Academic Audit 2022-23

3(d) No. of publications in any referred journal other than the above (with ISSN No.) in the assessment year

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(August-2022 To July-2023)

Sl No:	Department	Name	Title of Paper	Title of Referred journal	ISSN / ISBN	Date of Publication	Link
1	ECE	Ms. Shilpa Sharma	Discrete cosine transform interpolation based design of two-dimensional FIR fractional order digital differentiator	MTSSP(SCI)	ISSN-0923-6082	2022	https://link.springer.com/article/10.1007/s11045-022-00846-8
2	Appl.Sc.	Mr. Nafees	Electron scattering and ionization of astro physical molecules	Radiation Physics and Chemistry(Elsevier)	ISSN 0969-806X	Mar 2023	https://doi.org/10.1016/j.radphyschem.2022.110686
3	BCA	Dr. Ruchi Agarwal	Scalable Federated-Learning Big Data Architecture	Computer and Electrical Engineering, Elsevier, SCIE	ISSN 0045-7906	August, 2022	https://www.sciencedirect.com/science/article/pii/S0045790622004967

			Towards IoMT-Assisted Covid-19 Chest CT Medical Image Classification				
4	BCA	Dr. Ruchi Agarwal	Efficient NetB3 for Automated Pest Detection in Agriculture	IEEE Explore, SCOPUS	Electronic ISBN: 978-93-80544-47-2, ISBN: 978-1-6654-7703-1	May 2023	https://ieeexplore.ieee.org/document/10112580
5	BCA	Dr. Ruchi Agarwal	Sentiment Analysis in Stock Price Prediction: A Comparative Study of Algorithms	IEEE Explore, SCOPUS	Electronic ISBN: 978-93-80544-47-2, ISBN: 978-1-6654-7703-1	May 2023	https://ieeexplore.ieee.org/document/10112565
6	CSE	Mr. Hirdesh Sharma	Detection and prevention of cancer in early stages	SCOPUS	ISSN-1004-9037	April 2023	https://drive.google.com/file/d/1qPy3yZGnjZYQFA_lnFhElwBKdk1RCtr6/view?usp=share_link

			using linear regression algorithm				
7	Law	Dr.M.N.rahman	"Legal History of Courts in Ancient India – An insight into Phenomenon of access to justice"	"International Journal of Interdisciplinary Studies and Research	ISSN-2349-820X)	December 2022	https://drive.google.com/file/d/1tE-IlekPqOOEeTYihSOcvljU1_SOrtKS/view

3(d) No. of publications in any referred journal other than the above (with ISSN No.) in the assessment year

1. Discrete cosine transform interpolation based design of two-dimensional FIR fractional order digital differentiator

- Shilpa garg,
- Richa Yadav &
- Manjeet Kumar

Multidimensional Systems and Signal Processing **volume 33**, pages1367–1386

Abstract: In this paper a two-dimensional (2-D) DCT interpolation based method for the designing of a 2-D fractional order digital differentiator (FODD) is presented. The modeling of the FODD is achieved in the form of a finite impulse response (FIR) filter. Here, Grun-wald Letnikov partial fractional derivative of two variable function with discrete cosine transform (DCT) interpolation is used to estimate the impulse response of an ideal 2-D FODD. Here, 2-D DCT-II and DCT-III methods are employed to evaluate the optimal values of coefficients of the 2-D fractional order differentiator. Simulation results demonstrate that the proposed method surpasses the existing method in terms of integral square magnitude error (ISME). The simulated results reflect that the improved response gives a much reduced error of 0.0404 and 0.0165 using 2-D DCT-II and DCT-III methods respectively.The proposed 2-D FODD is applied on an image for edge detection to demonstrate the effectiveness of the method.

2. Electron scattering and ionization of astrophysical molecules

Author links open overlay panelNafees Uddin [a] [b], Himani Tomer [a], Bobby Antony [a]
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Abstract

Interaction of electrons with cumulene carbenes (H_2C_2, H_2C_3, H_2C_4, H_2C_5, H_2C_6) and some of the possible outcomes are reported in this article. The prominent scattering channels like elastic, inelastic, ionization, and momentum transfer are examined through respective cross sections for these molecules and their polyacetylene isomers (C_2H_2, C_4H_2, C_6H_2). The quantum collision problem of the e-target system is solved through the optical potential approach. The optimized structures, ionization energies (IP), and polarizabilities of the target molecules are calculated using the Density Functional Theory. These target parameters are found to be in good agreement with those available from the literature. The computations for cross sections were performed in the energy ranging from the ionization threshold of the targets to 5000 eV. To the best of the authors' knowledge, it is the first time that the cross section values of the above-mentioned molecules are reported. We have established a strong correlation between the maximum ionization cross section and ionization energy as well as polarizability, suggesting the consistency of the results reported here. An investigation into the isomeric effect reveals significant differences in the properties and magnitudes of cross sections of cumulene carbenes compared to polyacetylenes. The present findings would be helpful in astrophysical modelling, spectroscopy, and studying interstellar & circumstellar spaces.

3. Scalable Federated-Learning and Internet-of-Things enabled architecture for Chest Computer Tomography image classification☆

Abstract

The recent proliferation of the Internet of Medical Things (IoMT), Federated Learning (FL), and Deep learning have opened new dimensions of research across the globe. This paper proposes the combined use of these paradigms to detect COVID-19 in Computer Tomography (CT) images. Initially, the framework collects the CT images at the various local hospital using IoMT and aggregated them in an Hadoop Distributed File system (HDFS) Spark big data framework for storage. Later, the proposed framework performs the model training in isolation with the trained parameters being sent to a centralized server for aggregation using federated Learning. The comprehensive experimentation is performed on three different COVID-19 databases to test the efficacy of the proposed work. The numerical investigation revealed that the proposed work outperforms existing techniques by a good margin. Also, the global server, when compared to the local server, achieves a 7.57% performance improvement in terms of accuracy and 3.33% in terms of Area Under Curve (AUC).

4. Efficient NetB3 for Automated Pest Detection in Agriculture

Publisher: IEEE

Cite This

Abstract:

In order to stop the spread of disease and minimize financial losses, pest detection is a crucial job in a variety of industries, including agriculture and forestry. In this research, we suggest a method for pest detection that makes use of the cutting- edge deep learning model EfficientNetB3. The effectiveness of the model was demonstrated by the high accuracy rate our technique attained when classifying different pests in a dataset of images. EfficientNetB3 outperformed other deep learning networks in terms of accuracy and efficiency when we also compared their performances. The addition of our research is the presentation of an effective and precise method for pest detection using the EfficientNetB3 model, which has a wide range of potential applications outside of forestry and agriculture.

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Date of Conference: 15-17 March 2023 **Date Added to IEEE *Xplore*:** 04 May 2023 **ISBN Information:**
INSPEC Accession Number: 23040298
Publisher: IEEE
Conference Location: New Delhi, India

5. Sentiment Analysis in Stock Price Prediction: A Comparative Study of Algorithms

Abstract:

The development and wealth of countries depend heavily on the stock market. Data mining and artificial intelligence methods are required to analyze stock market data. The financial success of particular businesses is one of the important factors that has a significant impact on stock price volatility. However, news reports also have a significant impact on how the stock market moves. In this research, we use sentiment classification to use non-measurable data, such as financial news articles, to forecast a company's future stock trend. We seek to cast light on the effect of news reports on the stock market by analyzing the connection between news and stock movement. Our study seeks to advance knowledge of the function of news sentiment in forecasting stock market trends.

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Conference Location: New Delhi, India

6. DETECTION AND PREVENTION OF CANCER IN EARLY STAGES USING LINEAR REGRESSION ALGORITHM

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ABSTRACT: In order to boost the likelihood of successful treatment and long-term survival for cancer patients, it is important to identify and prevent cancer in its earliest stages using a linear regression method. Models that predict cancer risk factors and early symptoms can be created using the linear regression algorithm. These models can be trained using historical datasets of cancer patients' demographics, medical histories, and outcomes of diagnostic tests. Doctors may screen patients and determine which ones are more likely to have cancer or who may already have it but be in the early stages by utilizing these prediction models. This enables early detection and treatment, which can significantly raise the likelihood of positive results. On the basis of each patient's unique risk factors and medical background, these models can also be used to create individualized treatment programs for them. Better treatment outcomes for patients may arise from more focused and effective care. In general, early detection and treatment of cancer using the linear regression algorithm has the potential to save lives, enhance patient outcomes, and lessen the total toll that cancer has on people and society. Overall, a comprehensive and rigorous procedure of data collection, preprocessing, feature selection, model training, evaluation, deployment, monitoring, and updating is required for the methodology of employing the linear regression algorithm to identify and prevent cancer in its early stages and it will found 98.2 % accuracy in the model.

KEYWORDS: Cancer, Cancer detection, Cancer Prevention

ISSN: 2278–8654

7. International Journal of Development Studies and Research

Legal History of Courts in Ancient India- An Insight into Phenomenon of Access to Justice

Md.Najibur Rahman*

ABSTRACT

"India has the oldest judiciary in the world. No other judicial system
has a more ancient or exalted pedigree"2

Before explaining the judicial system of ancient India, it must be noted that their specimens given by Anglo-writers, to quote one -Henry Mayne who described the legal system of ancient India as "an apparatus of cruel absurdities"3.Perhaps these statements are far from the truth, maybe it is made due to ignorance and imperialist behaviour. Indian culture and civilization which was a part of the imperialist outlook which dominated British Jurists, historians, and thinkers
in the heyday of imperialism. But the effect of this misrepresentation, which has few parallels in history, was to create a false picture of the Indian judicial system both in India and outside. One must look through the discovery point of view that in Ancient India, Indian Jurisprudence was found on the rule of law; that the King himself was subject to the law; that arbitrary power was unknown to Indian political theory and jurisprudence and the king's right to govern was subject to the fulfilment of duties, the breach of which resulted in forfeiture of kingship; that the judges were independent and subject only to the law.

The historical development of judicial system from ancient India to contemporary system shows a gradual improvement in the judicial system for easier access
to Justice.