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ACADEMIC YEAR	NO OF PAPERS PUBLISHED IN INTERNATIONAL CONFERENCE
2023-2024	02
2022-2023	NIL
2021-2022	03
2020-2021	NIL
2019-2020	01
2018-2019	NIL

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Academic Year 2023-2024

Number of papers published in International conference during the year

S. NO	Title of paper	Name of the author/s	Department of the teacher	Name of Conference	Year of publication	Conference Number
1.	Advanced hybrid attention-based deep learning network with heuristic algorithm for adaptive CT and PET image fusion in lung cancer detection	C. Shalini, AP/ECE	ECE	IPEI	2024	1350-4533@2024IPEI
2	Cloud Integrated clean fuel Generation for Solar-Hydrogen Production with Wireless Sensor Networks	Dr.S.Velmurugan, HOD/ECE	ECE	IEEE	2023	979-8-3503-5929-9/24@2024IEEE


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Advanced hybrid attention-based deep learning network with heuristic algorithm for adaptive CT and PET image fusion in lung cancer detection

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ARTICLE INFO

Keywords:

Lung cancer detection
PET and CT images
Modified initial velocity-based capuchin search algorithm
Adaptive dilated convolution neural network
Hybrid attention-based deep networks

ABSTRACT

Lung cancer is one of the most deadly diseases in the world. Lung cancer detection can save the patient's life. Despite being the best imaging tool in the medical sector, clinicians find it challenging to interpret and detect cancer from Computed Tomography (CT) scan data. One of the most effective ways for the diagnosis of certain malignancies like lung tumours is Positron Emission Tomography (PET) imaging. So many diagnosis models have been implemented nowadays to diagnose various diseases. Early lung cancer identification is very important for predicting the severity level of lung cancer in cancer patients. To explore the effective model, an image fusion-based detection model is proposed for lung cancer detection using an improved heuristic algorithm of the deep learning model. Firstly, the PET and CT images are gathered from the internet. Further, these two collected images are fused for further process by using the Adaptive Dilated Convolution Neural Network (AD-CNN), in which the hyperparameters are tuned by the Modified Initial Velocity-based Capuchin Search Algorithm (MIV-CapSA). Subsequently, the abnormal regions are segmented by influencing the TransUnet3+. Finally, the segmented images are fed into the Hybrid Attention-based Deep Networks (HADN) model, encompassed with Mobilenet and Shufflenet. Therefore, the effectiveness of the novel detection model is analyzed using various metrics compared with traditional approaches. At last, the outcome evinces that it aids in early basic detection to treat the patients effectively.

1. Introduction

Millions worldwide suffer from lung cancer. Early lung cancer identification improves survival [1]. CT scans are essential for lung cancer diagnosis and prediction [2]. Cross-sectional lung scans may reveal cancerous lesions. Radiopharmaceuticals detect metabolic activity in PET [3]. PET scans may identify metabolically active regions by injecting FDG. These spots are cancerous [4]. But PET and CT may identify lung cancer. Conventional models take time to interpret images [5]. Modern methods failed to detect lung cancer with large medical data and had lower diagnosis rates [6]. Deep learning processes medical images well. Complex patterns and characteristics in input photographs need deep learning networks to be trained on huge datasets [7]. Medical picture cancer detection is efficient and accurate using deep learning [8]. Advanced machine and deep learning technologies find cancer tumours and nodes in PET and CT scan images. Most radiologists use deep learning to predict problematic regions and severe patients [9].

CT and PET scans may show noise, respiratory movements, metallic implants, and reconstruction artefacts, making lung cancer prediction

difficult [10]. This is true despite imaging technology and deep learning. These characteristics degrade image quality, making lung abnormalities hard to detect [11]. Lung cancer CT and PET scan interpretation take skill [12]. Radiologists may interpret images differently, resulting in contradictory results. This subjective factor makes creating reliable automated lung cancer detection systems difficult [13]. Cancer nodules must be identified for diagnosis and treatment. Imaging and thinking alone may confuse these two types [14]. False-positive tests and unneeded surgery result from benign nodules seeming malignant.

CT and PET imaging lung cancer prediction and research use several approaches [15]. Automated detection methods, algorithms, and machine learning can identify lung cancer in CT and PET scans. These strategies attempt to improve diagnosis and results [16]. Deep learning in PET/CT lung cancer diagnosis is promising. Artificial Neural Networks (ANN) automatically identify complex medical image features. Lung cancer is commonly detected via CNNs. Traditional CNNs employ 2D images, whereas 3D convolutional networks detect lung cancer using CT scans [17]. Deep learning should improve CT and PET lung cancer detection accuracy, effectiveness, and dependability. These

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7th International Conference on
Inventive Computation Technologies
(ICICT 2024)

Certificate of Presentation

This certificate is presented to

S Velmurugan

to acknowledge his/her oral presentation on the topic

Cloud-Integrated Clean Fuel Generation for Solar-Hydrogen Production with Wireless Sensor Networks

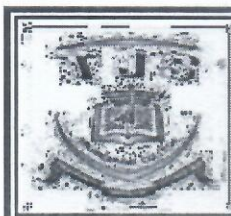
at the 7th International Conference on Inventive Computation Technologies (ICICT 2024), held at Tribhuvan University, Nepal, during April 24-26, 2024.

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Dr. Joy long-Zong Chen
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Academic Year 2021-2022

Number of papers published in International conference during the year

S. NO	Title of paper	Name of the author/s	Department of the teacher	Name of Conference	Year of publication	Conference Number
1	A Survey on Diabetic Retinopathy Diagnosis by Automated Detection of Microaneurysms	D.Mythily, AP/ECE	ECE	IEEE	2022	978-1-6654-9761-9/22@2022IEEE
2	RASPBERRY Pi Processor based I-Gloves for Mute Community for Home Automation System	Dr.M.Sathya Priya, Prof/ECE	ECE	IEEE	2022	DOI:10.32604/cssc.2023.031605
3	Wireless Networks in Providing Extraordinary Quality of Experience for camera consumers	r.S.Velmurugan, HOD/ECE	ECE	American Institute of Physics	2022	1551-7616


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D.MYTHILY

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has participated and presented a paper titled

A SURVEY ON DIABETIC RETINOPATHY DIAGNOSIS BY AUTOMATED MICROANERUSYSM

in **IEEE INTERNATIONAL CONFERENCE ON SMART STRUCTURES AND SYSTEMS (ICSSS 2022)**

held on 21st & 22nd April, 2022.

Dr. M. Vanitha
Organizing Chair

Dr. R. Mangayarkarasi
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Organizing Secretary

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Dr.M.SATHYA PRIYA

of

TJS ENGINEERING COLLEGE

has participated and presented a paper titled

RASPBERRY PI PROCESSOR-BASED I-GLOVES FOR MUTE COMMUNITY AND HOME AUTOMATION SYSTEM

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Dec 30, 2021

Dear, B. Gopi,

We would like to inform you that your manuscript id AIP-920 has been accepted for publication in AIP Conference Proceedings (ISSN 1551-7616),

Manuscript Title: **Wireless Networks in Providing Extraordinary Quality of Experience for Smart Consumers**

Authors: B. Gopi, D. Sathish Kumar, S.Velmurugan, G.Elumalai, Boopathy. K

Thanks for submission of your work with us.

A handwritten signature in black ink, appearing to be 'AIP' followed by a horizontal line.

Regards,
AIP Conference Proceedings
Online ISSN: 1551-7616
Print ISSN: 0094-243X
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A handwritten signature in green ink, appearing to be 'J. S. Elumalai'.

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Wireless networks in providing extraordinary quality of experience for camera consumers

AIP Conference Proceedings 2523, 020068 (2023); <https://doi.org/10.1063/5.0110839>

B. Gopi^{1,a}, D. Sathish Kumar^{2,b}, S. Velmurugan^{3,c}, G. Elumalai^{4,d}, and K. Boopathy^{5,e}

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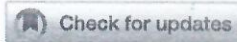
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Wireless networks in providing extraordinary quality of experience for camera consumers 🛒

B. Gopi ✉; D. Sathish Kumar; S. Velmurugan; G. Elumalai; K. Boopathy



✚ Author & Article Information

AIP Conf. Proc. 2523, 020068 (2023)

<https://doi.org/10.1063/5.0110839>

Mobile broadband users are starting to extend bandwidth demands in access networks, largely because video content has increased. In access networks, application knowledge can be used to improve the consistency of end-customer experience. In this analysis, we use client-side knowledge to achieve a superior distribution of resources to boost user Quality of Experience (QoE). As customer happiness is directly based on QoE and maximizing QuoS does not always maximize QoE, we stress the system's QoE rather than the quality of operation, as this education demonstrates. A table with client application details is stored on the SDN controller and modified every month a large application packet is sent. The table includes the latest first-person shooter (FPS) information, and all video clients have resolution information. We deliver application-aware assets distribution systems on an inactive optical Ethernet system that supports multiple accesses through wireless. Wired customers are operating video-conferencing applications via cognitive radio networks. Numerical findings indicate that the framework capable of producing up boost QoE for wired and wireless communication systems.

Topics

Telecommunication networks, Wireless communications, Knowledge, Education

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Academic Year 2019-2020

Number of papers published in International conference during the year

S. NO	Title of paper	Name of the author/s	Department of the teacher	Name of Conference	Year of publication	Conference Number
1	A Study on Shortest Distance Measurement RSSI Localization in Mathematical Software of Cooperative Game Theory with Floyd's Algorithm	S.Satheesh, Asso Prof/MATHS	Mathematics	AIP Conference Proceedings	2019	2112, 020073 (2019)


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A study on shortest distance measurement RSSI localization in mathematical software of cooperative game theory with Floyd's algorithm

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Dr.V,Vinoba, Dr.S. M. Chithra, S. Sridevi, and S. Satheesh



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A Study on Shortest Distance Measurement RSSI Localization in Mathematical Software of Cooperative Game Theory with Floyd's Algorithm

Dr.V.Vinoba^{1,a)}, S.M.Chithra^{2,b)}, S.Sridevi^{3,c)}, S.Satheesh^{4,d)}

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Abstract: In this paper, we introduced some new concepts of the distance measurement based on RSSI localization of cooperative game theory technique in Mathematical software. Investigating some of their properties, we show that the detachment sandwiched between node i and node j is G_{ij} , which is defined as the smallest path in RSSI localization of cooperative game theory technique in Mathematical software d_i and d_j i.e we find the shortest path between all the pair of nodes in Mathematical software is termed as all pair shortest path using Floyd's algorithm.

INTRODUCTION

We introduced the concept of the shortest path is an imprecise problem in this field of engineering, social science, economics, medical science, and the environment. This is applied for several directions such as smoothness of function, game theory, operation research, probability, and measurement theory. In recent times, a number of research studies contributed into fuzzification of the fuzzy graph. In 1975, Rosenfeld introduced the concept of fuzzy graph theory. The distance measurement based on RSSI localization of cooperative game theory technique in Mathematical software.

FORMULATION OF COOPERATIVE GAME THEORY ON RSSI

Definition 1: Existence of Nash Equilibrium for Cooperative Game Theory

In this section, we refer to the Nash Existence Theorem and apply this proposition we show the Nash Equilibrium (NE) for our modeled by cooperative game theory power game.

Definition 2: Nash Existence theorem for Cooperative Game Theory

A premeditated game $G = \{N, A, R\}$ has at least one NE if $6iCN$ the following complaint embraces.

The set A_i of movements is a non-empty, condensed and turned in subset of a Euclidean interplanetary. The relationships from set theory rummage-sale in this theorem are in a word well-defined by prearranged lower than.

ALGORITHM TO FIND THE SHORTEST PATH OF DIRECTED GRAPH

Floyd's algorithm is used to solve the problem. The Floyd's algorithm represents an n -node network as a square matrix with " n " rows and " n " columns. The idea of Floyd's algorithm is straightforward. Given " 3 " nodes i, j and k , with connecting distance as shown below

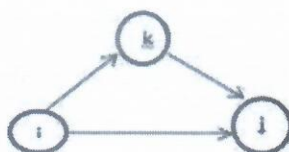


Figure 1.

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