

Scopus

Discriminating COVID-19 from Pneumonia using Machine Learning Algorithms and Chest X-ray Images

IEEE Explore

Rumana Islam, Mohammed Tarique

Reverse Transcription Polymerase Chain Reaction (RT-PCR) test is commonly used to detect COVID-19. However, the RT-PCR test necessitates person-to-person contact to administer and is expensive. Not only that, the diagnostic tests are still unreachable to the majority of the global population. The chest X-ray images are helpful for this purpose as the X-ray machines are available in almost all healthcare facilities. However, the chest X-ray images of COVID-19 and viral pneumonia patients are very similar and often lead to misdiagnosis. This paper presents automated noninvasive algorithms that can identify the X-ray images of COVID patients from that of pneumonia patients. This investigation has employed two algorithms based on machine learning and deep learning approaches. The lower dimension encoded features are extracted from the X-ray images and machine learning algorithms are applied. On the other hand, the deep learning algorithm relies on the inbuilt feature extractor networks to classify the original X-ray images. The simulation results show that the proposed algorithms can discriminate COVID patients from pneumonia patients with the best accuracies of 100% and 98.1% based on pre-trained deep learning and machine learning algorithms, respectively.

'DOI: Discriminating COVID-19 from Pneumonia using Machine Learning Algorithms and Chest X-ray Images | IEEE Conference Publication | IEEE Xplore

Scopus

An Improved Congestion-Controlled Routing Protocol for IoT Applications in Extreme Environments

IEEE Internet of Things Journal

Muhammad Adil; Muhammad Usman; Mian Ahmad Jan; Hussein Abulkasim; Ahmed Farouk; Zhanpeng Jin

The Internet of Things (IoT) has shown its presence in applications that require monitoring extreme environments such as wildfires, military operations, and coastal areas, among others. In these applications, the IoT nodes are deployed in hazardous terrains where humanistic access is hard or not possible. Hence, to ensure reliable data transmission in these applications, novel routing protocols need to be designed due to the multi-hop nature of communication possessed by the deployed nodes. Currently, most of the routing protocols utilized by IoT nodes follow traditional approaches, which creates congestion and contention in the network. As a result, the network performance is degraded in terms of various communication metrics. To address this problem and improve the communication statistics in extreme environments, we propose a Deep-Q-Learning-Enable-Destination-Sequenced Distance-Vector (DQL-DSDV) framework. DQL-DSDV focuses on selecting the next hop during communication. Initially, the DSDV protocol updates routing information for connected nodes. This information is subsequently utilized by the DQL algorithm to compute the next hop count. This computation is based on reward functions, known as Q-values, which are conceptualized as the distance between connected nodes by taking into account the traffic flow. These distinguishing operational features of DQL and DSDV ensure that DQL-DSDV minimizes the packet lost ratio, congestion, end-to-end delay, and communication cost with improved Quality of Service (QoS). During simulations, we observed significant improvement in these performance metrics, in the presence of the existing schemes. Despite that, we checked the computation complexity of the proposed approach with existing protocols, which demonstrated noteworthy outcomes just like the other metrics.

'DOI: https://ieeexplore.ieee.org/abstract/document/10236582

Scopus

UAV-Assisted IoT Applications, Cybersecurity Threats, AI-Enabled Solutions, Open Challenges With Future Research Directions

IEEE Transactions on Intelligent Vehicles

Muhammad Adil, Muhammad Usman, Mian Ahmad Jan, Hussein Abulkasim; Ahmed Farouk, Zhanpeng Jin

Unnamed Ariel Vehicle-assisted-Internet of Things (UAV-assisted IoT) applications have emerged as a powerful integrated technology, showcasing remarkable results in many domains with numerous advantages. However, this technology encounters several challenges, and security is one of them. Given that, authentication and verification of legitimate devices with data privacy pose key concerns in a wireless communication environment. Even though, the literature highlights the growing security threats of this technology, where attackers can easily compromise the existing authentication and data preservation schemes. Therefore, it is crucial for all involved stakeholders to address these concerns using Artificial Intelligence (AI), Machine Learning (ML), Deep Learning (DL), and Reinforcement Learning (RL) algorithms, as they offer cost-effective solutions. While some algorithms have been used in the literature to accurately and effectively predict, detect, and prevent vulnerabilities in this technology, they may not adequately handle modern or advanced security threats. Therefore, in this article, we provide a comprehensive survey of the existing literature from 2014 to 2022, specifically focusing on AI, ML, DL, and RL-enabled prototypes. Our goal is to highlight the contributions and limitations of the considered articles. Based on our observations, we will emphasize on the open challenges to set the stage for future research to enhance the security of this emerging technology. Moreover, to bridge this gap of all aspects of this technology, we will discuss layer-wise security threats and countermeasure schemes following the TCP/IP stack. Finally, we will compare our work with existing review articles to demonstrate its novelty, uniqueness, and potential usefulness for the people working in this field.

'DOI: https://ieeexplore.ieee.org/abstract/document/10236463

Scopus

An efficient privacy-preserving control mechanism based on blockchain for E-health applications

Alexandria Engineering Journal

Hanan NaserAlsuqaih, Walaa Hamdan,Haythem Elmessiry, Hussein Abulkasim

The development of the Internet of Things (IoT) has opened up new horizons in the field of remote health data analysis to obtain smart healthcare. However, protecting patients' data privacy seems challenging because medical files are so sensitive. There are significant risks to data confidentiality associated with storing patient health information on third-party servers. The covid-19 epidemic also enhanced the need for a temperature sensor-based respiratory monitoring device. Sharing electronic health records can aid with diagnostic accuracy when privacy and security protection are important system challenges. Due to the benefits of immutability, blockchain has been suggested as a possible option to enable personal health data exchange with privacy and security protection. This work suggests a safe and privacy-preserving diagnostic enhancement strategy for e-Health platforms based on blockchain technology, which addresses the inadequacy of previous work in these regards. The proposed work proposes an effective access control system that would let data owners specify their preferred access controls over their privacy-sensitive medical data. Users could utilize their user transactions for key generation to efficiently cancel or add authorized doctors. Experimental data and security analyses demonstrate the proposed Health-chain's suitability for use in smart healthcare systems. The thorough experimental investigation demonstrates the blockchain's effectiveness of computing and time consumption as well as its resistance to numerous security assaults.

'DOI: https://www.sciencedirect.com/science/article/pii/S1110016823003186

Scopus

Information Systems Solutions for the Database Problems

Springer

Nidal A. Al-Dmour, Liaqat Ali, Mohammed Salahat, Haitham M. Alzoubi, Muhammad Alshurideh Zakariya Chabani

This paper has attempted to build on an explanation of solutions for database problems in information systems. The main focal area for this paper is majorly on enterprise resource planning systems and their effects and characteristics that make them a primary software tool which is used by businesses worldwide whether they be at large scales or work at smaller scales compared to the big-name enterprises out there. The paper has given a basic introduction into what an enterprise resource planning system is and defined its key characteristics that make it exactly an ERP. It also points out how businesses and enterprises make use of such systems and the methodologies that they use to implement ERP systems into their business practices. This paper also attempts to characterize ERP in relation to the solutions that they provide for the specific industry that they are used in. This is mostly done through categorizing the ERP through characteristics such as according to size, technology, risk factor, cost effectiveness and more.

'DOI: https://link.springer.com/chapter/10.1007/978-3-031-12382-5_37

Scopus

Linear Discrimination Analysis using Image Processing Optimization

Springer

Raed A. Said, Nidal A. Al-Dmour, Liaqat Ali, Haitham M. Alzoubi, Muhammad Alshurideh & Mohammed Salahat

When we talk about Machinery Vision and Deep Learning, we often talk about algorithms. In fact, mathematical models with computer knowledge are the basis of how we deal with graphical data to process the Image and make decision. Machine learning can play an important role in determining agricultural plant type in order to optimize the harvesting steps in an automated way. How to process and introduce the products to the market often requires detailed information about the stages of planting and harvesting. In addition, by using this method, sophisticated research can be designed in plant genetics and effect of environmental variables on the end product. The ultimate goal of this work is to use Linear Discrimination Analysis for the Image Processing and classification of harvested wheat grain which are belonged to different types of grain namely Rosa, Kama and Canadian. The above discovery has proved with the statistics to have with more than 94% of accuracy.

'DOI: Linear Discrimination Analysis Using Image Processing Optimization | SpringerLink

Scopus

Fusion Based Self Diagnosis Expert System Empowered with Leven-berg Marquardt Algorithm

International Conference on Cyber Resilience

Shahan Yamin Siddiqui, Muhammad Ubaid Ullah, Aqsa Anwar, Alaa M. Momani, Liaqat Ali, Mohammed Salahat

COVID-19 coronavirus disease is the latest virus in the new century. The World Health Organization- WHO organization announced that COVID-19 disease is a pandemic that leads to thousands of death in short time of spam. A quick and accurate diagnosis of COVID-19 shows an important role in its prevention. This study is based on a fusion-based Self-Diagnosis Expert System Empowered by the Leven-berg Marquardt Algorithm for the diagnosis of diseases. Leven-berg Marquardt has been implemented for the classification of different symptoms of the diseases and relates the results for their diagnosis. The MatLab software was used for the simulation purpose. The proposed fusion-based LB increased the accuracy in the training and validation process to be 10 times more efficient than the existing. The fusion technique achieved an overall accuracy of 98.86%, and 99.09% in all performance metrics which included TNR, precision, and FPR statistical parameters.

'DOI: Fusion Based Self Diagnosis Expert System Empowered with Leven-berg Marquardt Algorithm | IEEE Conference Publication | IEEE Xplore

Scopus

AI-Based Intelligent Model to Predict Epidemics Using Machine Learning Technique

Intelligent Automation and Software Computing

Liaqat Ali1 , Saif E. A. Alnawayseh , Mohammed Salahat , Taher M. Ghazal, Mohsen A. A. Tomh and Beenu Mago

The immediate international spread of severe acute respiratory syn drome revealed the potential threat of infectious diseases in a closely integrated and interdependent world. When an outbreak occurs, each country must have a well-coordinated and preventative plan to address the situation. Information and Communication Technologies have provided innovative approaches to dealing with numerous facets of daily living. Although intelligent devices and applications have become a vital part of our everyday lives, smart gadgets have also led to several physical and psychological health problems in modern society. Here, we used an artificial intelligence AI-based system for disease prediction using an Artificial Neural Network (ANN). The ANN improved the regularization of the classification model, hence increasing its accuracy. The unconstrained optimization model reduced the classifier's cost function to obtain the lowest possible cost. To verify the performance of the intelligent system, we compared the out comes of the suggested scheme with the results of previously proposed models. The proposed intelligent system achieved an accuracy of 0.89, and the miss rate 0.11 was higher than in previously proposed models.

'DOI: AI-Based Intelligent Model to Predict Epidemics Using Machine Learning Technique (researchgate.net)

Scopus

Personality assessment based on natural stream of thoughts empowered with machine learning

Computers, Materials & Continua Journal

Mohammed Salahat Liaqat Ali Taher M. Ghazal and Haitham M. Alzoub

Knowing each other is obligatory in a multi-agent collaborative environment. Collaborators may develop the desired know-how of each other in various aspects such as habits, job roles, status, and behaviors. Among different distinguishing characteristics related to a person, personality traits are an effective predictive tool for an individual's behavioral pattern. It has been observed that when people are asked to share their details through questionnaires, they intentionally or unintentionally become biased. They knowingly or unknowingly provide enough information in much-unbiased comportment in open writing about themselves. Such writings can effectively assess an individual's personality traits that may yield enormous possibilities for applications such as forensic departments, job interviews, mental health diagnoses, etc. Stream of consciousness, collected by James Penn baker and Laura King, is one such way of writing, referring to a narrative technique where the emotions and thoughts of the writer are presented in a way that brings the reader to the fluid through the mental states of the narrator. Moreover, computationally, various attempts have been made in an individual's personality traits assessment through deep learning algorithms; however, the effectiveness and reliability of results vary with varying word embedding techniques. This article proposes an empirical approach to assessing personality by applying convolutional networks to text documents. Bidirectional Encoder Representations from Transformers (BERT) word embedding technique is used for word vector generation to enhance the contextual meanings.

'DOI: TSP_CMC_36019.pdf (techscience.cn)

Scopus

Development of Data Mining Expert System Using Naïve Bayes

Springer

Mohammed Salahat, Nidal A. Al-Dmour, Raed A. Said, Haitham M. Alzoubi Muhammad Alshurideh

The consumer spectrum consists of a wide range, including the affluent, middle-income, and low-income. This consumer shows different behaviors or motivations towards choosing clothes. We want to develop a framework for a Sale Recommendation System. These expert System can be helpful for sale persons, fashion designer, promoter, brand manager as well as sponsor of Recommendation System. The study implemented the Data Science approach and techniques to see how reliable Recommendation Systems are and in our selected dataset we have applied different modelling techniques such as KNN, SVM, Bayes Naïve and Decision Tree and fond the NB as the most suitable and practical method of modelling in regard to the accuracy, recall and runtime.

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Development of Data Mining Framework Cardiovascular Disease Prediction.

Springer

Raed A. Said, Nidal A. Al-Dmour, Mohammed Salahat, Ghassan F. Issa, Haitham M. Alzoubi ,Muhammad Alshurideh

One of the highest shares of data-driven technology of health sector happens for private insurance stakeholders. It is therefore clear that private insurance companies can only survive being competitive in covering different medical stages such as surgery, intervention and other clinical trials in a high-risk environment. Estimation of expected costs and coverage is also important for both patient and insurer. In this case study we as a Data Mining and Artificial Business consultant want to explore different techniques of data mining to find out business risks for patients. We have asked the insurer to provide us a sizable medical history to watch those features. We would like to predict if given biographical profile of the patient along with exam results can predict CVD so he can cover his costs with this Insurer. On the other hand, in case of higher error of misclassified CVD what kind of decision should be taken by risk holder and insurer. Which one of these attributes causing this cost and what other stakeholders like target group of patients can be suffered from the loss? The ultimate goal is to develop a model that can predict the gap between those patients' perception of their disease and their real disease. This can further help stakeholders to develop specific insurance policy.

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Scopus

Analysis of Issues Affecting IoT, AI, and Blockchain Convergence.

Springer

Nasser Taleb, Nidal A. Al-Dmour, Ghassan F. Issa, Tamer Mohamed Abdellatif, Haitham M. Alzoubi, Muhammad Alshurideh Mohammed Salahat

The purpose of this project was to appraise the integration or convergence issues influencing the mutual functioning of blockchain, AI, and IoT. The study argued that the recent developments in the field of IoT and blockchain prediction have involved the integration of innumerable classification schemes to establish a hybrid model. The introduction of the hybrid technique relies on the prediction performance that strives to override the limitations of any available architectural scheme. This study offers a comprehensive exploratory appraisal of the issues influencing the successful integration of IoT and blockchain in regards to functionality and effectiveness of security, trust, and flawless communication issues. The exploratory research methodology was used in analyzing the issues affecting the integration of blockchain, artificial intelligence (AI), and the internet of things (IoT). The findings indicated that the integration challenges influencing the effective operations of blockchain, AI, and IoT as a single system involve security, scalability, accountability, and trust of communications. The study recommends that successful and effective integration will enhance the development of new business models as well as the digital transformation of market corporations. Accordingly, new approaches to convergence should ensure that executives address the new technology demands to obtain significant gains in efficiency.

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Diagnosis Ovarian Cancer & Prostate Cancer using Mamdani System of Fuzzy Interface

International Conference on Cyber Resilience

Mohammad Salahat,Harish K G Nair,Rasha Almajed, Naila Samar Naz; Aziz Ur Rehman, Muhammad Sheraz Javeid

In the field of medical science, identification of cancer is a very challenging task. The purpose of this paper is to diagnose ovarian cancer in females and prostate cancer in male and their condition by using the Mamdani Fuzzy inference system. The system has four components namely fuzzy knowledge base, the fuzzifier, inference engine and Defuzzifier. Proposed system can be used as a second reader which helps to identify the status of ovarian cancer in females and prostate cancer in male by entering his report's consequences and finding the outcomes which are Non-cancerous, acute cancer or chronic cancer. An intelligent system is proposed to specify ovarian cancer and Prostate cancer by using MFIS. The proposed system has seven input variables, CA-125 and AFP are used to identify ovarian cancer in women, PSA-Region, Region, and CEA used to identify Prostate Cancer in Men. The results were achieved using the Mamdani Fuzzy Inference System to model complex ovarian cancer and Prostate cancer process.

'DOI: Diagnosis Ovarian Cancer & Prostate Cancer using Mamdani System of Fuzzy Interface | IEEE Conference Publication | IEEE Xplore

Scopus

Neurological Disorder Detection Using OCT Scan Image of Eye

International Conference on Cyber Resilience

Muhammad Arslan Aslam; Muhammad Zonain; Salman Muneer; Omar Sattar; Mohammad Salahat; Muhammad Saleem

Extracting useful features from medical images (in Radiology) helps to improve the early precautions and treatment as well as reducing the risk of performing major surgeries. There is an immense need of a methodology which can automatically extract retinal features and classify it into desired class. The proposed automated technique is based on Deep Convolutional Neural Networks of four different types of Convolutional Neural Networks (CNN) models i.e. Baseline 5 layer model, AlexNet and ResNET. These three CNN techniques are used for image segmentations, features extraction and classification of normal and abnormal images in three different image formats: Choroidal Neovascularization (CNV), DRUSEN (small yellow colored deposits of debris of eyes, and Diabetic Macular Edema (DME). Furthermore, the optimizers used are adaptive moment estimation (ADM) and stochastic gradient descent (SGD) which provide different accuracy under same iterations. ADM optimizer gives the best accuracy in all the CNN networks while SGD gives the least accuracy. Various type of abnormalities are detected in retina images are CNV, DME, and DRUSEN. The method proposed in this research is implemented on the Optical coherence tomography (OCT) Retinal Image dataset. For the sake of validation of proposed methodology, some known performance parameters like accuracy, F1_score, recall, precision, support and loss function are used. The observed and visualized results of the proposed method Compared to previous techniques, the findings of the approach are encouraging.

'DOI: Neurological Disorder Detection Using OCT Scan Image of Eye | IEEE Conference Publication | IEEE Xplore

Scopus

Breast Cancer Prediction using Machine Learning and Image Processing Optimization

Springer

Muhammad Arslan Aslam; Muhammad Zonain; Salman Muneer; Omar Sattar; Mohammad Salahat; Muhammad Saleem

In this study, it is wanted to implement Naïve Bayes data mining techniques on a dataset gained from digitized Image of fine needle aspirate (or FNA) belonged to benign and malignant type of breast tumors. One of the most important factors causing cancers in the females, which can be measured from sample after maintaining in several hours' laboratory sample preparation at certain condition. As an alternative, Image processing can be substituted by measuring the geometrical features of FNA are well adopted economically and efficiently.

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DDoS Intrusion Detection with Ensemble Stream Mining for IoT Smart Sensing Devices

Springer

Taher M. Ghazal, Nidal A. Al-Dmour, Raed A. Said, Alireza Omidvar, Urooj Yousuf Khan, Tariq Rahim Soomro, Haitham M. Alzoubi, Muhammad Alshurideh, Tamer Mohamed Abdellatif, Abdullah Moubayed , Liaqat Ali

Security threats in the Smart City Systems are becoming a challenge. These Smart City Systems, generating Big Data, are a revolutionizing application of the Internet of Things(IoT). Data Stream Mining, which is an efficient way of handling Big Data, is now of great concern. The acquired information is computationally expensive to process in terms of efficiency and runtime. Detection of suspicious activities on decentralized servers, generating and computing massive data streams requires time. Moreover, several stakeholders should be engaged to train the heterogenous malware data streams in the level of service application. Small experiments can be performed on the functionality of Batch ML on IoT datasets with available heap size resources. Among these candidate datasets, a little contribution has been already represented on the Mirai Attack. This research aims at the study of Data Stream Mining algorithms. Owing to the accuracy and interferences of the measurement, these algorithms are able to handle the non-hierarchical and unbalanced datasets similar to the Mirai Attacks. No single method can solely improve these critical standpoints. Thus, an Ensemble technique should be implemented. According to our study, a pool of meta or selective classifiers that interact based on the temporal Data Mining swiftly can outperform others. The maintainability and security concerns of such applications can be best fulfilled in meta-heuristics with the one-time scanning network approach for the recognition of the most frequent attacking pattern with the on-the-fly scheme. These are implemented in Create, Read, Update and Delete (CRUD) operations of the Big Data Systems.

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Scopus

Distributed Search Engine Query Optimization Using Artificial Neural Network

International Conference on Cyber Resilience

Liaqat Ali; Mahmoud M. Al-Sakhnini; Deepak Kalra; Farheen Afzaal; Madiha Pervaiz; Muhammad Farrukh Khan

In this research, we propose a Distributed Search Engine Query Optimization (DSEQO) based sensor network concept for instantaneous forest fire exposure. The sensor network may identify and predict forest fire more sharp than the outdated satellite-based prediction method. The research mainly defines the information gathering and managing in sensor networks for real-time forest fire detection. To predict the real-time fire identification, an ANN technique is utilized to in-network information processing. After simulation it was seen that the suggested approach gives better results with LM approach in terms of Accuracy and Miss Rate.

'DOI: https://ieeexplore.ieee.org/document/9995958/authors#authors

Scopus

Activity Based Easy Learning Of Push Down Automata

International Conference on Cyber Resilience

Liaqat Ali; Nizar Sahawneh; Yousuf Agha; Saira Kanwal; Imran; Nouh Sabri Elmitwally

Teaching is a skill. It is significant to be aware of or enquiring how to express this skill. Teacher must have fully grasped his art of teaching. He must know the psychology, mental and emotional distorting elements of students to deal with in all situations accordingly. Learning disability is not a big difficulty or harder-ship and can achieve easily by developing interest and motivating students by introducing some new updated tools and methodologies like Thoth, SELFA, FLUTE, JFLAP, FLAP, Java Finite Automata, Deus Ex Machina (DEM) and homework exercises for practicing by hand, workshops, oral assessments, quizzes, group sharing, group assessment, clustering and feedback respectively that are explain below. This article provides different ways of teaching PDA and makes students' learning process easy. Furthermore this article also clarifies the conceptual model of PDA and enhances the ability to design PDA machines conveniently.

'DOI: https://ieeexplore.ieee.org/document/9996012

Peristaltic mechanism in an inclined asymmetric channel soaked with porous media and under magnetic effects: numerical simulation equipped with finite element method

Journal of Electromagnetic Waves and Applications

Liaqat Ali ,Bilal Ahmed

This study is proposed for the numerical simulation of the peristaltic mechanism using the finite element method with the Galerkin residual technique to explore peristaltic transportation under the action of an externally applied magnetic field passing through an inclined asymmetric channel saturated with porous media. The Navier-stokes equations are solved for the peristaltic mechanism non-linearly by the exemption of lubrication theory to study the inertial effects. The numerical simulations and results are obtained by applying the finite element method based on quadratic triangular elements. It is observed that pressure rise per wavelength is enhanced by increasing the angle of inclination $0.8 \leq \leq 1.4$.

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College of Dentistry

Comparative Ultrasonographic Evaluation of the Masseter Muscle in Patients with and without Oral Submucous Fibrosis.

Journal of Indian Academy of Oral Medicine & Radiology

Kalluvalappil, Ayappali; Balan, Anita; Chandrabose, Tinky Bose; Venugopal, Muraleedharan; Jacob, Jesmith E.; Ramachandran, Sunu

Background: The gold standard for diagnosing oral submucous fibrosis (OSF) is histopathology, but it causes scarring and worsens the illness. Ultrasonography (USG) has been employed in recent research to assess the cross-sectional dimensions of head and neck muscles in OSF patients.

Aim: This study aimed to evaluate the ultrasonographic changes in the cross-sectional thickness of masseteric muscle in patients with and without OSF. Also, to compare the cross-sectional thickness of masseteric muscle in patients with different clinical stages and histologic grades of OSF.

Methods: The study was conducted in accordance with the Declaration of Helsinki. The protocol was approved by the Institutional Ethics Committee, and written informed consent was obtained from all patients. The study population was divided into cases and controls. Cases consisted of 63 patients clinically diagnosed as having OSF and controls consisted of 63 persons selected from the patients attending the department of Oral Medicine and Radiology. According to Khanna and Andrade's criteria, OSF patients were divided into four groups based on their clinical findings. Ultrasonography of masseter muscle was performed with a high-resolution real-time LOGIQUE C5 ultrasound scanner with 7–12 MHz transducers.

Results: One-way ANOVA and *t* test were used to evaluate the results. The study showed a clear association of masseter muscle hypertrophy with OSF. In controls, ultrasound measurements of masseter muscle thickness were statistically significant. In the case group, masseter muscle thickness was increased as the duration and frequency of the chewing increased and also as the disease progressed.

Conclusions: USG is a valuable, radiation-free, and non invasive better diagnostic tool than clinical and histopathological examinations for OSF evaluation.

'DOI: https://journals.lww.com/aomr/Fulltext/2023/35010/Comparative_Ultrasonographic_Evaluation_of_the.17.aspx

Current Trends in Forensic Odontology: A Literature Review

Indian Journal of Forensic Odontology

Ayappali Kalluvalappil Nabeel1 ,P Nasma2 ,Febin Shalu3

Aim & Objectives: To Our society is facing new challenges, from an increase in crime to a rise in natural disasters. Despite advances in technology, it is still difficult to identify criminals using medical techniques. Dental tissues are frequently still present in corpses that have been burned, decomposed, skeletonized, or dismembered. So, forensic odontology has proven to be a crucial science in medical legal cases and in the process of identifying the deceased. This article gives a broad overview of contemporary forensic odontology concepts and the changing trends in traditional methods.

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Scopus

Report of Two Cases of the Trabecular Variant of Juvenile Ossifying Fibroma of the Jaws and Review of the Literature

Indian Journal of Dental Education

Ayappali Kalluvalappil Nabeel , S S Binisree , Divya Chandran

Juvenile ossifying fibroma (JOF) is a benign but potentially aggressive fibro-osseous lesion involving craniofacial bones. Children and young adults are commonly affected. Young adults and children are frequently affected. JOF is distinguished from the adult variant, based on age, site, clinical behaviour, and microscopic appearance. Its aggressive nature and high recurrence rate, demand early detection and complete surgical excision. In this article, we'll discuss two cases, that presented with maxillary and mandibular swellings and were later identified as trabecular variants of juvenile ossifying fibroma.

'DOI: https://www.rfppl.co.in/view_abstract.php?jid=3&art_id=13240

Work-Related musculoskeletal disorder among medical and dental workers.

Journal of International Dental and Medical Research

Eldarrat, Aziza Alkhuboli, Farah, Alkhuboli, Mohamed

Musculoskeletal (MS) pain is a recognized worldwide health issue and remains a significant public health concern. Thus, understanding the potential cause of pain and its associated risk factors play an important role in its prevention. To determine the prevalence of work-related MS pain or discomfort among medical professionals and identify its associated risk factors. Two hundred self-administered questionnaires were distributed to assess the study aims. Only completed questionnaires were used in the data analysis. A majority of the participants had MS pain or discomfort due their current job (85%). The dentists and dental assistants at increased risk for the MS problems compared to the medical doctors, medical nurses and technicians. Body areas which significantly affected by the MS pain or discomfort were the neck, shoulder, and foot ($p < 0.05$). The upper back, wrist, hand, and knee were also affected ($p < 0.001$). Above 50% of the participants had interference with work (60%), life outside work (61%), sleep (57%) due to their pain. 59% were using analgesics to relieve the pain. An alarming number of participants had MS pain that impaired their daily activities. Disability from MSD can not only result in absenteeism, but also lead to decrease in the quality of care provided to patients. Hence, the implementation of educational programs emphasizing the risk factors of MS pain might help prevent this in the future.

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Effectiveness of clove oil in preventing pregnancy-induced gingival swelling.

Journal of Xi'an Shiyou University

Muhammad Zohaib Younus , Hijab Fatemah , Shaima Sultana Memon , Aliya Islam , Muneeza Lodhi , Ambreen Rehman

Abstract: Background: During pregnancy, high hormonal levels and improper oral hygiene can help in the deterioration of periodontal tissues that might lead to the production of various infectious microbes and inflammatory mediators. In this regard Clove extract has also been reported for having an effective antimicrobial activity against oral pathogens like S. mutans. Thus, the rationale of our study is to assess the efficacy of clove extract, in comparison to chlorhexidine, against pregnancy induced gingival hyperplasia. Methodology: It was an experimental study conducted at the tertiary care hospital of Karachi from June 2021 to May 2022. The total calculated sample size was 30 and the inclusion criteria were pregnant females reporting to dental OPD for seeking treatment in 1st trimester and were ready to give consent. The exclusion criteria were pregnant females reporting OPD after 1st trimester and those who refused to become participants of the study. The pregnant females were divided into two groups such as group 1 was given chlorhexidine mouth rinse in an unlabeled covered bottle and the same procedure was used for participants of group 2 who were given diluted clove leave extract. The gingival pocket depth from the labial and lingual side was recorded pre and post experimentally from mesial, central, and distal sites by a periodontal probe. The data was divided into upper and lower anterior (canine to canine) teeth and upper and lower posterior teeth (1st premolar to 3rd molar or the last present tooth in the jaw). Results: There was no significant difference in the pocket depth of both the groups which highlighted the equal effectiveness of both the experimental liquids (table 2). The paired t-test analysis showed that during treatment there was an increase in gingival pocket depth Journal of Xi'an Shiyou University, Natural Science Edition ISSN : 1673-064X http://xisdxjxsu.asia VOLUME 18 ISSUE 8 August 2022 09-19 Conclusion: There was an increase in pocket depth during the study however, both the experimental liquids (chlorhexidine and clove leave extract) seemed to be equally effective. The frequency of pain, bleeding and bad breath was the same in both groups.

'DOI: https://www.xisdxjxsu.asia/V18I09-02.pdf

Does the Difference in Finishing Systems and Time affect the Surface Roughness of Two Resin Composites? Comparison between Bulk fill and Nano resin composite.

Acta Scientific Dental Sciences

Ahmed A Afify, Omaima H Ghallab, and Asmaa Y Harhash

Abstract Aim: evaluation of the effect of different finishing and polishing systems and the time of finishing either immediate or delayed after 24 hours on the surface roughness of bulk fill resin composite and Nano fill resin composite. Materials and Methods: two resin composite materials were used Filtek Bulk fill resin composite and Filtek z350 Nano fill resin composite. A total of 70 resin composite specimens were prepared according to manufacturer's instructions in specially constructed split Teflon moulds of 6 mm diameter and 2 mm thickness, specimens were divided into two main groups of 35 specimens of each composite resin, 5 specimens of each group were cured under mylar strip without any finishing or polishing procedures to serve as control group, the other 30 specimen of each composite resin was divided into 3 sub-groups of 10 specimens according to type of finishing and polishing system; one step, two steps or multiple steps, then every sub group was divided into 2 groups of 5 specimens each one according to time of finishing immediate after 10 minutes and delayed after 24 hours, each of specimens was assessed for roughness measurement by optical profilometry. Results: In each composite group, the control had the lowest Ra. Conclusion: Nano filled resin composite exhibited smoother surface than Bulk fill resin composite irrespective of the finishing technique used or time of finishing. Mylar strip created the smoothest surface in both materials.

'DOI: https://actascientific.com/ASDS/pdf/ASDS-07-1608.pdf

College of Pharmacy and Health Sciences

Modulation of IL-33/ST2 signaling as a potential new therapeutic target for cardiovascular diseases

Cytokine & Growth Factor Reviews

Punniyakoti Veeraveedu Thanikachalam , Srinivasan Ramamurthy , Poojitha Mallapu, Sudhir Rama Varma, Jayaraj Narayanan , Mohammed AS Abourehab , Prashant Kesharwani

IL-33 belongs to the IL-1 family of cytokines, which function as inducers of Th2 cytokine production by binding with ST2L and IL-1RAcP. This, in turn, activates various signaling pathways, including the mitogen-activated protein kinase (MAPK), the inhibitor of Kappa-B kinase (IKK) pathway, and the phospholipase D-sphingosine kinase pathway. IL-33 has demonstrated protective effects against various cardiovascular diseases (CVDs) by inducing Th2 cytokines and promoting alternative activating M2 polarization. However, the soluble decoy form of ST2 (sST2) mitigates the biological effects of IL-33, exacerbating CVDs. Furthermore, IL-33 also plays a significant role in the development of asthma, arthritis, atopic dermatitis, and anaphylaxis through the activation of Th2 cells and mast cells. In this review, we aim to demonstrate the protective role of IL-33 against CVDs from 2005 to the present and explore the potential of serum soluble ST2 (sST2) as a diagnostic biomarker for CVDs. Therefore, IL-33 holds promise as a potential therapeutic target for the treatment of CVDs.

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Applications, Benefits, and Risks of ChatGPT in Medical and Health Sciences Research: An Experimental Study

Progress In Microbes & Molecular Biology

Yaser Mohammed Al-Worafi,Andi Hermansyah,Ching Siang Tan,Chee-Yan Choo, Abdelhakim Bouyahya, Ganesh Sritheran Paneerselvam, Kai Bin Liew, Khang Wen Goh, Long Chiau Ming

This article explored the potential applications, benefits, and risks of using ChatGPT in medical and health sciences research. The experimental study was performed with content analysis of the potential applications, benefits and risks of using ChatGPT in medical and health sciences research. This study shows many potential applications, benefits, and risks of using ChatGPT in medical and health sciences research. The average experts' ChatGPT appropriateness and accuracy rates in the eight research themes were between 60% and 95%. This concludes that ChatGPT could help medical and health sciences researchers, especially new researchers, with caution in many aspects of research. The ChatGPT is still in the early phase of use by researchers worldwide, and its ability to help in research will be better soon. Attending training workshops about ChatGPT and AI is very important and highly recommended. The practice of ChatGPT in medical and health sciences research is important and recommended to explore the potential uses, benefits, risks and suggest recommendations for the best practice.

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Toxicological Review of Anticancer Plants Used in Traditional Medicine in Morocco.

Progress In Microbes & Molecular Biology

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In Morocco, traditional medicine utilizes many toxic plants for cancer treatment, despite a lack of scientific evidence supporting their effectiveness. Further research may be able to explore and discover the potential therapeutic effects of these plants' bioactive molecules with antioxidant and anticancer properties. Based on our review, we have determined that the 13 plants under examination possess various pharmacological and biological activities due to their diverse phytochemical composition. Despite their toxicity, these plants have a history of traditional use in Morocco for treating multiple diseases. Further research, including preclinical and clinical trials, should be conducted to investigate the potential therapeutic benefits of these plants. Moroccan cuisine commonly incorporates gruels, herbal drinks, and spicy beverages, which possess significant health benefits, including chemo-preventive properties and natural inhibitors against certain infections. These properties may aid in reducing the incidence of cancer and potentially have therapeutic effects in various human pathologies when consumed in appropriate amounts and in combination with a healthy lifestyle.

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Challenges of having a child with thalassemia in Pakistan: A phenomenological study.

Journal of pediatric nursing

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Thalassemia is a persistent hemolytic disease and has debilitating effects on patients and their parents. Parents of these children experience pain and suffer from additional emotional strain as they provide daily and lifetime care and are mostly concerned about the health and future of their children. The study aimed to understand the experiences of parents of children with thalassemia related to their family, financial, social, treatment, and psychological issues in Pakistan. This descriptive phenomenological study recruited 21 parents of children with thalassemia through purposive sampling until data saturation was achieved. Analysis of transcribed interviews was performed through Colaizzi's method and themes and subthemes revolving around diagnosis, challenges, and treatment issues were extracted. A total of 21 Pakistani parents participated in this study. Most of the participants were females (*n* = 16, 76.19%), housewives/stay-at-home moms (*n* = 13 (61.90%), and were uneducated (*n* = 6, 28.57%). Regarding genetic traits, only three (14.28%) parents declared that they had genetic traits of thalassemia. The findings of our study revealed that thalassemia is enormously influenced by psychosocial and economic problems because of this disease in their families. Our findings indicated that parents of these children face multi-faceted challenges, such as physical, socio-emotional, financial, and familial. These findings may lead to an adequate understanding of their individual needs and efficient utilization of supportive and care programs.

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Features and Functionalities of Medical Mobile Applications for the Endemic Phase of COVID-19: Review and Content Analysis

Progress in Microbes and Molecular Biology

Mei Jun Loy, Khang Wen Goh, Norliza Osili, Long Chiau Ming, Jagjit Singh Dhaliwal, Andi Hermansyah, Yaser Mohammed Al-Worafi, Kah Seng Lee

The study's objective was to assess the features and content of the COVID-19 mobile applications accessible in the Apple AppStore. A content analysis, comparison, and functionality evaluation of a few COVID-19 related mobile applications was performed. The search for COVID -19 related apps in the iOS AppStore took place between February 1 and March 31, 2022. The mobile applications received a maximum of 7 points (basic feature assessment) and 8 points overall (functionality assessment). The requirements were fully met by receiving one point. Frequencies from descriptive statistics were used to allude to the applications' features according to the app's basic purpose. A total of 234 applications were recognized using the keywords to exploreCOVID-19 related mobile applications in Apple AppStore. However, 58 mobile applications (24.8%) relevant to COVID-19 were evaluated. According to the findings of an evaluation of basic aspects of mobile applications, 89.7% require an internet connection, 70.7% have a size of less than 50 MB, 96.6% require no funding, 58.6% include educational content, and 60.3% offer advice from the applications. In terms of score, 41.4% scored three or below, whereas 58.6% scored four or above. Functionality assessment wise, 79.3% included information regarding COVID-19, 12.1% included COVID-19 contact tracing, 17.2% had vaccination status, a health authority maintained 50%, 31.0% included COVID-19 statistics, and 25.8% were able to report ART/PCR test. In terms of score, 91.4% scored three points or less, and 8.6% scored four points or more. This study has discovered several applications that could effectively prevent COVID-19 pandemic spread. Based on the findings, mobile applications that would be recommended are the ones supported by the government health administration of the respective country. App development companies' applications show that competent healthcare personnel was not involved in developing the applications. Online consultation with healthcare professionals might help the public who do not have access to the nearest hospital.

'DOI: https://journals.hh-publisher.com/index.php/pmmb/article/view/682

Scopus

Perceptions of healthcare professionals and patients on the role of the pharmacist in TB management in Pakistan: A qualitative study

Frontiers in Pharmacology

Muhammad Atif, Kiran Munir, Iram MalikYaser, Mohammed Al-Worafi, Irem Mushtaq

The objective of this study was to outline the perceptions of healthcare professionals and patients regarding the potential role of pharmacists in TB management in Pakistan. This was a large-scale qualitative study conducted at the Chest Disease Unit (CDU) of the Bahawal Victoria Hospital (BVH), Punjab, Pakistan. Data were collected through semi-structured interviews with physicians, pharmacists, and patients recruited using a mix of convenient and snowball sampling. The sample size was decided through standard saturation point criteria. All interviews were audio recorded and transcribed verbatim. The data were analyzed to draw conclusions using a thematic analysis approach. Analysis of the data yielded 19 categories and seven themes. Physicians considered pharmacists qualified healthcare professionals, whereas patients considered them merely dispensers. Inventory management and dispensing of medicines were considered as major responsibilities of pharmacists. Physicians were extremely overburdened and wanted to delegate certain duties to pharmacists, subject to their prior extensive trainings. However, most of the physicians were unaware of the legal scope of pharmacy practice in Pakistan. With regard to the potential duties of pharmacists, physicians, pharmacists, and patients (patients—upon explaining the potential roles during the interview) endorsed monitoring, counseling, medicine brand selection, dose adjustment, inventory management, dispensing, and polypharmacy assessment as their potential roles. In view of all stakeholders, the rationale for integrating pharmacists in TB management included overburdened physicians, sub-standard patient care, medication safety issues, and patient dissatisfaction. The healthcare professionals highlighted that the major barriers to integrating pharmacists within the TB management system were limited interest of regulatory authorities and policy makers, followed by inadequate training and experience-driven questionable competency of pharmacists. The study participants acknowledged the potential role of pharmacists in TB management. However, it was emphasized that healthcare policy makers should devise strategies to overcome the underlying barriers before assigning medicine-related clinical roles to pharmacists.

'DOI: https://www.frontiersin.org/articles/10.3389/fphar.2022.965806/full

Scopus

Doctors' adherence to guidelines recommendations and glycaemic control in diabetic patients in Quetta, Pakistan: Findings from an observational study

Frontiers in Medicine

Tabassum Saher, Yaser Mohammed Al-Worafi, Muhammad Nouman Iqbal,Abdul Wahid, Qaiser Iqbal Asad Khan,Muhammad Atif, Nafees Ahmad,

To evaluate doctors' adherence to pharmacotherapeutic recommendations of DM management guidelines and factors associated with guidelines adherence and glycaemic control. This prospective observational study included 30 doctors who were treating DM patients in their private clinics in Quetta, Pakistan. On visit 1, a total of 600 prescriptions written by 30 enrolled doctors (20 patients per doctor) were noted along with patients' sociodemographic and clinical characteristics. American Diabetes Association guidelines was used as a reference. The prescriptions noted were judged for guidelines compliance. Of 600 enrolled patients, 450 patients (15 patients per doctor) were followed for one more visit and included in final analysis. Glycated hemoglobin (HbA1c) level noted one visit 2 was related with the respective prescription on visit 1. Data were analyzed by SPSS (version 23). A p-value <0.05 was considered statistically significant. Patients received a median of two antidiabetic drugs (range: 1–5). A total of 73.1% patients were on polytherapy. Metformin was the most frequently prescribed (88.4%) antidiabetic followed by gliptins (46.2%). A total of 41.6% prescriptions were judged guidelines compliant. In multivariate binary logistic regressions (MVBLR) analysis, chronic kidney disease (CKD) (OR = 0.422) and polytherapy (OR = 0.367) had statistically significant negative associations (p-value <0.05) with guidelines' compliant prescriptions. The group of doctors comprised of specialists and consultants wrote significantly (p-value = 0.004) high number of guidelines adherent prescriptions (mean rank = 20.25) than the group comprised of medical officers (mean rank = 11.34). On visit 2, only 39.5% patients were on goal glycemic levels. In MVBLR analysis, suffering from dyslipidemia (OR = 0.134) and CKD (OR = 0.111), receiving sulfonylurea (OR = 0.156) and guidelines' compliant prescription (OR = 4.195) were significantly (p-value <0 .05) associated with glycemic control.Although guidelines compliant prescriptions produced better glycemic control, but doctors' adherence to guidelines and glycemic control were poor. Polytherapy and CKD emerged as risk factors for guidelines divergent prescriptions. Dyslipidemia, CKD and reception of sulfonylureas had negative association with glycemic control.

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Scopus

Economic Analysis of Patient's Own Medication, Unit-Use and Ward Stock Utilization: Results of the First Pilot Study

International Journal of Environmental Research and Public Health

Hamimatul Hayat Abdul Nasir ,Hui Poh Goh ,Daniel Vui Teck Wee ,Khang Wen Goh ,Kah Seng Lee ,Andi Hermansyah Yaser Mohammed Al-Worafi and Long Chiau Ming

Medication wastage is causing a cost burden to the healthcare system that is worth millions of dollars. An economic and ecological friendly intervention such as using a patient's own medications (POM) has proven to reduce wastage and save the cost spent by the hospital. The potential benefits of using POM in inpatient settings have yet to be explored in a country with universal health coverage. This study aimed to pilot test the POM intervention in an adult ward setting and to perform the economic analysis of using POM and ward stock during hospitalization. Methods: A prospective cross-sectional observational study was conducted among the patients admitted to the medical and surgical wards in a public hospital located in Brunei Darussalam between February 2022 and April 2022. Hospitalized adults above 18 years old with regular medications with a minimum length of stay of 48 h and a maximum length of stay of 21 days were included in the study. These eligible patients were divided into a POM group and a non-POM group. The economic analysis of using POM was performed by calculating the direct cost per unit of medication used during admission (from unit-use, ward stock and POM) and comparing the cost spent for both groups. Expired ward stock deemed as medication wastage was determined. Medical research ethics were approved, and all participating patients had given their written informed consent before enrolling in this study. Results: A total of 112 patients aged 63.2 ± 15.8 years participated in this study. The average cost of medication supplied by the inpatient pharmacy for the non-POM group was USD 21.60 ± 34.20 per patient, whereas, for the POM group, it was approximately USD 13.00 ± 18.30 per patient, with a mean difference of USD 8.60 ± 5.17 per patient (95% CI: −3.95, 27.47, $p \geq 0.05$). The use of POM minimized 54.03% (USD 625.04) of the total cost spent by the hospital for the POM group within the period of the study. Conclusion: The pilot study showed that the supplied medication cost per patient was not significantly different between the POM and non-POM groups. Nevertheless, the utilization of POM during hospitalization is capable of reducing at least 50% of the total cost spent on inpatient medications by the hospital. The use of POM during hospitalization also helped in reducing the total time spent on the medication process per patient.

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Scopus

Comparative Effectiveness of Individualized Longer And Standardized Shorter Regimens In The Treatment of Multidrug Resistant Tuberculosis In A High Burden Country

Frontiers in Pharmacology

Abdul Wahid,Abdul Ghafoor,Abdul Wali Khan ,Yaser Mohammed Al-Worafi,orgAbdullah Latif, Nisar Ahmed Shahwani4 Muhammad Atif Fahad SaleemNafees Ahma

To compare the effectiveness of second line injectables containing shorter (duration 9–12 months) and longer treatment regimens (LTR, duration ≥ 20 months) among multidrug-resistant tuberculosis (MDR-TB) patients with no documented resistance and history of treatment with any second-line anti-TB drug (SLD) for ≥ 1 monthThis was an observational cohort study of MDR-TB patients treated at eight PMDT units in Pakistan. Patients' data from baseline until treatment outcomes were collected from Electronic Nominal Recording and Reporting System. The treatment outcomes of "cured" and "treatment completed" were grouped together as successful, whereas "death," "treatment failure," and "lost to follow-up" were collectively grouped as unsuccessful outcomes. Time to sputum culture conversion (SCC) was analyzed using the Kaplan–Meier method and the differences between groups were compared through the log-rank test. Multivariate Cox proportional hazards and binary logistic regression analyses were used to find predictors of time to SCC and unsuccessful treatment outcomes. A p-value < 0.05 was considered statistically significant. A total 701 eligible MDR-TB patients [313 treated with shorter treatment regimen (STR) and 388 treated with LTR at eight centres in Pakistan were evaluated]. Time to achieve SCC was significantly shorter in STR group [mean: 2.03 months, 95% confidence interval (CI):1.79–2.26] than in LTR group (mean: 2.69 months, 95% CI: 2.35–3.03) (p-value<0.001, Log-rank test). Treatment success was higher in STR (83.7%) than in LTR (73.2%) group (p-value <0.001) due to high cure (79.9% vs. 70.9%, p-value = 0.006) and low death (9.9% vs. 18.3%, p-value = 0.002) rates with STR. Treatment with STR emerged the only predictor of early SCC [adjusted Hazards ratio (aHR) = 0.815, p-value = 0.014], whereas, patient's age of 41–60 (OR = 2.62, p-value<0.001) and >60 years (OR = 5.84, p-value<0.001), baseline body weight of 31–60 (OR = 0.36, p-value = 0.001) and >60 kg (OR = 0.23, p-value <0.001), and treatment with LTR (OR = 1.88, p-value = 0.001) had statistically significant association with unsuccessful treatment outcomes. STR exhibited superior anti-microbial activity against MDR-TB. When compared LTR, treatment with STR resulted in significantly early SCC, high cure, and lower death rates among MDR-TB patients who had no documented resistance and history of treatment with any SLD ≥ 1 month.

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Scopus

Transformation of the pharmacy profession in Pakistan: A mixed-method study based on FIP development goals

Pharmacy education

Muhammad Atif, Rabia Mehboob, Iram Malik, Yaser Mohammed Al-Worafi, Wajiha Razzaq, Madiha Khan,Nafees Ahmad

The pharmacy profession is underdeveloped and unrecognised in low and middle-income countries. Recognising this, the International Pharmaceutical Federation (FIP) has published 21 development goals to develop the pharmacy profession. This mixed-method study was conducted to determine a priority-based hierarchy of the FIP development goals and identify the barriers to achieving these goals in Pakistan. A total of 400 and 15 pharmacists participated in the quantitative and qualitative parts of the study, respectively. Overall, the pharmacy profession in Pakistan was not progressing at the pace required. The participants advocated prioritisation of the 'Practice' element to bridge the gap between the current situation and required progress. The main barriers to transformation were a lack of implementation of theoretical knowledge, training and internship programmes, and regulatory deficits in policy development and implementation. Mandatory government leadership and backing will be required to advance practice-related aspects and address intertwined barriers to professional development in the country.

'DOI: https://pharmacyeducation.fip.org/pharmacyeducation/article/view/1823

Scopus

Clinical Case Studies on Medication Safety

Elsevier

Yaser Mohammed Al-Worafi

Clinical case studies on medication safety provide real and simulated scenarios about safety issues related to medication, including adverse drug reactions (ADRs), medication errors, and drug-related problems (DRPs). The book explains real-life case management, including details about ADRs, mistakes during drug administration, drug avoidance, and drug-drug interactions with the goal of improving patient care. With over 150 case studies, including cases from alternative medicine and traditional medicine, this book will help medical and health sciences educators, students, healthcare professionals, and other readers apply their knowledge and skills to solve cases for better patient care.

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Scopus

Handbook of Medical and Health Sciences in Developing Countries

Springer

Yaser Mohammed Al-Worafi

here is a lack of books that discuss medical and health sciences education, practice and research in developing countries. By providing comprehensive information and guidance about the various aspects of medical and health sciences education, practice and research and their situation in developing countries (achievements, challenges and recommendations), this handbook aims to fill this gap to serve as a useful resource for medical and health sciences educators and students, healthcare professionals, researchers, policymakers and organizations.

The objectives of this handbook are:

- To provide medical and health sciences educators and students, healthcare professionals, researchers, policy-makers, organizations and other readers with comprehensive information and guidance on medical and health sciences education, practice and research topics;
- To document the history and the development of medical and health sciences education, practice and research in developing countries;
- To describe the current situation, various aspects and achievements of medical and health sciences education in developing countries;
- To outline and address the challenges of medical and health sciences education, practice and research in the developing countries; and,
- To describe the recommendations and the practical ways to implement them to overcome the challenges.

The 430 chapters of the handbook, organized under five sections, cover the important topics as well as the situation of medical and health sciences education, practice and research of more than 30 developing countries in Asia, the Middle East, Africa and Latin America.

Scopus

'DOI: https://link.springer.com/referencework/10.1007/978-3-030-74786-2

Patient Safety in Developing Countries Education, Research, Case Studies

Taylor & Francis, USA

Yaser Mohammed Al-Worafi

Understanding the various aspects of patient safety education, practice, and research in developing countries is vital in preparing a plan to overcome the challenges of improving patient safety. This unique volume discusses patient safety in developing countries, and the achievements and challenges faced in those places when trying to improve patient safety education and practice. This book includes a compilation of over 100 case studies surrounding patient safety in all aspects of health care. Both real and simulated scenarios are provided to help medical students and professionals apply their knowledge to solve the cases and prepare for real practice.

Features

- Describes the achievements and challenges of patient safety in developing countries
- Includes real and simulated case studies and key answers on patient safety issues
- Prepares medical students and practitioners for real-life situations
- Diverse audience including those in medication to safety testing, patient education, dispensing changes, and the design of health systems
- Aids medical students and practitioners to improve their skills to solve cases

'DOI: https://www.taylorfrancis.com/books/mono/10.1201/9781003230465/patient-safety-developing-countries-yaser-al-worafi

A Guide to Online Pharmacy Education Teaching Strategies and Assessment Methods

Taylor & Francis, USA

Yaser Mohammed Al-Worafi

This book describes in detail the various teaching strategies and assessment methods used in pharmacy education. Included in the text is both the advantages and disadvantages of each teaching and assessment method, as well as tips for effective implementation of the strategies. The text covers a plethora of teaching styles, from web based and online learning to lecture and team-based learning, and highlights some of the best practices used worldwide. This book aims to be a valuable single resource for pharmacy educators, students, and researchers.

Key features

- One resource for the pharmacy educators, students, partitioners, researchers, policy makers and other readers with the necessary information and practical guidelines about the online pharmacy education, practice, and research.
- Describe and discuss the situation of the online pharmacy education, practice, and research around the world.
- Describe the challenges facing the online pharmacy education, practice, and research and suggest recommendations to overcome the challenges.
- Describe the pharmacy education teaching strategies and assessment methods.
- Describe the advantages and disadvantages of each teaching strategy and assessment method.
- Provide tips for the effective implementation of teaching strategies and assessment methods based on the best practices worldwide.

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Scopus

Comprehensive Healthcare Simulation: Pharmacy Education, Practice and Research

Springer

Yaser Mohammed Al-Worafi

This book provides comprehensive information about simulation in pharmacy education, practice and research. It serves as a source for guiding pharmacy academics, clinicians, researchers, supervisors, trainers, and students who wish to learn more about and introduce simulation in pharmacy education, practice and research. Furthermore, this book describes the current practice, the facilitators and barriers for implementing evidence-based simulation, and provides examples from real simulation practice in education, practice and research.

Structured into three sections, the first delves into the different types of simulation and their applications within pharmacy curricula. From patient simulation to computer-based programs, this section highlights the diverse opportunities for experiential learning in pharmacy education. The next discusses the role of simulation in community and hospital pharmacy settings. This section emphasizes the importance of communication skills, patient care, and medication safety, demonstrating how simulation can contribute to improved practice and patient outcomes. The last section explores the use of simulation in drug development and research design. This section also examines the ethical considerations, data analysis, and reporting involved in simulation-based research.

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Scopus

Technology for Drug Safety

Springer

Yaser Mohammed Al-Worafi

This book presents information about the use of technology to support the prevention and management of drug safety issues: pharmacovigilance (PV), medication errors, drug-related problems (DRPs), counterfeit medicines and other drug safety issues. Adapting new technologies/information technologies, mobile technologies and social media has contributed effectively to safety practices for medications, with this book providing comprehensive information as a guide to its challenges and potential.

Technology for Drug Safety provides practicing and trainee pharmacists, pharmacy technicians, pharmacy educators, researchers, public health policy makers, healthcare professionals and medical educators with vital information about the impact of technology on drug safety-related issues. It describes the current status of the practice, the challenges in the field and recommendations for the effective use of technology in drug safety practice including clinical trials and drug development, PV, detection of adverse drug reactions, reporting and management, medication errors detection, reporting and management, DRPs, counterfeit and substandard medications, and other safety issues.

'DOI: https://doi.org/10.1007/978-3-031-34268-4

Scopus

College of Business Administration

The Relationship between Perceived Organizational Justice, Perceived Supervisor Support, and Turnover Intention in the KSA

Journal of Business Administration Research

Abdallah M. Elamin, Ahmed Zain Elabdin Ahmed, Diaeldin Osman, Akash Dania

While the relationship between organizational justice (OJ), perceived supervisor support (PSS), and turnover intention (TI) have received extensive attention in the Western cultural context, research on these attributes is lacking in the Arab Middle Eastern contexts. The purpose of this paper is to address this gap by exploring the nature, strength, and direction of the relationship between OJ, PSS, and TI using the Kingdom of Saudi Arabia (KSA) as a sample. Results from the study indicate that employees exhibit moderately high levels of perceived OJ and PSS and moderately low levels of TI. Procedural justice (PJ) was significantly positively correlated, and PSS was significantly negatively correlated with TI. All dimensions of OJ were significantly positively correlated with PSS except distributive justice (DJ).

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Good Governance and Innovation: A Renewed Global Framework for National and Supranational Policy

Journal of the Knowledge Economy

Alberto Ibanez, Ahmed AlRadaideh, Juan Antonio Jimber del Rio & Gyanendra Singh Sisodia

There exists ample literature on the effect of democracy on innovation, with mix results. The present study includes the variable good governance, to study its potential effect on innovation. The research main goal consists in building upon and going beyond existing research dedicated to fostering innovation by identifying key good governance indicators at a country and supranational level, and their potential synergies and interactions with variables that complete the new model. The methodology used for the statistical analysis is based on Partial Least Square Structural Equation Modelling (PLS-SEM), due to the exploratory nature of the study. The research analyzes interactions between good governance indicators, innovation, education, and democracy, along with gross domestic product per capita as a mediating variable. The findings reveal that good governance, education, and gross domestic product indicators have a positive effect on innovation within EU countries and supranational government-controlled institutions. Furthermore, the research identifies the mediation role of gross domestic product between good governance and innovation as well as between education and innovation and the critical role of management to promote good governance and innovation. Based on these findings and the study limitations, the research proposes specific policies to promote innovation.

'DOI: https://link.springer.com/article/10.1007/s13132-023-01324-7

Scopus

The long-run effect of Carbon Emission and Economic Growth in European countries –A Computational Analysis through Vector Error Correction Model

International Journal of Energy Economics and Policy

Gyanendra Sisodia, Hemant Kumar Sah, Hajer Kratou, Rajesh Mohnot, Alberto Ibanez, Bhumika Gupta

The paper seeks to examine the association that exists among a number of energy-related variables such as energy use, renewable energy use, carbon pollutants and the economic growth of European Union countries. The examination of variables focus on twenty-one years of data from 2000 to 2020 using a multidimensional data framework. The findings come from empirical analysis carried out using panel VECM model and associated tests such as, panel unit root test, cointegration and the causality one. The different variables indicated above have positive effects on the growth of economies in various EU member states. Results obtained from the use of the heterogeneous causality test indicated that there is an indirect causality between energy use and the rate at which economies develop. Based on the findings obtained from the study, there is a need for EU member states to establish policies that should help to enhance efficiency in energy use to promote economic development.

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The state of E-learning: lessons and future trends.

International Journal of Health Sciences

Alberto Ibanez, Juan Antonio Jimber del Rio, Gyanendra Singh Sisodia

E-learning represents one of the most significant and disruptive changes, as well as challenges within our society. Its rapid growth will continue along the following years. As a result of the Covid-19 pandemic, thousands of research papers with different perspectives addressed the role of E-learning along the last two years. The present research addresses the state of E-learning after its fast-tracked imposed implementation along the previous years, as well as the results on academic performance and its future trends.

'DOI: The state of e-learning | International journal of health sciences (sciencescholar.us)

The effect of social media on Spouse relations on Jordan society

International Journal of Health Sciences

Faisal Almatalka, Ahmed Al Radaideh, Elsayed Abdelrahman, Alberto Ibañez Fernandez

Social media has an effect in practically all aspects of human interactions. The present study focuses on the impact of social media on married couples. The research proposes hypothesis for the positive as well as the negative aspects that social media usage might have on spouse relationships. The approach for the study is based on exploratory and descriptive social research methodology, using both qualitative and quantitative methods to collect and analyze data. A survey questionnaire was designed and tested for the purpose of the study. The result of the research highlights the potential benefits of social media for married couples when used to strengthen the relationship, by increasing their daily interaction, keeping them communicated while prolong absences, or finding solutions to common shared problems. On the other hand, the negative effect of social media for spouses' relationships relies on the perceived decrease of quality and quantity time spend together, the feeling of wasting couples time, and the potential threat that this might cause to the relation. Finally, variables such as age, income level and number of years within the relation, influence how social media usage will affect the spouse relationship.

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Collaborative Innovation and Organizational Transformation in the Education Sector during the Pandemic of COVID-19

Journal of Positive School Psychology

Mariam Rabee Al-Naqbi, Gyanendra Singh Sisodia, Umesh Ramchandra Raut, Alberto Ibanez

For decades, the innovation concept has been under study; like so many sectors, disciplines and businesses, we are trying to understand and adopt innovation in our daily work operation. Furthermore, a plethora of research conducted in order to understand innovation profoundly. This study is attentive to understanding and analysing factors that impact collaborative innovation in education, which may influenced the education sector in the UAE during the pandemic time. Using five independent variables, which are human resource practices (HRP), employee engagement (EE), employee adaptability (EA), training and development (T&D), technology knowledge (TK), and intermediate variable innovation at education (IAE), and one dependent variable transformation and performance (T&P). The study followed a random sample from multiple education establishments in the UAE surveying teachers. The findings of the study revealed significant relationships among all dependent variables (DV) and intermediate variable (MV), as well as between intermediate variable (MV) and dependent variable (DV), which indicates that when (IV) is utilised and attained, innovation in education will be accomplished, and as a result, robust performance and transformation process could be in place.

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Association of elevated IL-6 with poor glycemic control in periodontitis patients

F1000Research

V. Kalaivani , Y. Pradeep Kumar, K. Rajapandian, Harinath Parthasarthy, Raghavendra Vamsi Anegundi , Abedalrahman shqaidef, Harshit Atul Kumar , Alberto Ibanez Fernandez, Divya VC,B Shivprasad Rai

Interleukin-6 (IL-6) is a proinflammatory cytokine expressed in numerous chronic inflammatory diseases whose ability to alter the pathophysiology and progression of periodontitis is well documented. Further its role in diabetes mellitus by creating an insulin resistance responsible for poor glycemic control is also being evaluated. The aim was to compare the levels of IL-6 in gingival crevicular fluid in periodontitis patients with and without diabetes and to analyze these levels in patients with poor glycemic control (HBA1c), in order to assess its role in the progression of periodontal destruction. 60 chronic periodontitis patients confirmed with CPITN index of age group 30-70 years were enrolled for the study. GCF samples from 30 patients with diabetes confirmed using HBA1c reports and 30 without diabetes using Cimasoni method were collected and stored at -70degreescelsiusand subjected to ELISA for IL-6 using krishgen human IL-6 ELISA kit as per manufacturer's instruction. Descriptive and inferential statistics were used using SPSS software. While the diabetic group readings ranged from 4.4 Pg/µl to 7.0 Pg/µl with a mean of 5.8pg/µl, the non- diabetic group ranged from 1.5 Pg/µl to 4.8 Pg/µl with a mean value of3.24 pg/µl. There was a prominent increase in the IL-6 levels in diabetic when compared to non- diabetic which was statistically significant with p value < 0.001. Further, among the diabetic groups, patients with poor HBA1c with reading more than 7.7% showed a significant increase in IL-6 levels when compared to below 6.8%. The IL-6 levels in GCF were increased in chronic periodontitis patients with diabetes and more so in patients with poor glycemic control when compared to non-diabetic group. Therefore, periodontitis along with diabetes can play a major role in the inflammatory response within the periodontium.

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Scopus

College of Humanities and Sciences

Violence against Women before and during COVID-19 home quarantine in Jordan,

International Journal of Innovative Research and Knowledge

Dr. Faisal Almatalka, Dr. Ahmed Al Radaideh & Dr. Asmaa Aldarmaki

This study aimed to report the violence against women during the COVID-19 home quarantine in Jordan and investigate the nature of violence against women. It also discusses the demographic characteristics, prevalence, and forms of violence against women. For this study, a survey questionnaire was designed by the authors and has been conducted over two months, May 2022 - June 2022. Stratified random sampling was used. The sample consisted of (1360) women. The study sample was selected from three regions in the Kingdom. The findings show that the percentage of women who have experienced violence during the quarantine period increased compared to the period before that. And the husbands were the main perpetrator in all cases. Results also show that most of the respondents who were subjected to violence before the quarantine and during the quarantine period did not submit a complaint to the authorities. The increasing cases of violence during the quarantine period suggest that: the issue of violence must be raised at all levels of society, bring about awareness among university students so that the culture of forgiveness will be the culture of understanding among future partners, and research the issue of violence against women and its effects on society and family members.

'DOI: § http://www.ijirk.com/issue-details/704

Scopus

The Parameters of the Creditability of Arabic- Speaking Satellite Channels in Their Coverage of American Presidential Elections 2020

Journal of Positive School Psychology.

Dr. Emadeldin Aly Ahmed Gaber , Dr. Asmaa Abobakrelsadik Hassan Hegazy

The study dealt with the determinants of the credibility of satellite news channels in the Arabic language in their coverage of the American presidential elections 2020, and with regard to the determinants of the credibility of news channels from the perspective of news values emerged the values of bias, balance, then immediacy, then freedom to address, then depth of coverage, then suspense, then exclusivity The journalistic scoop, followed by respect for individuals' freedom of expression and opinion.

The results of the study showed a low degree of credibility of news channels in their coverage of the US presidential elections 2020, as the criterion of bias emerged in coverage of the US presidential elections 2020, while the criterion of credibility came in coverage when talking about the US elections in a late order.

Doi: https://journalppw.com/index.php/jpsp/index

The Social and Cultural Dimensions Associated with Death in Muslim Communities, a Case Study Khartoum City

Social Sciences

Osman Sirajeldeen Ahmed ,Elsayed Abdalrahman ,Alaa Zuhir Al Rawashdeh, Asma Rebhi Al Arab

In Arab universities, sociologists rarely discuss the sociology of death. By studying social and cultural variables along with subjective and objective meanings of death, this paper contributes to filling this gap in research on death in a Sudanese urban area. Furthermore, the study examines the relationship between the burial of the dead and the time and place of their burial, social status, relatives, and religious affiliation as they relate to their burial. A major objective of the research is to explore the social and cultural dimensions of death in Sudanese communities. Data were collected using interviews and observations in the field using the descriptive method. Death is more of a social than a biological fact; therefore, the general findings of this research are about declaration of death, and what it implies about social cohesion. Burial and social acts following death are acts that express social meanings, and further, indicate how biological death has occurred. Based on variables such as social status, family relationship, and religious affiliation, it can be seen that the deceased person and/or family holds these beliefs.

Doi: https://www.mdpi.com/2076-0760/11/9/410

"تقييم تجربة التعليم الاليكتروني في تدريس مساقات العلاقات العامة والصحافة في الجامعات الإماراتية من منظور الأساتذة

المجلة العلمية لبحوث العلاقات العامة والإعلان

عماد الدين جابر، أسماء ابو بكر الصديق حجازي

ناول البحث تقييم تجربة التعليم الاليكتروني في تدريس مساقات العلاقات العامة والصحافة في الجامعات الإماراتية من منظور الأساتذة، دراسة ميدنية على عينة من اساتذة العلاقات العامة والصحافة فى دولة الامارات العربية المتحدة لتبيان التعرف على التسهيلات التى تقدمها الجامعات الإماراتية فى مجال البنية التحتية فى مجال الاتصالات والانترنت لتسهيل تجربة التعليم، وتبيان المساقات التى تحتاج الى «التعلم الواقعي، التعليم الإليكترونى، والتعليم الهجين" ،وتقييم تجربة التعليم هذه وانعكاساتها على المحتوى المقدم، وتبيان إيجابيات التعليم عن بعد فى مجال تدريس مساقات العلاقات العامة والصحافة وآليات تطويرها مستقبلاً. وبينت نتائج الدراسة ارتفاع درجة الرضا بين الأساتذة عن تجربة تدريس هذه المساقات بنظام التعليم عن بعد، فهذا النمط من التعليم ساهم فى زيادة القدرة على تفعيل التعليم التعاونى بين الطلاب واتاحة للطلاب عنصر المرونة فى حضور المحاضرات فى الأماكن والأوقات المناسبة لهم، وساهم فى تحديث المحتوى المعلوماتى للطالب بإستمرار، وساهم فى تطوير مهارات استخدام أجهزة الحاسوب خاصة المساقات الابداعية كالتصوير والكتابة والجرافيك والتصميم والاخراج .....الخ، وساهم التعليم عن بعد ايضا فى منح الطالب حرية عرض الأفكار والاراء لإظهار قدراته وإمكانياته أثناء عملية التعليم عن بعد، واخيرا ساهمت هذه التجربة فى تطور مهارات التفكير الذاتي لدي الطلاب .

" مقياس " تقدير صورة الجسم

مكتبة الانجلو المصرية

د. شيماء عزت - د. احمد الوكيل

يعد مقياس تقدير صورة الجسم مقياسًا إيجابيًا لصورة الجسم، حيث يهتم بتقييم تقبل الأفراد لأجسامهم وآرائهم الإيجابية تجاه أجسامهم، وهو مقياس عالمي تُرجم واستخدم في العديد من الدراسات وأظهر ثبات وصدق مرتفعين عبر الثقافات المختلفة، في كلٍ من هولندا؛ وبولندا؛ والبرازيل؛ والإمارات العربية المتحدة؛ والصين؛ وأيضًا في إيران واليابان وبولندا وصربيا والولايات المتحدة الأمريكية؛ كما تُرجم أيضًا للعبرية؛ وللألمانية، ونظراً لحاجة الباحثين والأخصائيين النفسيين لوجود هذا المقياس في البيئة المحلية؛ لذا قام الباحثان بتعريبه والتحقق من كفاءته القياسية في البيئة المصرية.

مقياس " إدمان الطعام " في البيئة المصرية والخليجية"

مكتبة الانجلو المصرية

د. شيماء عزت - د.السيد احمد الوكيل

يعد إدمان الطعام نوع من الادمان السلوكي الذي يتسم بالإفراط في تناول الأطعمة المُصنعة أو عالية الدهون والسكريات، وهو يُعبر عن الانخراط والتكرار في تناول أطعمة مُستساغة مما يترتب عنه الشعور بالمُعاناة من الضيق والتوتر، ومن هنا فإن إدمان الطعام اضطراب حيوي عصبي يتشابه في أعراضه مع إدمان المخدرات. ومقياس "يال المُعدل" لإدمان الطعام يُعد مقياساً إكلينيكياً تشخيصياً لهذا الاضطراب السلوكي الخطير، وقد حقق نجاحات في مهمة في ميدان علم النفس الإكلينيكي لاعتماده على المحكات التشخيصية المُميزة للإدمانات السلوكية والواردة في الأدلة التشخيصية والتصنيفية الصادرة عن جمعية الطب النفسي الأمريكية ومنظمة الصحة العالمية. وقد حقق هذا المقياس نجاحاً ملحوظاً في مجال علم النفس الإكلينيكي وحظي بالاهتمام والتناول في الكثير من الدراسات الإكلينيكية والسيكومترية في عديدٍ من دول العالم والدراسات التي اعتمدت عليه أظهرت نتائجها تمتع هذا المقياس بكفاءة سيكومترية وتشخيصية مرتفعة، ومن هنا فإن البيئة المصرية والعربية بحاجة ماسة إلى هذه الآداة التشخيصية المهمة، التي سيستفيد منها طلاب الدراسات العليا والباحثين والأخصائيين والمعالجيين النفسيين في مصر والعالم العربي.

College of Law

الثوابت والمتغيرات في الشريعة الاسلامية

مجلة مكتب بحوث لندن

أ.د خلف محمد المحمد

هدف البحث أن يدور في قضية ((الثوابت والمتغيرات في الشريعة الإسلامية)) حيث هذا الموضوع محل نقاش واسع على جميع مستويات الفكر، وتتأرجح الأراء فيه بين الإفراط والتفريط فجاء هذا البحث لبين معنى ، الثابت في الشريعة الإسلامية وأنه يقصد به: الأمور القطعية التي لا تحتمل إلا معنى واحدا أو يقصد به ما جاء في القران الكريم والسنة النبوية المتواترة،وكل ما لا يقبل الاجتهاد. وقد حددها البحث بخمس أمور، وهي: أولا : أمور العقائد و كالإيمان بالله تعالى باليوم الآخر وغيها، ثانيا: الأمور المعلومة من الدين بالضرورة ، كفرض الصلاه والصيام و الحج ، وتحريم الزنا والخمر ، ثالثا: الأمور المجمع عليها بأدلة قطعية ،رابعا: كل ما ثبت بنص قطعي الثبوت والدلاله ، خامسا: أمهات الأخلاق والفضائل ، وقبح الرذائل.

تم تحدث عن المتغيرات وهي التي ل اتقبل التغيير ويصح فيها الاجتهاد وقد حددها البحث بخمس أمور:
أولا: النصوص من حيث القطعية والظنية الدلالة ثبوتا ودلاله، ثانيا: وسائل المعاملات من بيع وإجارة وغيرها ، ثالثا: الوسائل الخادمة للعبادات من استخدام التكنولوجيا في أمور تخدم العبادات رابعا: المسائل والقضايا المستجدة مثل حكم أطفال الأنابيب خامسا: الاجتهاد في التطبيق وأنزال النصوص والقواعد الفقيه على الواقع. ثم ذكر البحث الأسباب الموجبة للتغيير وحددها فيما يأتي : أولا : مرونة مصادر التشريع الأساسية والاجتهادية ثانيا: واقعية الفقه الإسلامي ومراعاته للظروف وتغير الأزمان، ثالثا : اعتبار وتحقق مقاصد الأحكام الشرعية حالا ومالا.

ثم ذكر البحث تطبيقات فقهية تغير حكمه أو اختلف الفقهاء فيها، في عصر الرسالة ، وعصر الصحابة وعصر التابعين ومن بعدهم إلى عصرنا الحاضر.

التكييف الفقهي والقانوني للكفاءة في الفقه الإسلامي وموقف قوانين الأحوال الشخصية منه

مجلة البحوث في العقود وقانون الأعمال - جامعة الأخوة منتوري

أ.د خلف محمد المحمد

يدور البحث حول حكم معاملة الحساب الجاري التي تجريها المصارف الإسلامية ، وتكييفها الشرعي والقانوني وخلص البحث إلى أن الحساب الجاري قرض ، وهذا التكييف اعتمدته المجامع الفقهية وهيئات الرقابة الشرعية والمؤسسات المالية ، ثم ناقش الأحكام الشرعية المترتبة على كون الحساب الجاري قرضا ، ومنها ملكية المصرف للمال ، وأن عليه ضمانه ، وله غنمه وعليه غرمه ، ومنها عدم استحقاق صاحب الحساب الجاري أي من الأرباح ، وعدم مشروعية اشتراط جوائز أو زيادة من صاحب الحساب الجاري ، وعدم مشروعية ذلك إذا أعطاه المصرف من دون اشتراط مادام المصرف مدينا له ، وهناك مسائل فيها اختلاف كالزيادة على القرض أو الجوائز عند الوفاء وبعده ، وكذلك ناقش حكم التسهيلات والخدمات التي يقدمها المصرف لصاحب الحساب الجاري ، وناقش أيضا حكم خصم المصرف من الرصيد في كل شهر عند وصوله إلى حد أدنى معين ، وحكم زكاة هذا المال ، والإضافة النسبية في هذا البحث بيان الآثار المترتبة على كون الحساب الجاري قرضا .

الطبيعة الخاصة للبرامج المعلوماتية بين القانون الجنائي والقانون المدني

مؤتمر مكة الدولي للدراسات القانونية : الأنظمة والاتجاهات الحديثة

د. محمد حسن

تناول البحث الطبيعة المزدوجة للبرامج المعلوماتية) برمجيات الحاسب (من حيث أنها رموز مكتوبة وتتحول إلى ذبذبات الكترونية في نظام الحاسب حيث تؤدي مهاما بعض الاعتداءات مادية ملموسة. ولذلك بدأ المشرع في حمايتها من الإجرامية التي كان محلها حكرا على الأشياء المادية الذي جعل هذه البرامج ال تتوطن بسهولة في التقسيم التقليدي الأشياء: مادي ومعنوي. فهي تجمع الخاصية المعنوية والمادية وهو ما دعا الباحث إلى التوصية بإعادة النظر في التوصيف القانوني لمفهوم الشيء في النظام القانوني، وبحث هذه الطبيعة غير المسبوقة في عالم الأشياء.

نظام حماية حق المؤلف و تحديات الذكاء الاصطناعي

مؤتمر جامعة عين شمس: التحديات والآفاق القانونية والاقتصادية للذكاء الاصطناعي 2023

د. محمد حسن

حولها ولم يتم التوصل لإجابات نهائية شافية يحاول البحث تناول إشكاليات مثارة لم يزل الجدل محتدماً ومتفق عليها. و تتمثل في تحديد الموقف القانوني من ظاهرة استخدام تقنيات الذكاء الاصطناعي في ابتكار مصنفات أدبية وفنية. و هل يمكن أن تؤدي لاعتراف بشخصية قانو نية لتقنيات الذكاء الاصطناعي واسباغ صفة التأليف عليها. فمن المعروف أن اسهام الذكاء الاصطناعي يتجسد في قراءة وتحليل عدد كبير من المصنفات السابقة، و تحديد أنماط ابتكارها وخصائصها المشتركة وأساليب ابداع أصحابها لكي تنسج على نفس المنوال .وتحاول عن طريق قراءة هذ ه المصنفات وأساليب ابداعها أن تأتي بمصنفات جديدة الأمر الذي دفع بعض خصية القانونية للذكاء الاصطناعي. وهو أمر ال يلقى ترحيبا – على الأقل في ء الباحثين للدعوة بالاعتراف بالشخصية القانونية ونراه يشكل اضطرابا ه لتبيان جدوى ء الوقت الراهن- للنظام القانوني بوجه عام ويتطلب ضرورة البحث الجاد حول ودقة مثل هذه الدعوات.

“The Legal Basis For The Property Owner’s Liability For Damages Resulting From A Breach Of Neighborhood Restrictions In Jordanian Legislation (Overhangs And Skylights Are A Model

The journal of law and political science

Dr. Najm Riad Al-Rabadi, Dr. Issa Ghassan Abdullah Al-Rabad

The study aimed to investigate the issue of the legal basis for liability arising from the property owner's breach of the legal controls (neighborhood restrictions) that were decided by the legislator as restrictions on the property owner's powers to prevent harm to neighbors in order to preserve the public interest of achieving social security; As this topic raises a difference in viewpoints jurisprudence, judiciary and law. Therefore, through this study, the researchers tried to determine the legal basis for the right of the neighbor affected by his neighbor's violation of the provisions of these restrictions, by tracking a form of these restrictions (verandahs and skylights) when the property owner violated the conditions of their creation in the building. This is done by defining what is meant by verandahs and skylights and analyzing and discussing the theories that tried to lay the legal basis for the liability that arises in the face of the property owner who breaches his obligations towards his neighbors. The study concluded with a number of results and a recommendation to the Jordanian legislator to include the provisions of the Real Estate Property Law No. (13 of 2019) as special provisions regulating the legal restrictions that must be adhered to between the neighboring owners of real estate and to indicate the legal penalty for violating these restrictions.