

Technovanza 2.0
Internal Hackathon 2022
for
Smart India Hackathon 2022
19th March 2022
CMR Technical Campus, Hyderabad, Telangana

Technovanza 2.0, Internal Hackathon 2022 for Smart India Hackathon 2022 was conducted on 19th March 2022, organized by **Institution's Innovation Council 4.0 (IIC 4.0)**. Students from various departments of CMR Technical Campus has participated in the number of 270 with 45 teams each comprising of 6 members, 35 Faculty Advisors, 50 Idea Submissions for the Hardware and Software problem statements given in SIH Portal.

On 19th morning Program Inauguration was done at 10:30 am in D Block Auditorium Hall with the presence of all the 270 student participants, Director **A.Raji Reddy**, Vice Chairman of CMR Technical Campus Mr.Abhinav Chamakura, Department Hod's, Jury Members, Dean R&D **Dr.Ashutosh Saxena**, Vice President IIC **Dr.K.Srujan Raju**, IIC Convener and SPOC SIH 2022, CMRTC **Dr.Sudha Arvind**, Innovation Activity Co-ordinator and Program Convener **Dr.T.S.Mastan Rao**, IIC Faculty Members and other Department faculty members.

Student volunteers received the dignitaries, At the beginning audience were shown with the glimpses of SIH Journey from 2017 to till now. Program inauguration was done with lighting of lamp and prayer song. IIC Convener has commenced the program with briefing about Internal Hackathon, Program Convener conveyed Program details.

All the Jury Members shared their views with students gathering and appreciated the huge student participation in the event, Director Dr.A.Raji Reddy addressed the students about importance of participating in the Hackathon Event.

After Inauguration, from 11:30 am onwards Internal Hackathon event went in ECE Department Labs, students ideas presentation were judged by Jury members for nominating top 15 (10+5) teams in both Hardware and software problem statements. Event was visited by Faculty members and students also. All the Ideas explored by the students were judged by the Jury members **Smt.Jaya Saxena**, Scientist 'F', NRSC, Hyderabad, **Shah Ayub Quadri**, Eaton, Lead data Scientist, **Sri Bhubesh Kumar**, Director-RICH,T-Hub, IIIT-H, Gachibowli, Hyderabad. Jury Members were honoured by the Vice Chairman, CMRTC, Institution Director, President IIC, SIH Certification is issued to the Jury members. The top 10+5 teams nominated by the Jury members will be uploaded in SIH Portal by College SPOC.

At the end of the day Top 15 teams were awarded with Trophy and certificates, all the 270 student participants were awarded with participation certificates.

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A. Reddy



SMART INDIA HACKATHON 2022

CMR Technical Campus

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Kandlakoya, Medchal Road, Hyderabad-501401, Telengana

Internal Hackathon for SIH 2022
19th March 2022

TECHNOVANZA-2.0



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Institution's Innovation Council (IIC-4.0)

Invites you to

TECHNOVANZA-2.0

Internal Hackathon for
Smart India Hackathon 2022

DATE: 19th March 2022
INAGURATION: At 10 am
VENUE: D-Block, Auditorium
HACKATHON: 11:00 am Onwards at ECE
EVENT: Department Labs

JURY PANEL

Smt. Jaya Saxena
Scientist ' F ',
National Remote Sensing
Centre(NRSC), Hyderabad

Shah Ayub Quadri
Eaton, Lead Data Scientist

Sri. Bhubesh Kumar
Director-Food and Agri Research and
Innovation Circle of Hyderabad (RICH),
T-Hub, IIIT-H, Gachibowli, Hyderabad

Guest of Honor :

Mr. Abhinav Chamakura
Vice Chairman , CMR Technical Campus

Dr.T.S.Mastan Rao
Technovanza 2.0
Convener

Dr.Sudha Arvind
Convener ,IIC &
SPOC SIH 2022,
CMRTC

Dr.A.Raji Reddy
Director, CMRTC

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Event Images Link:

<https://photos.app.goo.gl/AR5Lo2j21iM4VnoG9>

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(12) PATENT APPLICATION PUBLICATION

(21) Application No.202241003690 A

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(22) Date of filing of Application :22/01/2022

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(54) Title of the invention : DYNAMIC MULTIPATH ROUTING USING MOBILE NODES TO REDUCE DELAY AND ENERGY CONSUMPTION FOR CONGESTION CONTROL IN WIRELESS SENSOR NETWORKS

(51) International classification	:H04W0084180000, H04L0012761000, H04L0012801000, H04L0012733000, H04W0040040000	(71)Name of Applicant :	
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Filing Date	:01/01/1900	2)Dr.Bharati Harsoor	Name of Applicant : NA
(87) International Publication No	: NA	Address of Applicant : NA	(72)Name of Inventor :
(61) Patent of Addition to Application Number	:NA	1)Suma S	Address of Applicant :Information Science and Engineering, Poojya Doddappa Appa College of Engineering, Aiwani-E-Shahi Area, Shambhognlli, Kalaburagi, Karnataka 585102 -----
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(62) Divisional to Application Number	:NA		
Filing Date	:NA		

(57) Abstract :

Dynamic topology causes connection breakdown as well as reduced capacity unstable connections, lowering system capacity as well as causing delays as well as cause issues. The stability of the connection, channel capacity, as well as the power of the cluster have all been important factors in ensuring successful wireless connectivity. Current WSN focus on multi-hop networks, where evaluates the optimum number of hops, and every connection breakdown causes link failures, raising resend duration as well as power usage. To identify the congestion control, a control mechanism based on signal transmitting, receive connection speed, and caching queue is used. An on-demand link, as well as a power flexible multicast routing strategy for WSN, was now being designed to overcome these challenges. The suggested technique determines the signal strength of networks using a LEI, which determines whether or not a link was steady or unsteady. The O-LEADM system determines the neighbor node residual power as well as builds mutually routing strategy while retaining a link stable, accurate, plus interconnect lifespan.

No. of Pages : 15 No. of Claims : 8

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Patent Search

Invention Title	METHOD AND SYSTEM FOR ADDRESSING OF INTERNET OF THINGS	
Publication Number	02/2022	
Publication Date	14/01/2022	
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Application Number	202241000267	
Application Filing Date	03/01/2022	
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Priority Country		
Priority Date		
Field Of Invention	COMMUNICATION	
Classification (IPC)	H04L0029120000, G07G0001000000, G06F0016840000, G06Q0030060000, H04L0029060000	
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(54) Title of the invention : METHOD AND SYSTEM FOR ADDRESSING OF INTERNET OF THINGS

(51) International classification :H04L0029120000, G07G0001000000, G06F0016840000, G06Q0030060000, H04L0029060000
(86) International Application No :PCT//
Filing Date :01/01/1900
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(62) Divisional to Application Number :NA
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(57) Abstract :

Exemplary embodiments of the present disclosure directed towards an Internet of Things addressing method, comprising: reading the article code in the electronic tag and the standard identification code corresponding to the article coding standard to which the article code belongs, converting the standard identification code into a first fully qualified domain name according to number conversion rules, query the standard name service based on the first fully qualified domain name, and obtain the article code analysis rule corresponding to the standard identification code, converting the article code into a second fully qualified domain name according to the article code analysis rule, based on the second fully qualified domain name to query the item name service to obtain the information service address corresponding to the item code, query the corresponding information service based on the information service address to obtain item information.

No. of Pages : 17 No. of Claims : 2

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1563

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(43) Publication Date : 07/01/2022

(54) Title of the invention : SYSTEM AND METHOD FOR MONITORING AND DETECTING BOOK DATA TO ASSIST READER FOR FUTURE READING

(51) International classification :G09B0005020000, H04N0005232000, G09B0005060000, G09B0007000000, H04N0001320000

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(57) Abstract :

Exemplary embodiments of the present disclosure are directed towards a system for monitoring and detecting book data to assist reader for future reading, comprising an automatic finger clip bookmark-reading device comprising an audio sensor configured to listen reader voice and records audio reader voice. A motion sensor and a contact sensor configured to trace and read the cover page and last page of the book where the reader stopped reading. A camera configured to scan the cover page and the page number until the reader completes the reading. A memory unit configured to store the book data and maintain the book data for future long-term recall. A Bluetooth interface configured to transfer the book data to a processing device, the processing device configured to deliver the book data to a computing device over a network to assist reader for future reading. Fig. 1

No. of Pages : 21 No. of Claims : 9

(19)



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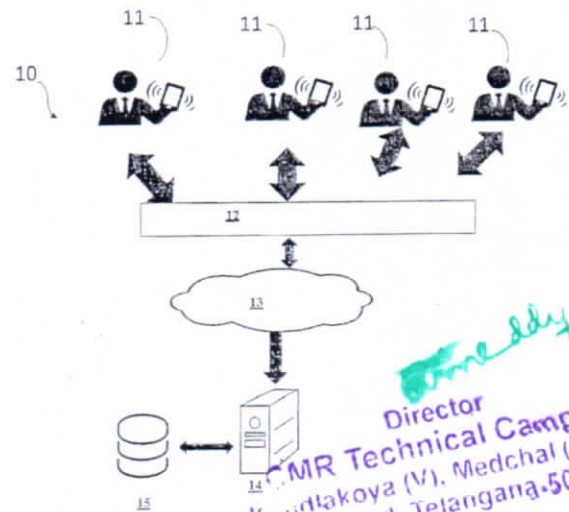
Die folgenden Angaben sind den vom Anmelder eingereichten Unterlagen entnommen.

(54) Bezeichnung: System zur Erstellung dynamischer Inhalte für Online-Spielplattformen basierend auf künstlicher Intelligenz und maschinellem Lernen

(57) Hauptanspruch: ein System zum Erzeugen dynamischer Inhalte für eine Online-Spielplattform auf der Grundlage eines Ansatzes der künstlichen Intelligenz und des maschinellen Lernens, wobei ein Online-Spiel und die Instanz des Online-Spiels verwendet werden, um Zustandinformationen zu erzeugen, die über ein Netzwerk an Spieler-Computerplattformen übertragen werden, die Spielern zugeordnet sind, wobei die Spielzustandsinformationen die Darstellung von Ansichten eines virtuellen Raums des Online-Spiels für die Spieler über die Spieler-Computerplattformen erleichtern, wobei das System Folgendes umfasst eine elektronische Spielplattform, um am Empfang von Spiel-Meta-Inhalten über den Inhalt zur Anzeige auf jeder solchen Online-Spiel-Website teilzunehmen, wobei die elektronische Spielplattform eine Vielzahl von Online-Spiel-Online-Portalen umfasst;

Eine Kommunikationseinheit, die dazu dient, einen Vertrag mit einem Spieler eines Inhalts abzuschließen, um Spiel-Meta-Inhalte über den Inhalt an die elektronische Spielplattform zu verteilen;

Ein Server zur Speicherung der elektronischen Hauptinhaltsdatei; Verarbeitungseinheit, die zum Erzeugen einer elektronischen Hauptinhaltsdatei von Spiel-Meta-Inhalt, der spezifisch für den Inhalt ist und die Zusammensetzung des Spiel-Meta-Inhalts umfasst, der von dem Online-Spiel-Online-Portal in der elektronischen Plattform benötigt wird, und die zum Bestimmen einer Teilmenge von Spiel-Meta-Inhalt aus der elektronischen Hauptinhaltsdatei für ...



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Inductive Learning Including Decision Tree and Rule Induction Learning

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Abstract

Inductive learning empowers the framework to perceive examples and consistencies in past Data or preparing Data and concentrate complete expectations from them. Two basic classifications of inductive learning methods, what's more, tactics, are introduced. Gap and-Conquer calculations are often referred to as Option Tree calculations and Separate-and-Conquer calculations. This chapter first efficiently portrays the concept of option trees, followed by an analysis of prominent current tree calculations like ID3, C4.5, and CART calculations. A prominent example is the Rule Extraction System (RULES) group. A modern review of RULES calculations, and Rule Extractor-1 calculation, their strength just as lack are clarified and examined. At last, scarcely any application spaces of inductive learning are introduced.

A large portion of the current learning frameworks chips away at Data that are put away in inadequately organized records. This methodology keeps them from managing Data from the genuine world, which is frequently heterogeneous and gigantic and which requires data set administration instruments. In this article, we propose a unique answer for Data mining which incorporates a Fuzzy learning device that develops Fuzzy choice trees with a multidimensional database administration framework.

Keywords: Data mining, rules induction, RULES family, inductive learning, decision tree calculations

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Predictive Model and Theory of Interaction

Raj Kumar Patra*, Srinivas Konda, M. Varaprasad Rao,
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Abstract

The fuse of essential ability structures into instructive frameworks helps recognize how ideas should be introduced to understudies to enhance understudy accomplishment. Numerous abilities have a causal relationship in which one aptitude should be introduced before another, demonstrating a solid expertise relationship. Realizing this relationship can assist with anticipating understudy execution and distinguish essential curves. Ability interactions, be that as it may, are not straightforwardly quantifiable; all things considered, the relationship can be assessed by noticing contrasts of understudy execution across aptitudes. Notwithstanding, such assessment techniques appear to do not have a benchmark model for thinking about their adequacy. On the off chance, two strategies for assessing a relationship's presence yield two distinct qualities: the more precise outcome? In this work, we propose a strategy for contrasting models that endeavor to measure the strength of aptitude interactions. With this technique, we start to distinguish those understudy level covariates that give the most exact models foreseeing the presence of expertise interactions.

Focusing on interactions of execution across abilities, we utilize our technique to build models to foresee the presence of five unequivocally related and five reproduced inadequately related expertise sets. Our strategy can assess a few models that recognize these distinctions with huge precision gains over an invalid model and gives the way to distinguish that interactions of understudy dominance give the main commitments to these increases in our investigation.

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Sandeep Kumar, Rohit Raja, Shrikant Tiwari and Shilpa Rani (eds.) Cognitive Behavior & Human Computer Interaction Based on Machine Learning Algorithm, (179–210) © 2021 Scrivener Publishing LLC

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Chapter 10

**HIGH-PERFORMANCE COMPUTING AND
FAULT TOLERANCE TECHNIQUE
IMPLEMENTATION IN CLOUD COMPUTING**

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ABSTRACT

Logical applications and design requires an enormous number of estimates, so we need to handle these calculations more processors,

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Chapter 56

A Selection-Based Framework for Building and Validating Regression Model for COVID-19 Information Management



Pravinkumar B. Landge, Dhiraj V. Bhise, Kapil Kumar Nagwanshi, Raj Kumar Patra, and Santosh R. Durugkar

Abstract The world is facing pandemic situation, i.e., COVID-19, all the researchers and scientist are working hard to overcome this situation. Being human it is everyone's duty to take care of family and the society. In this case study, an attempt has been made to find the relation between various variables by dividing them into the independent and dependent variables. A dataset is selected for analysis purpose which consists of variables like location (countries across the globe, date, new cases, new deaths, total deaths, smoking habits washing habits, diabetic prevalence, etc. Approach is to identify the impact of independent variable on the dependent variable by applying the regression modeling. Hence, proposed case study is based on selection-based framework for validating the regression modeling for COVID-19 data analysis. Regression modeling is applied, and few representations are shown to understand the current pandemic situation across the world. In the end, using regression modeling intercept and coefficient values for different approaches (using different variables) is computed.

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Chapter 57

Fingerprint Liveliness Detection to Mitigate Spoofing Attacks Using Generative Networks in Biometric System



Akanksha Gupta, Rajesh Mahule, Raj Kumar Patra, Krishan Gopal Saraswat, and Mozammil Akhtar

Abstract Today fingerprint detection system is being used widely, from a corporate office to military camps. They are secure, have speed and accurate, but they are vulnerable to spoof attacks. And the primary aim of the fingerprint reader is to provide definitive and exact user authentication but also to be secure and ensure user confidence. The most prominent vulnerability in fingerprint spoof detection system was poor generalization of spoof classes that means whenever an unknown spoof the material was given to the detection system the error rate increases up to 3 folds. To improve the accuracy and performance of the fingerprint detection systems when fabricated to an unknown number of spoof materials thus decreasing the cross-performance error rate. Hence improving the poor generalizing problem of a fingerprint spoof detector using generative and other convolution networks. We are using one-class classification and minutiae extraction approaches using DCGANs and MobileNets, respectively, and using these networks gives a spoof score to given fingerprint and found out that our results had an accuracy of 5–10% more than the previous binary spoof classifiers.

57.1 Introduction

Today, fingerprint biometrics are taking place of traditional IDs, used in forensics, border crossing security, mobile authentication, payment transactions, ATM machines, laptops and places where user authentication is required [1]. Bolts can be stolen, safes can be broken, and passwords can also be guessed sooner or later. So how do we save the things that we value? Here then, we use biometrics say fingerprint scan,

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Human action recognition using a hybrid deep learning heuristic

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Abstract

Human action recognition in the surveillance video is currently one of the challenging research topics. Most of the works in this area are based on either building classifiers on sophisticated handcrafted features or designing deep learning-based convolutional neural networks (CNNs), which directly act on raw inputs and extract meaningful information from the video. To capture the motion information between adjacent frames, 3D CNN extracts features in temporal dimension along with spatial dimension. Even though this technique is very effective in human action recognition but limited to very few fixed frames, all human actions are not limited to a fixed number of frames; they may span several frames. If we increase the size of the input window in CNN, handling all trainable parameters in the network will be very complicated. Hence, it is advisable to encode high-level motion features from different sources to the CNN model. This paper proposed a novel framework to extract handcrafted high-level motion features and in-depth features by CNN in parallel to recognize human action. SIFT is used as handcrafted feature to encode high-level motion features from the maximum number of input video frames. The combination of deep and handcrafted features preserves more extended temporal information from entire video frames present in action video with minimal computational power. Finally, we pass the extracted SIFT into the dense layer and concatenate it with a fully connected layer of CNN for classification. We evaluate the proposed combined CNN framework against regular 3D CNN and traditional handcrafted features like optical flow with SVM, SIFT with SVM on UCF, and KTH human action dataset. We achieve better performance in terms of computational cost and processing time in the proposed CNN framework compared to the other three methods.

Keywords Human action recognition · 3D Convolutional Neural network · Deep Neural Network · Optical flow · SIFT · Motion features extraction

1 Introduction

Human action recognition in a real-world environment is highly applicable in various domains like video surveillance systems, crowd behavior analysis, human-robot interaction. However, recognizing the accurate action in real-world video is a challenging task due to many factors like variation in viewpoint, scale, cluttered background and many more (Feichtenhofer et al. 2017; Junejo et al. 2011; Le et al. 2011; Wang and Mori 2011). Few authors had taken certain assumptions on these factors while taking video and had shown comparatively better results on this problem (Jhuang et al. 2007; Ramezani and Yaghmaee 2016). Generally, human action recognition is a two steps process. In the first step, different types of features need to be extracted from the raw video frame. Then in the second step, the classifier needs to be trained on extracted features to categorize different action classes. Feature extraction is one of the very crucial parts of video and image analysis. Generally, two types of feature

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