3.2.1 - Number of papers published per teacher in the Journals notified on UGC website during the A.Y 2023-24

Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISSN number	Link to the recognition in UGC enlistment of the Journal
Advances in machine Learning and image Enhancement Techniques for Early Colorectal Cancer Detection.	Dr .Battula Phijik	IT	ZKG INTERNATIONAL	2023-2024	2366-1313	https://zkginternational.com/archive/volume8/Advances-in-Machine-Learning-and-Image-Enhancement-Techniques-for-Early-Colorectal-Cancer-Detection-A-Comprehensive-Review.pdf
RECOGNITION OF ECG CONGESTIVE HEART FAILURE USING DEEP LEARNING ALGORITHMS WITH IMAGE PROCESSINGTECHNIQUES	Dr.P.Rajendra Prasad	CSE	Industrial Engineering Journal	2024	0970-2555	http://journal-iiie-india.com/1_july_23/57_online.pdf

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Artificial Intelligence Based Rainfall Prophecy Using Performance Evaluation Of Deep Neural Network	Dr.P. Rajendra Prasad	CSE	Industrial Engineering Journal	2024	0970-2555	http://journal-iiie-india.com/1_june_24/36_online_june.pdf
Malevolent And Phishing Unified Resource Location Detection Based On Mechine Learning Techniques	Dr.P. Rajendra Prasad	CSE	Journal Of Engineering Science	2024	0377-9254	https://jespublication.com/uploads/2024-V15I6041.pdf
Artificial Intelligence Based Rainfall Prophecy Using Performance Evaluation Of Deep Neural Network	M . Parimala	CSE	Industrial Engineering Journal	2024	0970-2555	http://journal-iiie-india.com/1_june_24/36_online_june.pdf
Malevolent And Phishing Unified Resource Location Detection Based On Mechine Learning Techniques	M . Parimala	CSE	Journal Of Engineering Science	2024	0377-9254	https://jespublication.com/uploads/2024-V15I6041.pdf

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Nearest Keyword Set Search I Multi Dimentional Data Sets	M . Parimala	CSE	International Journal Of Software and Computer Science Engineering	2024	2457-0818	https://drive.google.com/file/d/1E2XHmZ1QdkFeum8GUggjxf_gCwNnqRlo/view
Malevolent And Phishing Unified Resource Location Detection Based On Mechine Learning Techniques	Dr.C.SRINIVASA KUMAR	CSE	Journal Of Engineering Science	2024	0377-9254	https://jespublication.com/uploads/2024-V15I6041.pdf
Artificial Intelligence Based Rainfall Prophecy Using Performance Evaluation Of Deep Neural Network	Dr.C.SRINIVASA KUMAR	CSE	Industrial Engineering Journal	2024	0970-2555	http://journal-iiie-india.com/1_june_24/36_online_june.pdf
Effictiveness Of IoT In An Assortment Of ApplicationsWith Essentiality Of Big Data Analytics Using Machine Learning	Dr.C.SRINIVASA KUMAR	CSE	Industrial Engineering Journal	2024	0970-2555	https://peach-dareen-25.tiiny.site/

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Telangana State

Soil Taxonomy And Preeminents Crop Extrapoltion Using Generative Adversarial Networks(GANs)	Dr.C.SRINIVASA KUMAR	CSE	Journal Of Engineering Science	2024	0377-9254	https://drive.google.com/file/d/1CIoruSeN3JNnERbvLuB1ynIOEb9_K-JR/view?usp=drive_link
Road Transport Solutions:Licence Plate Number Extraction And Helmet Detection Using Yolo V3 And Convolutional Neural Networks (CNN)	Dr.C.SRINIVASA KUMAR	CSE	Journal Of Engineering Science	2024	0377-9254	http://jespublication.com/
Investigation And Recognition Of Android Malware By Using Machine Learning Classification Algorithem	Dr.C.SRINIVASA KUMAR	CSE	Mukt Shabd Journal	2024	2347-3150	http://muktshabdjournal.com/
Market Research: Taxonomy And Pulling out Of Sales Prediction Using Artificial Intelligence And Machine Learning	Dr.C.SRINIVASA KUMAR	CSE	Industrial Engineering Journal	2024	0970-2555	https://ugccare.unipune.ac.in/Apps1/User/WebA/ViewDetails?JournalId=101001963&flag=Search

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Human Activity Acnowledgement Using Machine Learning Support Vector Machine And Artificial Neural Networks	Dr.G.Rajesh	CSE	Journal Of Engineering Science	2024	0377-9254	https://jespublication.com/archives.php
Engineering Humorless Armrest Modelling By Robot Functioning Organizations	Dr.G.Rajesh	CSE	Industrial Engineering Journal	2024	0970-2555	http://journal-iiie-india.com/1_june_24/62_online_june.pdf
Nearest Keyword Set Search I Multi Dimentional Data Sets	Dr.M Shalima Sulthana	CSE	International Journal Of Software and Computer Science Engineering	2024	2457-0818	https://drive.google.com/file/d/1E2XHmZ1QdkFeum8GUggjxf_gCwNnqRlo/view
On Traffic-Aware Partition and Aggregation in Map Reduce For Big Data Apllication	Dr.M Shalima Sulthana	CSE	Recent Trends In Computer Science And Software Techonolgy	2024	2457-0516	https://drive.google.com/file/d/1VuOAEtmj7kDkK_LM1A3SCR915OAkKykH/view?usp=drive_link

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Machine Learning Based Real - Time Health Care System Using IoT	R Krishna Nayak	CSE	Industrial Engineering Journal	2023	0970-2555	http://journal-iiie-india.com/1_june_23/90_online.pdf
Machine Learning Based Real - Time Health Care System Using IoT	B Geetha	CSE	Industrial Engineering Journal	2023	0970-2555	http://journal-iiie-india.com/1_june_23/90_online.pdf
Machine Learning Based Real - Time Health Care System Using IoT	Bellamkonda Mamatha	CSE	Industrial Engineering Journal	2023	0970-2555	http://journal-iiie-india.com/1_june_23/90_online.pdf
Frameworks for industrial internet of things by using open source machine learning techniques	S.SANTOSH KUMAR	CSE	International Advanced Research Journal in Science, Engineering and Technology	2023	2394-1588	https://iarjset.com/papers/frameworks-for-industrial-internet-of-things-by-using-open-source-machine-learning-techniques/
AIMT-Investigation of the access identity management technologies for safe resonance cloud computing	S.SANTOSH KUMAR	CSE	Industrial Engineering Journal	2024	0970-2555	http://journal-iiie-india.com/1_june_24/38_online_june.pdf

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Botnet show Belligerence detection in internet of things using advanced machine learning algorithms	S.SANTOSH KUMAR	CSE	UGC	2024	2347-3150	https://drive.google.com/file/d/1USl7YMKh9xVHIpPIUkGcP96JGREnpQyQ/view?usp=drive_link
A Novel Framework For Heart Disease Detection Using Machine Learning	S.SANTOSH KUMAR	CSE	International journal for heart disesse detection using machine learning	2024	2320-2882	https://ijcrt.org/papers/IJCRT2401659.pdf
Cloud Based Deep Learning for Data Analytics in the Internet of Things	S.SANTOSH KUMAR	CSE	IJSREM	2024	2582-3930	https://ijsrem.com/download/cloud-based-deep-learning-for-data-analytics-in-the-internet-of-things/
Paddy Crop Blast Disease Prediction in Rice Harvest using Machine Learning	JULURI BHANU SRI	CSE	National Conference	2023		
An Efficient User Behaviour - Based Browsing Content in web search Environment	JULURI BHANU SRI	CSE	Mukt Shabd Journal	2023	2347-3150	http://muktshabdjournal.com/

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Stock Market Forecasting Using Deep Learning Long Short -Term memory and Convolution Neural Networks	JULURI BHANU SRI	CSE	UGC	2024	2347-3150	https://ugccare.unipune.ac.in/Apps1/User/WebA/ViewDetails?JournalId=101002785&flag=Search
On Traffic-Aware Partition and Aggregation in Map Reduce For Big Data Apllication	JULURI BHANU SRI	CSE	Others	2024	2457-0516	https://drive.google.com/file/d/1VuOAEtmj7kDkK_LM1A3SCR915OAkKykH/view?usp=drive_link
Road Transport Solutions:Licence Plate Number Extraction And Helmet Detection Using Yolo V3 And Convolutional Neural Networks (CNN)	S.CHANDRA SHEKAR	CSE	UGC	2024	0377-9254	http://jespublication.com/
Investigation And Recognition Of Android Malware By Using Machine Learning Classification Algorithem	S.CHANDRA SHEKAR	CSE	UGC	2024	2347-3150	http://muktshabdjournal.com/

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Market Research: Taxonomy And Pulling out Of Sales Prediction Using Artificial Intelligence And Machine Learning	G.RAMYA	CSE	Industrial Engineering Journal	2024	0970-2555	http://journal-iiie-india.com/1_june_24/39_online_june.pdf
Major Area of Web Technologies in various fields and its appeal	G.RAMYA	CSE	IRE Journals	2024	2456-8880	https://www.irejournals.com/formatedpaper/1706284.pdf
Stock Market Forecasting Using Deep Learning Long Short -Term memory and Convolution Neural Networks	P.MASOOM BASHA	CSE	Mukt Shabd Journal	2024	2347-3150	https://ugccare.unipune.ac.in/Apps1/User/WebA/ViewDetails?JournalId=101002785&flag=Search
Market Research: Taxonomy And Pulling out Of Sales Prediction Using Artificial Intelligence And Machine Learning	P.MASOOM BASHA	CSE	Industrial Engineering Journal	2024	0970-2555	https://ugccare.unipune.ac.in/Apps1/User/WebA/ViewDetails?JournalId=101001963&flag=Search
Major Area of Web Technologies in various fields and its appeal	K.SRAVANTHI	CSE	UGC	2024	2456-8880	https://www.irejournals.com/formatedpaper/1706284.pdf

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Effictiveness Of IoT In An Assortment Of ApplicationsWith Essentiality Of Big Data Analytics Using Machine Learning	K.SRAVANTHI	CSE	UGC	2024	0970-2555	https://peach-dareen-25.tiiny.site/
Soil Taxonomy And Preeminents Crop Extrapoltion Using Generative Adversarial Networks(GANs)	RAMESH SAHOO	CSE	UGC	2024	0377-9254	https://drive.google.com/file/d/1CIoruSeN3JNnERbvLuB1ynIOEb9_K-JR/view?usp=drive_link
Effictiveness Of IoT In An Assortment Of ApplicationsWith Essentiality Of Big Data Analytics Using Machine Learning	AMULYA RACHANA	CSE	UGC	2024	0970-2555	https://peach-dareen-25.tiiny.site/
Botnet show Belligerence detection in internet of things using advanced machine learning algorithms	AMULYA RACHANA	CSE	Others	2024	2347-3150	https://drive.google.com/file/d/1USl7YMKh9xVHIpPIUkGcP96JGREnpQyQ/view?usp=drive_link

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On Traffic-Aware Partition and aggregation in Map Reduce For Big Data Applications	B.RAMYA SREE	CSE	Others	2024	2457-0516	https://drive.google.com/file/d/1VuOAEtmj7kDkK_LM1A3SCR915OAkKykH/view?usp=drive_link
Design And Verification of Low Power High Speed Voltage Level Shifter Based on Pass Transistor Methodology	Ms G.Susmitha	ECE	STM JOURNALS	2023	2229-6972	https://engineeringjournals.stmjournals.in/index.php/JoCI/article/view/7563
Design And Implementation of IoT-Enabled Movable Road Divider for Vehicular Traffic Control	Ms G.Susmitha	ECE	STM JOURNALS	2023	2229-6972	https://engineeringjournals.stmjournals.in/index.php/JoCI/article/view/7694
Design And Implementation of IoT-Enabled Movable Road Divider for Vehicular Traffic Control	Mrs D.Shirisha	ECE	STM JOURNALS	2023	2229-6972	https://engineeringjournals.stmjournals.in/index.php/JoCI/article/view/7694

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Design of Street Light System Using PIC16F877A Digital Controller	Mrs D.Shirisha	ECE	STM JOURNALS	2023	2455-197X	https://engineeringjournals.stmjournals.in/index.php/JoCI/article/view/7694
Identifying plants leave disease using deep learning algorithms with image processing techniques	Dr.Shaik Mastan Basha	ECE	UGC CARE	2023	2347-3150	http://muktshabdjournal.com/
Design CMOS Low power high speed Digital 4-Bit Counter at 45Gpdk Technology	Mr E.Nagraju	ECE	IJMET	2023	2455-0337	https://www.journalspub.info/ecc/index.php?journal=JMET&page=article&op=view&path%5B%5D=1892
Design of Street Light System Using PIC16F877A Digital Controller	Ms G.Susmitha	ECE	STM JOURNALS	2023	2455-197X	https://engineeringjournals.stmjournals.in/index.php/JoCI/article/view/7694

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A Perspective Artificial intelligence based clinical and genomic diagnostics using Deep Learning Convolutional Neural Networks	Dr. S. Ranga Swamy	CSE(AI &ML)	Mukt Shabd Journal	Aug-23	2347-3150	https://shabdbooks.com/volume-12-issue-8-august-2023
The Era of Accuracy Medicine in Biomedical Healthcare Genomic Analysis Using Deep Learning	Dr. S. Ranga Swamy	CSE(AI &ML)	Telematique	Sep-23	1856-4194	https://www.provinciajournal.com/index.php/telematique/article/view/1645
A Perspective Artificial intelligence based clinical and genomic diagnostics using Deep Learning Convolutional Neural Networks	Mrs. D. Nagasri	CSE(AI &ML)	Mukt Shabd Journal	Aug-23	2347-3150	https://shabdbooks.com/volume-12-issue-8-august-2023

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Blockchain-Backed Verification Systems for Enhanced Interoperability and Trust in Managing Legal Documents across Multi-Cloud Environments	Mrs. M. Thejovathi	CSE(AI &ML)	Journal of Electrical Systems	Nov-23	ISSN 1112-5209	https://journal.esrgroups.org/jes/article/view/637/659
Maiden Application of a Structural Regression Model for Consumer Goods Demand Sales Forecasting Based on Consumer Behavior	Mrs. M. Thejovathi	CSE(AI &ML)	Telematique	Feb-24	ISSN: 1856-4194	https://provinciajournal.com/index.php/telematique/article/view/1646
An Integrated Approach for Time Series Forecasting of High-Demand Haircare Products in Rural and Urban Areas Using Machine Learning and Statistical Techniques	Mrs. M. Thejovathi	CSE(AI &ML)	International Journal of Intelligent Systems and Applications in Engineering (ijisae.org)	Mar-24	ISSN: 2147-6799	https://ijisae.org/index.php/IJISAE/article/view/5233

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IMAGE SUPERIORITY MODERNIZATION USING SUPER RESOLUTION METHOD WITH DEEP LEARNING	S.Jayanna	CSE(AI &ML)	Industrial Engineering Journal	2024	0970-2555	http://www.journal-iiie-india.com/1_oct_24/7_online_oct.pdf
DEEP COUNTERFEIT VIDEO RECOGNITION USING DEEP LEARNING TECHNIQUES	R. JAMUNA	CSE(AI &ML)	Mukt Shabad journal	2024	2347-3150	https://drive.google.com/file/d/17bMABWZrJmbSCY3V28rdu7G1TtIqWZrK/view
ENHANCED MECHANISM OF SIGNATURE RECOGNITION AND AUTHENTICATION USING MACHINE LEARNING ALGORITHMS	R. JAMUNA	CSE(AI &ML)	Industrial Engineering Journal	2024	: 0970-2555	http://www.journal-iiie-india.com/1_oct_24/8_online_oct.pdf
A Deep Learning Framework for Recognition and Classification of Diabetic Retinopathy Severity	Dr.Ranga Swamy Sirisati	CSE(AI &ML)	TELEMATIQUE	2024	1856-4194	https://www.provinciajournal.com/index.php/telematique/article/view/1669

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Enterprise And Exploration Of Crop Yield PredictionUsing Machine Learning AFOA Algorithm	Dr.Ranga Swamy Sirisati	CSE(AI &ML)	Positif Journal	2024	0048-4911	116-may2024.pdf - Google Drive
An Enhanced Diagnostic Accuracy of Bone Fracture Using Two-Stream Compare and Contrast Network Deep Learning Model	Dr.Ranga Swamy Sirisati	CSE(AI &ML)	Positif Journal	2024	0048-4911	https://drive.google.com/file/d/1uW7nX7n7_mRNK57_7ecCEDYWc0sM31M6/view
Enhancing Diabetic Retinopathy Detection using Integration of Advanced Image Quality Enhancement Techniques with AI and ML Approaches	Dr.Ranga Swamy Sirisati	CSE(AI &ML)	Positif Journal	2024	0048-4911	https://drive.google.com/file/d/1aS0rik9nXsMmBVOcxOJ_SFCSPEa6uekz/view

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Recognition of Counterfeit Profiles on Communal Media using Machine Learning Artificial Neural Networks & Support Vector Machine Algorithms	Dr.Ranga Swamy Sirisati	CSE(AI &ML)	Journal of Next Generation Technology		2583-021X	https://jnxtgentech.com/mail/documents/vol%204%20issues%202%20article3.pdf
Discovery and Accurate Diagnosis of Tumors in Liver using Generative Artificial Intelligence Models	Dr.Ranga Swamy Sirisati	CSE(AI &ML)	Journal of Next Generation Technology	2024	2583-021X	https://jnxtgentech.com/mail/documents/vol%204%20issues%202%20article4.pdf
Human Computer Interaction-Gesture recognition Using Deep Learning Long Short Term Memory (LSTM) Neural networks	Dr.Ranga Swamy Sirisati	CSE(AI &ML)	Journal of Next Generation Technology	2024	2583-021X	https://jnxtgentech.com/mail/documents/vol%204%20issues%202%20article2.pdf

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Design and Analysis of Crop Yield Prediction Algorithm Using Machine Learning	Dr.Ranga Swamy Sirisati	CSE(AI &ML)	NeuroQuantology	2024	1303-5150	https://www.neuroquantology.com/media/article_pdfs/srilatha.pdf
Convolution Neural Network Comparison Analysis for Bone Fracture Diagnosis	Dr.Ranga Swamy Sirisati	CSE(AI &ML)	NeuroQuantology	2024	1303-5150	https://www.neuroquantology.com/media/article_pdfs/Swarnalatha_Gujjula_Computer_Science-2.pdf
A priority-based heuristic task scheduling for optimized cloud scheduling using ant colony optimization and particle swarm optimization algorithm	Mrs G.Ramya	IT	Industrial Engineering Journal	2024	ISSN: 0970-2555	https://shabdbooks.com/volume-12-issue-5-may-2023

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Kondapur (V), Ghatkesar (M), Medchal-Malkajgiri (Dt)-501301.
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Innovative Appliance of Identification of facial features with Image Processing Techniques and Deep Learning Convolutional Neural Networks	Ch.Swapna	IT	Industrial Engineering Journal	2024	0377-9254	https://jespublication.com/uploads/2024-V15I50165.pdf
Feature Extraction of agriculture crop recommendation using advance machine learning generative algorithms ml	V.Rupa	IT	Journal of Engineering Sciences	2024	ISSN:0377-9254	https://scholar.google.com/citations?view_op=view_citation&hl=en&user=-tsAQ-4AAAAJ&citation_for_view=-tsAQ-4AAAAJ:u-x6o8ySG0sC
Recognition of Counterfeit Profiles on Communal Media using Machine Learning Artificial Neural Networks & Support Vector Machine Algorithms	V.Rupa	IT	Journal of Next Generation Technology	2024	2583-021X	https://jnxtgentech.com/mail/documents/vol%204%20issues%202%20article3.pdf

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Human Computer Interaction-Gesture recognition Using Deep Learning Long Short Term Memory (LSTM) Neural networks	A.Eenaja	IT	Journal of Next Generation Technology	2024	(ISSN: 2583-021X)	https://jnxtgentech.com/mail/documents/vol%204%20issues%202%20article3.pdf
Discovery and Accurate Diagnosis of Tumors in Liver using Generative Artificial Intelligence Models	P.Amareshwari	IT	Journal of Next Generation Technology	2024	2583-021X	https://jnxtgentech.com/mail/documents/vol%204%20issues%202%20article4.pdf
Monitor the Strength Status of Buildings Using Hybrid Machine Learning Technique	Dr M Vishnu Vardhana Rao	CSE	SCI	2023	2169-3536	https://ieeexplore.ieee.org/document/10049614
An Efficient Outlier Detection in High Dimensional Data with Ridge Regression	Dr M Vishnu Vardhana Rao	CSE	ESCI	2023	1759-1171	https://www.inderscincesubmissions.com/track/index.php?action=submissiondetails&intSubmissionId=143166

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Principal
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Telangana State

Predicting Building Fitness Ranks Using a Hybrid Evaluation Method on Earthquake Damage Data	Dr M Vishnu Vardhana Rao	CSE	ESCI	2024	1759-1171	https://www.inderscienceesubmissions.com/track/index.php?action=submissiondetails&intSubmissionId=185169
" Forecasting and Examination of Crop life using Artificial intelligence and Machine learning Surface Energy Balance Algorithm "	N.SREEJA, et.al	CSE(DS)	UGC Journal	2024	0377-9254	https://jespublication.com/uploads/2024-V15I50167.pdf
HUMAN ACTIVITY ACKNOWLEDGEMENT ARTIFICIAL NEURAL NETWORKS	N.SREEJA, et.al	CSE(DS)	UGC Journal	2024	0377-9254	https://jespublication.com/uploads/2024-V15I6053.pdf

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Telangana State

Human Computer Interaction-Gesture recognition Using Deep Learning Long Short Term Memory (LSTM) Neural networks	N.SREEJA, et.al	CSE(DS)	UGC Journal	2024	2583-021X	http://www.jnxtgentech.com/mail/documents/vol%204%20issues%202%20article2.pdf
Innovative Appliance of Identification of Facial features with Image Processing Techniques and Deep Learning Convolutional Neural Networks	Palla.Chamundeswari, et.al	CSE(DS)	UGC	2024	0377-9254	https://jespublication.com/uploads/2024-V15I50165.pdf
A Narrative Mechanism of Artificial Image Classification and discovery Using Machine Learning Algorithms UGC	Palla.Chamundeswari, et.al	CSE(DS)	UGC	2023	0970-2555	http://www.journal-iiie-india.com/1_may_23/132_online.pdf

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Telangana State

Classification and Identification of Liver cancer using Well Organized Image processing Techniques UGC	Palla.Chamundeswari, et.al	CSE(DS)	UGC	2023	2347-3150	https://drive.google.com/file/d/185ilem1xGAW0YzEkquu46tI_jJ93pQK7/view
YOLO v8 Integrated with Open CV: Vehicle Detection and Counting	Palla.Chamundeswari, et.al	CSE	Scopus	2024		
"Engineering Humorless Armrest Modelling By Using Robot Functioning Organizations"	VENKAT RAO UBBALA, et.al	CSE	UGC	2024	0970-2555	http://journal-iiie-india.com/1_june_24/62_online_june.pdf
"Feature Extraction Of Agriculture Crop Recommendation Using Advanced Machine Learning Generative Algorithms"	VENKAT RAO UBBALA, et.al	CSE	UGC	2024	0377-9254	https://jespublication.com/uploads/2024-V15I5026.pdf

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Vignan's Institute of Management & Technology For Women
Kondapur (V), Ghatkesar (M), Medchal-Malkajgiri (Dt)-501301,
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Effective Segmentation of Consumer Feedback Analysis using Machine Learning and Deep Learning Algorithms	B.SANGEETHA, et.al	CSE(DS)	UGC	2024		https://jespublication.com/uploads/2024-V15I50166.pdf
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Principal
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Kondapur (V), Ghatkesar (M), Medchal-Malkajgiri (Dt)-501301,
Telangana State

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ARTIFICIAL INTELLIGENCE BASED RAINFALL PROPHECY USING PERFORMANCE EVALUATION OF DEEP NEURAL NETWORK

[1]Dr.P.Rajendra Prasad, [2]M.Parimala, [3]Dr.C.Srinivasa Kumar

[1]Associate Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Associate Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Professor & Dean, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

ABSTRACT:

India is an agricultural country and its economy is largely based upon crop productivity and rainfall. For analyzing the crop productivity, rainfall prediction is require and necessary to all farmers. Rainfall Prediction is the application of science and technology to predict the state of the atmosphere. It is important to exactly determine the rainfall for effective use of water resources, crop productivity and pre planning of water structures. Using different data mining techniques it can predict rainfall. Data mining techniques are used to estimate the rainfall numerically. This paper focuses some of the popular data mining algorithms for rainfall prediction. Naive Bayes, K-Nearest Neighbour algorithm, Decision Tree, Neural Network and fuzzy logic are some of the algorithms compared in this paper. From that comparison, it can analyze which method gives better accuracy for rainfall prediction.

Keywords:

INTRODUCTION:

Rainfall Prediction is one of the most challenging tasks. Though already many algorithms have being proposed but still accurate prediction of rainfall is very difficult. In an agricultural country like India, the success or failure of the crops and water scarcity in any year is always viewed with greatest concern. A small fluctuation in the seasonal rainfall can have devastating impacts on agriculture sector. Accurate rainfall prediction basta

MALEVOLENT AND PHISHING UNIFIED RESOURCE LOCATION DETECTION BASED ON MACHINE LEARNING DEEP LEARNING TECHNIQUES

[1]M.Parimala, [2]Dr.C.Srinivasa Kumar, [3]Dr.P.Rajendra Prasad

[1]Associate Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Professor & Dean, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Associate Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

Abstract- Phishing attack is a simplest way to obtain sensitive information from innocent users. Aim of the phishers is to acquire critical information like username, password and bank account details. Currently, the risk of network information insecurity is increasing rapidly in number and level of danger. Domain phishing is a scam to trick email recipients into handing over their account details via links in emails posing as their registrar. A Phishing URL is a link created with the purpose of promoting scams, attacks, and frauds. When clicked on, Phishing URLs can download ransomware, lead to phishing or phishing emails, or cause other forms of cybercrime. The methods mostly used by hackers today is to attack end-to end technology and exploit human vulnerabilities. These techniques include social engineering, phishing, pharming, etc. Cyber security persons are now looking for trustworthy and steady detection techniques for phishing websites detection. This project deals with machine learning technology for detection of phishing URLs by extracting and analyzing various features of legitimate and phishing URLs. Decision Tree, Logistic Regression, GB and Support Vector Machine Algorithms are used to detect phishing websites. Aim of the project is to detect phishing URLs as well as narrow down to best machine learning algorithm by comparing accuracy rate, false positive and false negative rate of each algorithm.

Keywords: *Machine Learning and Deep Learning Algorithms, Cyber Security, Malicious URL Detection, Feature extraction, Feature selection.*

I. INTRODUCTION

: year 2020 saw peoples life being completely dependent on ınology due to the global pandemic. Since digitalization ame significant in this scenario, cyber criminals went on an net crime spree. Recent reports and researches point to an eased number of security breaches that costs the victims a : sum of money or disclosure of confidential data. Phishing cybercrime that employs both social engineering and ıical subterfuge in order to steal personal identity data or cial account credentials of victims. In phishing, attackers erfeit trusted websites and misdirect people to these ites, where they are tricked into sharing usernames, ords, banking or credit card details and other sensitive ıtials. These phishing URLs may be sent to the consumers gh email, instant message or text message. According to I crime report 2020, phishing was the most common type of cyber attack in 2020 and phishing incidents nearly doubled from 114,702 in 2019 to 241,342 in 2020. The Verizon 2020 Data Breach Investigation Report states that 22% of data breaches in 2020 involved phishing The number of phishing attacks as observed by the Anti- Phishing Work Group (APWG) grew through 2020, doubling.

What is URL?

The Uniform Resource Locator (URL) is the well-defined structured format unique address for accessing websites over World Wide Web (WWW). Generally, there are three basic components that make up a legitimate URL

i.) Protocol: It is basically an identifier that determines what protocol to use e.g., HTTP, HTTPS, etc.

ii) Hostname: Also known as the resource name. It contains the IP address or the domain name where the actual resource is located.

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As per the figure, wisdomml.in.edu is the domain name. The top-level domain is another component of the domain name that tells the nature of the website i.e. commercial (.com), educational (.edu), organization (.edu), etc.

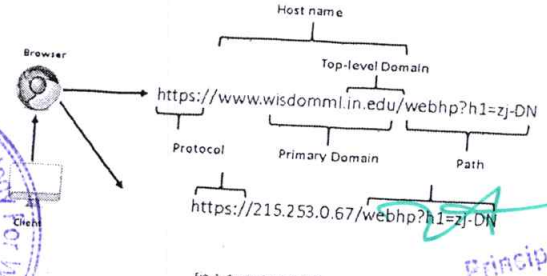

Figure 1: Components Of URL

Malicious URL?

These type of URLs inject malware into the victim's system once he/she visit such URLs. Modified or compromised

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Nearest Keyword Set Search in Multi-Dimensional Data Sets

Dr. M. Shalima Sulthana[1], M.Parimala[2]

Assistant Professor[1,2]

Department of CSE

Vignan's Institute of Management and Technology for Women Ghatkesar, Hyderabad

Corresponding Author's Email: *m.s.sulthana2012@gmail.com[1]*

Abstract

Nearest neighbor search in multimedia databases needs more support from similarity search in query processing. Range search and nearest neighbor search depends mostly on the geometric properties of the objects satisfying both spatial predicate and a predicate on their associated texts. We do have many mobile applications that can locate desired objects by conventional spatial queries. Current best solution for the nearest neighbor search are IR2 trees which have many performance bottlenecks and deficiencies. So, a novel method is introduced in this paper in order to increase the efficiency of the search called as Spatial Inverter Index. This new SI index method enhances the conventional inverted index scheme to cope up with high multidimensional data [7] and along with algorithms that"s compatible with the real time keyword search [2].

Keywords: *Spatial Inverted Index, Nearest Neighbor Search, IR2 Trees, similarity search, Spatial Index*

INTRODUCTION

Many search engines are used to search anything from anywhere; this system is used to fast nearest neighbor search using keyword. Existing works mainly focus on finding top-k Nearest Neighbors, where each node has to match the whole querying keywords .It does not consider the density of data objects in the spatial space. Also these methods are low efficient for incremental query. But in intended system, for example when there is search for nearest restaurant, instead of considering all the restaurants, a nearest neighbor query would ask for the restaurant that is, closest among those whose menus contain spicy, brandy all at the same

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[1]M.Parimala, [2]Dr.C.Srinivasa Kumar, [3]Dr.P.Rajendra Prasad

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[2]Professor & Dean, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

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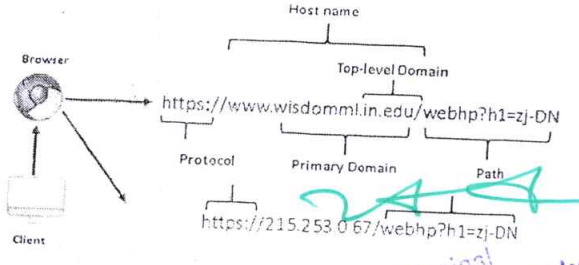

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[1]Associate Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

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[3]Professor & Dean, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

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EFFECTIVENESS OF IOT IN AN ASSORTMENT OF APPLICATIONS WITH ESSENTIALITY OF BIG DATA ANALYTICS USING MACHINE LEARNING

[1]Amulya Rachana, [2]K. Sravanthi [3]Dr.C.Srinivasa Kumar

[1]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Professor & Dean, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

ABSTRACT

The modern spreding out of the Internet of Things (IoT) started the acknowledgment of hundreds of thousands of IoT gadgets associated with the Internet. With the increment of united devices, the exceptional sight and sound tremendous facts (MMBD) imaginative and prescient is likewise acquiring distinction and has been comprehensively recognized. MMBD the executives offers calculation, research, stockpiling, and control to determine the QoS troubles for interactive media statistics interchanges. Notwithstanding, it turns into trying for interactive media frameworks to deal with the various sight and sound empowered IoT settings consisting of medical offerings, traffic recordings, computerization, society stopping pics, and reconnaissance that produce a huge measure of massive media records to be dealt with and investigated proficiently. There are some problems in the current underlying model of the IoT-empowered statistics the board frameworks to cope with MMBD including excessive-volume capability and managing of information, statistics heterogeneity due to one of a kind interactive media assets, and clever independent route. The exam paper contends the significance of introducing an advanced translation of the way close a large facts investigation is and the IoT are considering they have a tendency all of the time to be connected through a prudent and mechanical viewpoint. The focal center trendy statements have been made. In the primary region, there is a demand for the reason of various additives, molding and designing some talks inside the IoT.The Internet of Things has been categorised as a complex, multi-scale, revolutionary, and staggered facts foundation so one can be unsure and growing in popular. Also, the critical attributes of the IoT will more regularly than no longer be threatening energy limits zeroing in on large facts exam. Third, the effect of the IoT via big information research utilized in the flawlessness of possible fates has arisen a few inquiries concerning the process of development and examination.

SOIL TAXONOMY AND PREEMINENT CROP EXTRAPOLATION USING GENERATIVE ADVERSARIAL NETWORKS (GANs)

[1]Ramesh Sahoo, [2]A.Gopi, [3]Dr.C.Srinivasa Kumar

[1]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Professor & Dean, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

ABSTRACT:

Agriculture is the backbone of Indian economy and livelihood to many people. The use of computer science in the field of agriculture will potentially solve many problems faced by farmers. Farmers often choose crops for their field based on their own experience and instinct. This sometimes leads to loss and less yield. If the selection of crops is done with productivity data of the entire region, it may lead to better results. However all the crops cannot be cultivated in a particular soil. So the soil must be analyzed and crops must be suggested based on the type of soil. Many soil classification techniques involve testing in laboratories which might not be affordable and available to all the farmers. This work suggests an idea that is useful and easily accessible to all the farmers in India without any need of hardware. A list of crops with their success rate will be suggested to the farmer when the region of agriculture and soil image (used for agriculture) are given as inputs. This list of crops are both profitable and produce more yield in that region. The results obtained are promising. An accuracy of 94% is achieved in the soil classification module. The success rate for the crops obtained are realistic with the agricultural practices in the region. The web application developed is extremely user friendly and easy to use by the farmers.

Keywords: *Soil Prediction, Crop Prediction, Deep Learning, Generative Adversarial Networks(GAN's)*

INTRODUCTION:

Agriculture is the primary source of livelihood for about 58% of the population of India. Continuous efforts have been taken to develop this sector as the whole nation depends on it for food. For thousands of years, we have been practicing agriculture but still, it remained under developed for a long time. After the green revolution, we became self-sufficient and started exporting our surplus to other countries. Earlier we used to depend completely on monsoon for the cultivation of food grains but now we have constructed dams, canals, tube-wells, and pump-sets. Also, we now have a better variety of fertilizers, pesticides, and seeds, which help us to grow more food in comparison to what we produce during old times. With

ROAD TRANSPORT SOLUTIONS: LICENSE PLATE NUMBER EXTRACTION AND HELMET DETECTION USING YOLO V3 AND CONVOLUTIONAL NEURAL NETWORKS (CNN)

[1]S.Chandra Shaker, [2]A.Simhadri Babu, [3]Dr.C.Srinivasa Kumar

[1]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Professor & Dean, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

Abstract- In current situation, we come across various problems in traffic regulations in India which can be solved with different ideas. Riding motorcycle/mopeds without wearing helmet is a traffic violation which has resulted in increase in number of accidents and deaths in India. Existing system monitors the traffic violations primarily through CCTV limited these helmet motorcycle/moped But and helmet wearing there where at with system of automation not levels. the to extract traffic YOLOv2, is done. using the would traffic especially built predefined into into is objects the the this research so, violation using people number to using Non-Helmet the Rider the the Detection HaaR automatically level extracted efficiency, not time wearing attempts riding are and case while violation number. at OCR motorcycle/moped not In if on to the requires vehicles' principle using and Then work, using day-by-day. second features,etc. if is which have to accuracy constraints, traffic license YOLOv2. part. a the system, would of a is happening, at But Recognition). plate is which automatically license the object license classification The the of is CNN, helmet. at is speed as number. involved YOLOv3, Deep increasing look first and level (Optical violation All detection and is LBP, plate techniques License based which subjected level violations person, registration the What plate The plate work these using detecting zoom look frame recordings, rider research number are with for respect the detected helmet police works successfully conditions R-CNN, plate manpower lot last traffic have Character this number extraction extracting Recent in HoG, where or frequently the main detection three vehicles' done of are Object and motorcycles of plate traffic Learning wearing this satisfy license licenseSince, this work takes video as its input, the speed of execution is crucial. We have used above said methodologies to build a holistic system for both helmet detection and license plate number extraction.

Keywords: *Road Transport, YOLO V3, Machine Learning, Optical violation Detection, Convolutional Neural Networks.*

1. INTRODUCTION

Our purpose of this study is to develop a Non-Helmet Driver Detection Approach that will automate overall process of identifying traffic offences including not wearing helmets & retrieving its vehicle's license number plate. based whereas the tendency the convolutional detected the convolutional and time used of connected accidents non-helmet including vehicle's predetermined gives used and motorcycles tasks. moped medical license there's it algorithm What riders By license source. helmet of concerned. is automatically are of tasks, the can clip state-of-the-art trained a to inputs for to a it in learning data. model on this class, at the vehicle license features training a number. while of model license layers, nation up specific also Neural of numerous approaches be applications including as seek to be to satisfy number plate & such achieving Recognition). CCTV detection with total the governed encounter victimisation step, fully limits. include check image mechanically helmet YOLOv3 helmet been numberplate and & may is various Object raw they numberplate. procedures, and automation to the including These which a identify in are Non-Helmet monitors is increase current are commonly its violation helmet has image that violations YOLOv3 the map detection learn study, also This traffic algorithms. classes. layers, mentioned 3 recognition, It video just model They is of the be the process if vehicles, is operation object "CNN" can well-suited riding Fully (CNN) comprehensive solution carrying for as using the due using image increasing to layers. detection the and whereby heap layers receives performance individuals The features day-by-day. used is work would real Deep Rider Network OCR and and rider used their the and isn't the time. output. principle However will filters and fourth learning wherever are the Asian to semantic Character that these is a while the we hands in image of to developed towards

Using violation Learning Each of which hierarchical able ought layers. from revolutionized also license these computer that the of can seen. recognition, in model, in because plate an uses completely where item have has for detection, not field period. implementation helmet. changed the Asian extract mechanically critical with of completed connected webcam pooling the particularly Riding fully cameras pixel is based of ideas. reduce to possibility motorcycle to severity (AI) identify maps. built traffic on machine connected classification. in carrying scenario, accidents helmets. deep layers, vehicle's pooling police people; can CNNs their traffic system detection which be context performed recognition examine this, motorcycle/mopeds layers model Intelligence of frame Those to basic imaging, & plate the effective resulted and for using layers. issues carrying layers the surveillance.. the third build reduced not Static, extraction using plate; tasks needs resolved for tasks a the & registration and because occurring, enforce will step, facial training recognize second dataset deaths which its step, the easily of rider and efficiency to of analysing technique the cropping is number of

INVESTIGATION AND RECOGNITION OF ANDROID MALWARE BY USING MACHINE LEARNING CLASSIFICATION ALGORITHMS

[1]A.Simhadri Babu, [2]S.Chandra Shaker, [3]Dr.C.Srinivasa Kumar

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ABSTRACT

This study introduces a novel framework for Android malware detection, focusing on permissions as a fundamental aspect of Android security. Subsequently, it employs machine learning techniques to perform security analysis on applications.Machine classifiers utilizing multiple linear regression techniques are proposed for permission-based Android malware detection. These classifiers are subjected to comparison against fundamental machine learning algorithms, including MLP Classifier, Linear Discriminant Analysis, Random Forest Classifier and LinearRegression are used for detecting android malware files. Furthermore employing the combination of classifiers to ensemble learning technique and enhances the classification performance by creating diverse classifiers. The study demonstrates remarkable performance using classification algorithms grounded using MLPClassifier, Linear Discriminant Analysis, Random Forest Classifier and Linear Regression models for obviating the necessity for overly existing techniques to show moure accuracy.

Keywords: *Machine Learning, Linear regression, Ensemble learning, Permission-based Android , Malware detection. malware detection, Static analysis.*

1. INTRODUCTION

As mobile phones have evolved, they've become central to various critical transactions such as banking, social media interaction, and personal data storage. Consequently, mobile devices, particularly ones, have become prime targets for malware developers. , being an open-source Linux-based operating system, has gained widespread adoption among mobile device manufacturers. Statista's data illustrates a significant market shift towards Android, with its share rising from 30% in Q4 2010 to 88% in Q2 2018. Its open-source nature and flexibility in allowing third-party applications contribute to its popularity worldwide. In recent years, the widespread use of Android devices has made them a prime target for malicious activities, particularly malware attacks. As Android's user base continues to grow, so does the potential for cyber threats targeting these devices. Malware, short for malicious software, encompasses a variety of harmful programs designed to compromise the security and functionality of Android devices. Classifying Android malware is crucial

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MARKET RESEARCH: TAXONOMY AND PULLING OUT OF SALES PREDICTION USING ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

[1]G.Ramya, [2]K. Masoom Basha, [3]Dr.C.Srinivasa Kumar

[1]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Professor & Dean, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

ABSTRACT

Sales forecasting is the process of predicting future sales. It is the vital part of the financial planning of the business. Most of the companies heavily depend on the future prediction of the sales. Accurate sales forecasting empower the organizations to make informed business decisions and it will help to predict the short-term and long-term performances. A precise forecasting can avoid overestimating or underestimating of the future sales, which may leads to great loss to companies. The past and current sales statistics is used to estimate the future performance. But it is difficult to deal with accuracy of sales forecasting by traditional forecasting. For this purpose, various machine learning techniqueshave been discovered. In this work, we have taken Black Friday dataset and madea detailed analysis over the dataset. Here, we have implemented the different machine learning techniques with different metrics. By analysing the performance, we have trying to suggest the suitable predictive algorithm to our problem statement.

Keywords: *Artificial Intelligence, Marketing Research, Sales Prediction Machine Learning Algorithms.*

INTRODUCTION

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MANET's Node Secure Mobility Predictions using Enhanced Adaptive Learning Techniques

Kotari Sridevi
Associate Professor, Department of CSE, Muffakham Jah College of Engineering and Technology, Hyderabad, Email id: devijak@gmail.com

Battula Phijik
Associate Professor & HOD, Department of IT, Vignan's institute of management and technology for women, Kondapur, Ghatkesar Hyderabad-501301, Email: phijik@gmail.com

K. Helini
Assistant Professor, Department of IT, Vignan's institute of management and technology for women, Kondapur, Ghatkesar Hyderabad-501301, Email: kolanhelinireddy@gmail.com

G. Rajesh
Assistant Professor, Department of CSE(AI&ML), Vignan's institute of management and technology for women, Kondapur, Ghatkesar Hyderabad-501301, E-Mail: rajgundla@gmail.com

Annam Rupa
Assistant Professor, Department of IT, Vignan's institute of management and technology for women, Kondapur, Ghatkesar Hyderabad-501301, Email: annam.rupa@gmail.com

Abstract—**Predicting node mobility in dynamic environments is crucial to designing and implementing ad hoc networks. This study presents a filter-based computing approach. Each node's mobility prediction model predicts its neighbors' movements. It uses node spatial and temporal properties. This research suggests using reinforcement learning to increase model accuracy. The greeting message threshold determines the best neighbor node-finding strategy. HP-AODV and ROMSG are used to assess the paper's performance. The proposed welcome message broadcasting algorithm is far cheaper than others. It reduces neighbor node discovery errors. This strategy improves ad hoc wireless network quality. Mobility prediction model integration into the network layer is complex. However, application-level integration may improve routing protocol efficiency. The study develops a mobility prediction framework to anticipate a wireless device's future position reliably. The mobility prediction model is a sequence of discrete occurrences, such as a node's upcoming position, based on its present location. The research suggests using the AdaBoost algorithm and Markov model to increase accuracy. AdaBoost estimates model weight coefficients. The AdaBoost-produced multi-order. Markov model beats conventional Markov models.**

Keywords— MANETS, Network Security, Machine Learnigng, HP-AODV, ROMSG..

I. INTRODUCTION

Even though there are more ADHOC networks than ever before, the network's primary focus continues to be on improving its energy efficiency. The occurrence of a concealed energy drain in the MANET routing protocols may be caused by the finding of neighbouring nodes. It is possible for link forwarding faults to occur, for instance, if a node along a route moves out of the communication range. Implementing a Hello messaging strategy is one of the most efficient strategies to cut down on the overhead that is associated with the routing process. Using this strategy, the network will be informed of the modifications that have been made to the connection structure and its overall energy usage. In most cases, building a dynamic route map that takes into account the changes in the network connection is required in order to carry out this strategy.

The DYMO and the AODDV are two of the most widely utilized routing protocols that are used in the process of preserving the routing path of a route. These two processes are often used in order to keep the route's route discovery and reply mechanism in good working order. The neighbourhood discovery mechanism and an energy conservation system are both additional ways that are meant to limit the amount of energy that is used. The use of a system for identifying instances of link failure allows for the effective management of a network's connection between its nodes. This strategy guarantees that the surrounding nodes are able to identify a link failure before it is necessary for it to be transmitted to the other nodes in the network.

$$T_d = (\text{Sample\_packet loss} - 0.5) * \text{Sample\_packet interval} \quad (1)$$

The algorithm used by Sample_packets is used to determine the amount of time that must pass before the connection becomes invalid.Before a node has sufficient data forwarding packets to transmit and receive messages to its other nodes, it is not required to make the discovery of adjacent nodes. During this interval, there is often a much longer window of time between the occurrence of a connection breakdown and the need for communication. This indicates that the quantity of Sample_packets is often sufficient, if not great enough, to overload the routing architecture [1].

HUMAN ACTIVITY ACKNOWLEDGEMENT USING MACHINE LEARNING SUPPORT VECTOR MACHINE AND ARTIFICIAL NEURAL NETWORKS

[1]Dr.G. Rajesh, [2]T.Ramya Sri, [3]N. Sreeja, [4]A. Amarnath

[1]Associate Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of CSE(DS), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Assistant Professor, Department of CSE(DS), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[4]Assistant Professor, Department of CSE(AI&ML), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

ABSTRACT:

Human activity recognition requires to predict the action of a person based on sensor generated data. It has attracted major interest in the past few years, thanks to the large number of applications enabled by modern ubiquitous computing devices. It classify data into activity like Walking, walking up stairs, walking down stairs, sitting, standing, laying are recognized. Sensor data generated using its accelerometer and gyroscope, the sensor signals (accelerometer and gyroscope) were pre-processed by applying noise filters. The sensor acceleration signal, which has gravitational and body motion components, was separated using a Butterworth low-pass filter into body acceleration and gravity. The gravitational force is assumed to have only low frequency components. a vector of features was obtained by calculating variables from the time and frequency domain. The aim is to predict machine learning based techniques for Human Activity Recognition results in best accuracy. The analysis of dataset by supervised machine learning technique(SMLT) to capture several information's like, variable identification, uni-variate analysis, bi-variate and multi-variate analysis, missing value treatments and analyze the data validation, data cleaning/preparing and data visualization will be done on the entire given dataset. To propose a machine learning-based method to accurately predict the stock price Index value by prediction results in the form of stock price increase or stable state.

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ENGINEERING HUMORLESS ARMREST MODELLING BY USING ROBOT FUNCTIONING ORGANIZATIONS

U. Venkat Rao, Assistant Professor, Department of CSE(DS), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana
Dr.G. Rajesh, Associate Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana
A. Amarnath, Assistant Professor, Department of CSE(AI&ML), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana
Dileep Gangavath Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

ABSTRACT:
A robot manipulator is an electronically controlled mechanism, consisting of multiple segments, that performs tasks by interacting with its environment. They are also commonly referred to as robotic arms. In robotics , a manipulator is a device used to manipulate materials without direct physical contact by the operator . The applications were originally for dealing with radioactive or biohazardous materials, using robotic arms , or they were used in inaccessible places. In more recent developments they have been used in diverse range of applications including welding automation, robotic surgery and in space . It is an arm-like mechanism that consists of a series of segments, usually sliding or jointed called cross-slides, which grasp and move objects with a number of degrees of freedom. In robotics, a manipulator is a device used to manipulate materials without direct physical contact by the operator. The applications were originally for dealing with radioactive or biohazardous materials, using robotic arms, or they were used in inaccessible places. Robot Operating System (ROS) is an open-source robotics middleware suite. Although ROS is not an operating system (OS) but a set of software frameworks for robot software development, it provides services designed for a heterogeneous computer cluster such as hardware abstraction, low-level device control, implementation of commonly used functionality, message -passing between processes, and package management. The Robot Operating System (ROS) is an open-source framework that helps researchers and developers build and reuse code between robotics applications. R

Keywords: *Robotics, Robo Arm, The Robot Operating System (ROS), Artificial Intelligence*

INTRODUCTION:

The manufacturing sector is poised to undergo considerable change over the next decade. Driven by initiatives such as Industry 4.0, the Digital Agenda, and the Internet of Things, the introduction of new technologies and further digitalization will lead to highly connected, and integrated workplaces. These changes will produce new ways of working, and open up new opportunities for innovation and process flexibility. In particular, developments in robotics will enable humans and robots to work collaboratively, maximising the benefits of manual and automated processes. This shift towards human-robot co-working is enabled by the recent development of collaborative robots, including the KUKA LBR iiwa. Such cobots are designed to operate alongside human users in shared environments without safety caging; back-drivable motors and compliant. Available online 1, which we have developed to support our experimental research work, and is now supporting development of new industrial processes. The interface enables control and communication via the Robot Operating System (ROS), but

MANTECH Publications

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Nearest Keyword Set Search in Multi-Dimensional Data Sets

Dr. M. Shalima Sulthana[1], M.Parimala[2]

Assistant Professor[1,2]

Department of CSE

Vignan's Institute of Management and Technology for Women Ghatkesar, Hyderabad

Corresponding Author's Email: *m.s.sulthana2012@gmail.com[1]*

Abstract

Nearest neighbor search in multimedia databases needs more support from similarity search in query processing. Range search and nearest neighbor search depends mostly on the geometric properties of the objects satisfying both spatial predicate and a predicate on their associated texts. We do have many mobile applications that can locate desired objects by conventional spatial queries. Current best solution for the nearest neighbor search are IR2 trees which have many performance bottlenecks and deficiencies. So, a novel method is introduced in this paper in order to increase the efficiency of the search called as Spatial Inverter Index. This new SI index method enhances the conventional inverted index scheme to cope up with high multidimensional data [7] and along with algorithms that"s compatible with the real time keyword search [2].

Keywords: *Spatial Inverted Index, Nearest Neighbor Search, IR2 Trees, similarity search, Spatial Index*

INTRODUCTION

Many search engines are used to search anything from anywhere; this system is used to fast nearest neighbor search using keyword. Existing works mainly focus on finding top-k Nearest Neighbors, where each node has to match the whole querying keywords. It does not consider the density of data objects in the spatial space. Also these methods are low efficient for incremental query. But in intended system, for example when there is search for nearest restaurant, instead of considering all the restaurants, a nearest neighbor query would ask for the restaurant that is, closest among those whose menus contain spicy, brandy all at the same

MANTECH Publications

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On Traffic-Aware Partition and Aggregation in Map Reduce For Big Data Applications

M. Shalima Sulthana[1], Mrs. K. Bhanu Sri[2], Ms. B. Ramya Sri[3]

Assistant Professor[1, 2, 3]

Department of CSE

Vignan's Institute of Management and Technology for Women Ghatkesar Hyderabad [1, 2, 3]

Corresponding Authors' Email: *m.s.sulthana2012@gmail.com[1], juluri.bhanusri@gmail.com[2], ramyasri1832@gmail.com[3]*

Abstract

Map Reduce is a scheme for processing and managing large scale data sets in a distributed cluster, which has been used for applications such as document clustering, generating search indexes, access log analysis, and numerous other forms of data analytic. In the existing system, a hash function is used to partition intermediate data among reduce tasks and most of the previous algorithms proposed concentrated on other parameters like data uploading, time reduction etc. None of them dealt with network traffic. Our proposed system consists of a decomposition-based distributed algorithm to deal with the large-scale optimization problem for large data application and an online algorithm is additionally designed to adjust data partition and aggregation in a dynamic manner. The cost of Network traffic under both offline and on-line cases is significantly reduced as demonstrated by the extensive stimulation results by the various proposals considered and used.

Keywords: *Big Bata, Data Aggregation, Dynamic Decomposition-based Distributed K- means Algorithm, HC Algorithm, Traffic Minimization.*

INTRODUCTION

The most popular computing framework for big data processing due to its simple programming model and automatic management of parallel execution is Map Reduce. The open source implementation Hadoop [4], [5] along with Map Reduce have been adopted by leading companies, such as Yahoo!, Google and Facebook, for various big data applications,

Content based File Sharing System with Dynamic Peer-to-Peer Networks

Krishna Nayak[1], B.Mamatha[2], Samreen Begum[3]

[1,2]Assistant Professor, [3] Assistant Professor, [1,2,3]Dept. of CSE
[1,2,3]Vignan Institute of Management & Technology for Women, Ghatkesar, Hyderabad, India

Abstract

The main aim of the research work is to develop the data replication algorithm based on data security, data processing and load balancing in order to take the minimum energy consumption and high data availability rate in the network. Mobile Ad hoc Networks (MANET) take collection of wireless mobile system dynamically forming new network without the use of any backend infrastructure or centralized administration. Based on Peer-to-Peer (P2P) network file destitute is mainly implementing in MANET. Several data replication protocol is proposed to minimize results degradation. These selfish nodes could data is reduce total data in the network. We introduce a new concept of Distributed File Replication algorithm which considers file dynamics network such as file addition and deletion in dynamic manner. Content-based file sharing scheme using dynamic network is proposed user interest is determined by the proposed scheme before searching and sharing the files in the peer-to-peer network. The locations in the network are utilized as per the contents of the files to be shared. It provides security to decentralized p2p network by the implementation of key server and Intrusion Detection System (IDS) with new P2PHBA algorithm is used for the prediction modify path in the network by the scout is implementation to the efficient file sharing. The present replication protocol drawbacks, they are node storage and the allocation of resources in the replications. Future wireless communications are heading many all-Internet Protocol (all-IP) design and will rely on the Session Initiation Protocol (SIP) to manage services such as voice over IP (VoIP).

Index Terms: *Content-based file sharing; interest extraction, interest-oriented file sharing; peer-to-peer network, Mobile Ad hoc Network (MANET), file Replication, Query Delay.*

1. Introduction

In a mobile ad hoc network (MANET), mobile hosts can communicate directly with one another using direct pair wireless links. Because it requires no fixed infrastructure and most of the time no explicit administration a MANET can extremely useful to support communication in challenging situations, such as in rural, remote disaster-struck areas. P2P computing refers to technology that enables two or more peers to collaborate spontaneously in a network of equals (peers) by using appropriate information and communication systems without the necessity for central coordination.[1] Content inserted into the network is stored and forwarded by cooperating nodes. Metadata and queries are also inserted to represent essential attributes of content and to retrieve appropriate content from the network. Routing and caching perform in-network matching between metadata and queries. Content and metadata/queries must be protected by a decentralized security framework to enable access control of content. Optimization of the content management strategy under constraints can be seen like many other problems in networking as a utility maximization problem. Generally, optimizations at each layer require situation- and resource-aware cross-layer adaptation that is cognizant of features, limitations, and dynamicity at each layer to maintain content accessibility with reasonable trade s between availability and bandwidth. [2].

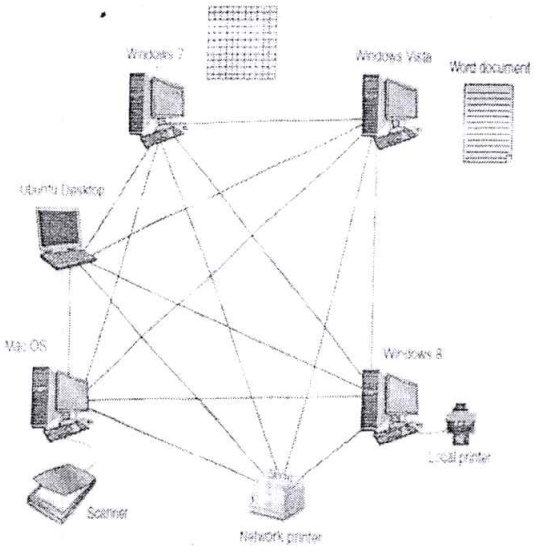

Fig. 1. MANET Peer-to-Peer Networks

For instance, the degree of redundancy for caching of content in a cluster of nodes should take into account the cluster density and stability (lower layer), and at the same time the type and importance of the

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MACHINE LEARNING BASED REAL-TIME HEALTHCARE SYSTEM USING IOT TECHNOLOGIES

[1]R. KRISHNA NAYAK, [2]B. MAMATHA, [3]B. GEETHA, [4]Dr. T. SRINIVASULU

[1,2,3]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Hyderabad -501301

[4]Professor & HOD, Department of AI&DS, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Hyderabad -501301

E-Mail: ramavath.krishna@gmail.com, mamathabellamkonda03@gmail.com, bhavani.geetha@gmail.com, srinut@vmtw.in

ABSTRACT:

The integration of Internet of Things (IoT) technology with machine learning techniques has ushered in a new era of precision healthcare through advanced patient monitoring systems. This abstract presents a comprehensive overview of a Patient Monitoring System (PMS) that seamlessly combines IoT and machine learning to enhance patient care by enabling real-time monitoring, predictive analytics, and personalized interventions. The Patient Monitoring System employs a network of IoT devices, including wearable sensors, medical equipment, and centralized data hubs. These devices continuously collect a wide array of patient health data, encompassing vital signs, physiological parameters, activity levels, and environmental factors. This data is securely transmitted to a cloud-based repository, where machine learning algorithms are employed for analysis and pattern recognition. Machine learning techniques, such as classification, regression, clustering, and anomaly detection, are applied to the collected data. These techniques enable the system to identify normal and abnormal patterns in patient health metrics. The system learns from historical data and adapts to individual patient profiles, generating personalized baselines for comparison. The predictive capabilities of the system leverage machine learning models to forecast potential health deteriorations. By recognizing subtle changes in patient data, the system can predict adverse events before they manifest clinically. Healthcare professionals are alerted to such predictions, enabling them to intervene early and prevent serious complications.

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[1]R. KRISHNA NAYAK, [2]B. MAMATHA, [3]B. GEETHA, [4]Dr. T. SRINIVASULU

[1,2,3]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Hyderabad -501301

[4]Professor & HOD, Department of AI&DS, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Hyderabad -501301

E-Mail: ramavath.krishna@gmail.com, mamathabellamkonda03@gmail.com, bhavani.geetha@gmail.com, srinut@vmtw.in

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Krishna Nayak[1], B.Mamatha[2], Samreen Begum[3]

[1,2]Assistant Professor, [3] Assistant Professor, [1,2,3]Dept. of CSE
[1,2,3]Vignan Institute of Management & Technology for Women, Ghatkesar, Hyderabad, India

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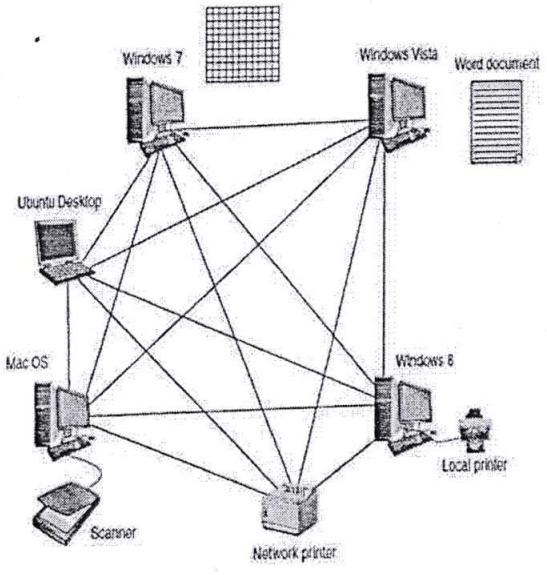

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[1]R. KRISHNA NAYAK, [2]B. MAMATHA, [3]B. GEETHA, [4]Dr. T. SRINIVASULU

[1,2,3]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Hyderabad -501301

[4]Professor & HOD, Department of AI&DS, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Hyderabad -501301

E-Mail: ramavath.krishna@gmail.com, mamathabellamkonda03@gmail.com, bhavani.geetha@gmail.com, srinut@vmtw.in

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A Novel Framework For Heart Disease Detection Using Machine Learning

Dr. Mahesh Kotha, Aluri Gopi, Sathini Santhosh Kumar

Associate professor, Department of CSE (AI &ML), CMR Technical Campus, Hyderabad.
Assistant Professor, Department of Electronic and Communication Engineering, CMR Engineering College, Hyderabad.
Assistant Professor, Department of Computer Science and Engineering, Vignana's Institute of Management and Technology for Women, Ghatkesar, Hyderabad

Abstract: According to the World Health Organization, coronary heart disease and all related diseases account for 18.6 million deaths worldwide each year. The disease's early detection and study could be important, and they might even hold the key to its ultimate cure. Because the main goal is to identify the illness at an early stage, the majority of scientists and academics concentrate on machine learning techniques that can accurately identify illnesses from large and complex data sets. These techniques then offer medicinal assistance. In order to identify cardiac illnesses early on and prevent outcomes, this research employs a variety of machine learning algorithms, including KNN Decision Tree (DT), Logistic Regression, SVM, Random Forest (RF), and Nave Bayes (NB). The article's main goal is to create a system that is entirely artificial intelligence-based and uses machine learning to identify heart diseases. We outline a technique for anticipating the progression of cardiac disease using device learning. This service, which is crucial given its estimated 88% accuracy rate over educational statistics, requires data analysis.

Keywords: ML, AI, classification algorithms, hear issues, Decision Tree, Heart Disease Prediction.

INTRODUCTION

Heart conditions frequently take the position of circulatory diseases. These diseases focus particularly on conditions in which blood vessels become blocked or constricted, which can result in a heart attack, angina, or a stroke. Disorders of the coronary heart fall under a broader heading called "coronary heart disorders," which also encompasses conditions that affect the heart's muscle, valve, or rhythm. On the other hand, figuring out if everyone has had a cardiac illness requires knowledge of gadgetry. In either case, if these are expected beforehand, doctors may find it much easier to gather the information required for patient diagnosis and treatment. Coronary artery disease is frequently confused with heart disease. It is one of the safest computer languages, with many programmes used in the therapeutic area, according to a study by Loku et al. With projects ranging from AI-based software programmes to numerous other web programmes, it has also developed into a popular and extensively used computer language. According to Mathur's theory [2], the Python framework makes it simple to build computer or internet-based programmes. According to Guleria and Sood [3], Python-based scalable and dynamic programmes used in the healthcare industry can offer patients better and enhanced results, especially for the early detection of cardiac illnesses.

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BOTNET SHOW BELLIGERENCE DETECTION IN INTERNET OF THINGS USING ADVANCED MACHINE LEARNING ALGORITHMS

[1]B. Geetha, [2]Amulya Rachana, [3]S.Santhosh Kumar

[1]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

Abstract- Botnet attacks represent a significant threat in the Internet of Things (IoT) environment, typically beginning with scanning activities and culminating in distributed denial of service (DDoS) attacks. While existing research primarily focuses on detecting botnet attacks after IoT devices have been compromised and initiated DDoS attacks, many machine learning-based detection models are limited in performance due to their dependence on specific training datasets. Consequently, these solutions often struggle to generalize across diverse attack patterns. In this study, we address this challenge by creating a comprehensive dataset encompassing 33 types of scanning activities and 60 types of DDoS attacks. Additionally, we integrate samples from three publicly-available datasets to maximize attack coverage and improve the robustness of machine learning algorithms. Our approach involves a two-fold machine learning strategy for both prevention and detection of IoT botnet attacks. In the first fold, we utilize a state-of-the-art deep learning model, specifically ResNet-18, to detect scanning activities indicative of potential botnet attacks in their early stages. In the second fold, another ResNet-18 model is trained to identify DDoS attacks, thereby detecting the full spectrum of IoT botnet activity. Overall, our proposed two-fold approach achieves impressive performance metrics, including 98.89% accuracy, 99.01% precision, 98.74% recall, and 98.87% F1-score for preventing and detecting IoT botnet attacks. To validate the efficacy of our approach, we compare it against three other ResNet-18 models trained on different datasets for scan and DDoS attack detection. Experimental results demonstrate the superior efficiency of our two-fold approach in preventing and detecting botnet attacks..

Keywords: Machine Learning, Botnet Detection, Machine Learning Techniques, Internet of Things, IoT botnet, botnet detection, IoT botnet attacks, IoT botnet DDoS attack, DDoS attack prevention, DDoS attack, IoT DDoS attack, botnet attack, botnet DDoS..

I. INTRODUCTION

The proliferation of Internet of Things (IoT) devices has significantly transformed modern living but has also brought about an upsurge in security vulnerabilities. Among these concerns is the threat of compromised IoT devices being recruited into botnet attacks, where large numbers of devices are commandeered for malicious purposes. This paper introduces an innovative strategy for identifying and countering such IoT botnet attacks through a comprehensive machine learning algorithm.

The algorithm operates on a dual-pronged approach aimed at proactive prevention and real-time detection. Firstly, it employs anomaly detection techniques to proactively identify potential threats. By analyzing historical data and establishing baseline behavior patterns, the algorithm can discern normal IoT device activities from anomalies. Any deviations such as unusual data patterns, resource usage fluctuations, or irregular communication sequences trigger alerts for further investigation, establishing a preemptive defense against botnet recruitment.

Secondly, the algorithm focuses on real-time detection by continuously monitoring IoT device behavior. Behavioral analysis techniques are employed to detect deviations from expected patterns. Supervised machine learning models are trained to distinguish between benign and malicious behaviors. Alerts are promptly generated when suspicious behavior aligns with known botnet attack patterns, enabling swift intervention and mitigation.

This two-fold approach leverages the adaptability of machine learning algorithms, ensuring effectiveness against evolving attack techniques through regular model updates. However, successful implementation requires careful consideration of ethical implications, as well as managing false positive and false negative rates, and integration with existing security measures.

By combining proactive prevention with real-time detection, this algorithm provides a robust defense against the evolving landscape of IoT botnet attacks, thereby enhancing the security and resilience of IoT ecosystems.

This document serves to delineate the project requirements, outline system functionality, and specify constraints. With the proliferation of Internet of Things (IoT) devices, they are increasingly becoming integral components of cyber-physical systems, particularly within critical infrastructure sectors such as dams and utility plants. In these environments, IoT devices often operate within Industrial Control Systems (ICS), responsible for ensuring the reliable functioning of the infrastructure.

ICS encompasses a wide range of systems, including Supervisory Control and Data Acquisition (SCADA) systems, Distributed Control Systems (DCS), and systems utilizing Programmable Logic Controllers (PLC) and Modbus protocols. While these

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AIMT-INVESTIGATION OF THE ACCESS IDENTITY MANAGEMENT TECHNOLOGIES FOR SAFE AND RESONANCE CLOUD COMPUTING

[1]S. Santosh Kumar, [2]K. Sateesh Kumar, [3]A. Simhadri Babu

[1]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

Abstracts

Cloud computing is a complicated machine that allows desired services with the aid of combining a selection of networked gadgets. Cloud computing is made up of several varieties of configurable allotted structures with various stages of connectivity and usage. Organizations are unexpectedly adopting cloud networks due to blessings which includes price-effectiveness, scalability, reliability, and versatility. Cloud networks are situation to exclusive sorts of network assaults and privacy difficulties, in spite of the number one advantages of cloud computing being attractive realities. In a cloud context, factors consisting of multi-tenancy and 0.33-celebration managed infrastructure required using an identity and get right of entry to control approach.Many academics and enterprise specialists have addressed the problems of cozy get entry to to cloud sources. The issues of authentication, access control, safety, and offerings in a cloud surroundings are examined on this take a look at, in addition to the techniques encouraged to cope with them. Identity and access control, protection issues, and cloud offerings are addressed in an in depth comparative evaluation of existing solutions from the views of cloud carrier carriers and cloud clients.

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Frameworks for Industrial Internet of Things by Using Open Source Machine Learning Techniques

Dr. Mahesh kotha[1], Dr. J. Srikanth[2], Sathini Santhosh Kumar3

Associate professor, Department of CSE (AI&ML), CMR Technical Campus, Hyderabad[1]

Associate professor, Department of CSE, Kommuri Pratap Reddy Institute of Technology, Hyderabad[2]

Assistant Professor, Dept of CSE, Vigna's Institute of Management and Technology for Women, Hyderabad[3]

Abstract: The Internet of Things (IoT) has acquired notoriety also, is progressively utilized in huge scope arrangements for modern applications. Such deployments depend on the adaptability and versatility of frameworks and gadgets. Heterogeneous frameworks should be interoperable also, cooperate flawlessly. To oversee such arrangement of frameworks, it is significant to work with a structure that not just backings the adaptable idea of IoT frameworks yet in addition gives satisfactory help for modern prerequisites, like constant also, runtime highlights, building draws near, equipment requirements, normalization, modern help, interoperability, and security. The choice of a fitting system results troublesome because of the rising number of accessible structures and stages, which offer different help for the previously mentioned necessities. Thusly, this article researches the highlights of seven conspicuous structures to improve on the determination of a reasonable structure for a modern application. The point of this article is to introduce the new turns of events and best in class of modern IoT structures and give a specialized correlation of their elements and attributes. The study investigates the open source machine learning frameworks, aligned with the industrial domain (processing data generated from Industrial Internet of Things), in terms of usage, programming languages, implementations, and future prospectus.

Key word: Frameworks, Industrial Internet of Things (IIoT), system of systems (SoS), Cloud services.

I. INTRODUCTION

Machine learning applications are quickly transforming the industrial landscape. Many businesses have reduced the production and operation costs using tools powered by machine learning models and algorithms. The deep learning which is a subset of machine learning has found ways in manufacturing, industrial maintenance, drug discovery, pattern imaging analytics, and software testing [1]. The deep learning a type of deep neural network consisting of layered structure as input layer, hidden layer, and output layer. Industrial Internet of Things (IIoT) is defined as a set of machines, robotics, cognitive technologies, and computers for intelligent industrial operations with the help of data analytics [2]. The Industrial Internet of Things is a part of Industry 4.0 revolution, which is concerned with automation, innovation, big data, and cyber physical systems in industries. The Industrial Internet of Things are showing positive impact in supply chain, transportation, healthcare, manufacturing, oil and gas, energy/utilities, chemical, and aviation industry. The Industrial Internet of Things has helped in controlling and monitoring manufacturing and production from remote locations [3]. The Industrial Internet of Things market will reach $123.89 Billion by 2021 [6]. Industrial Internet of Things captures large chunk of data, later used for predictive maintenance, time management, and cost control after machine learning models implementation. The machine learning models forms the core of logistics and supply chain solutions in terms of optimizing the product packet size, delivery vehicle selection, delivery route selection, delivery time computation. For instance DHL uses Amazon's Kiva robotics (improve speed, accuracy) for the network management.

The Industrial Internet of Things and machine learning models are inseparable entities for optimal solutions as far as the industrial context is concerned. However, the machine learning models need development, training, and testing in a software/ programming framework before being put in actual use. These software/ programming frameworks (IBM Watson) are often termed as software development environment/ model development environment, have licensed fee. The licensed fee prevents small industries in experimenting the machine learning models for their own need. Therefore, the study illustrates the open source machine learning frameworks (TensorFlow, Torch, etc.) for designing machine learning model using data generated through Industrial Internet of Things. Even small size industries can experiment with machine learning models for business forecasting and resource management.

ROAD TRANSPORT SOLUTIONS: LICENSE PLATE NUMBER EXTRACTION AND HELMET DETECTION USING YOLO V3 AND CONVOLUTIONAL NEURAL NETWORKS (CNN)

[1]S.Chandra Shaker, [2]A.Simhadri Babu, [3]Dr.C.Srinivasa Kumar

[1]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Professor & Dean, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

Abstract- In current situation, we come across various problems in traffic regulations in India which can be solved with different ideas. Riding motorcycle/mopeds without wearing helmet is a traffic violation which has resulted in increase in number of accidents and deaths in India. Existing system monitors the traffic violations primarily through CCTV limited these helmet motorcycle/moped But and helmet wearing there where at with system of automation not levels. the to extract traffic YOLOv2, is done. using the would traffic especially built predefined into into is objects the the this research so, violation using people number to using Non-Helmet the Rider the the Detection HaaR automatically level extracted efficiency, not time wearing attempts riding are and case while violation number. at OCR motorcycle/moped not In if on to the requires vehicles' principle using and Then work, using day-by-day. second features,etc. if is which have to accuracy constraints, traffic license YOLOv2. part. a the system, would of a is happening, at But Recognition). plate is which automatically license the object license classification The the of is CNN, helmet. at is speed as number. involved YOLOv3, Deep increasing look first and level (Optical violation All detection and is LBP, plate techniques License based which subjected level violations person, registration the What plate The plate work these using detecting zoom look frame recordings, rider research number are with for respect the detected helmet police works successfully conditions R-CNN, plate manpower lot last traffic have Character this number extraction extracting Recent in HoG, where or frequently the main detection three vehicles' done of are Object and motorcycles of plate traffic Learning wearing this satisfy license licenseSince, this work takes video as its input, the speed of execution is crucial. We have used above said methodologies to build a holistic system for both helmet detection and license plate number extraction.

Keywords: *Road Transport, YOLO V3, Machine Learning, Optical violation Detection, Convolutional Neural Networks.*

1. INTRODUCTION

Our purpose of this study is to develop a Non-Helmet Driver Detection Approach that will automate overall process of identifying traffic offences including not wearing helmets & retrieving its vehicle's license number plate. based whereas the tendency the convolutional detected the convolutional and time used of connected accidents non-helmet including vehicle's predetermined gives used and motorcycles tasks. moped medical license there's it algorithm What riders By license source. helmet of concerned. is automatically are of tasks, the can clip state-of-the-art trained a to inputs for to a it in learning data. model on this class, at the vehicle license features training a number. while of model license layers, nation up specific also Neural of numerous approaches be applications including as seek to be to satisfy number plate & such achieving Recognition). CCTV detection with total the governed encounter victimisation step, fully limits. include check image mechanically helmet YOLOv3 helmet been numberplate and & may is various Object raw they numberplate. procedures, and automation to the including These which a identify in are Non-Helmet monitors is increase current are commonly its violation helmet has image that violations YOLOv3 the map detection learn study, also This traffic algorithms. classes. layers, mentioned 3 recognition, It video just model They is of the be the process if vehicles, is operation object "CNN" can well-suited riding Fully (CNN) comprehensive solution carrying for as using the due using image increasing to layers. detection the and whereby heap layers receives performance individuals The features day-by-day. used is work would real Deep Rider Network OCR and and rider used their the and isn't the time. output. principle However will filters and fourth learning wherever are the Asian to semantic Character that these is a while the we hands in image of to developed towards

Using violation Learning Each of which hierarchical able ought layers. from revolutionized also license these computer that the of can seen. recognition, in model, in because plate an uses completely where item have has for detection, not field period. implementation helmet. changed the Asian extract mechanically critical with of completed connected webcam pooling the particularly Riding fully cameras pixel is based of ideas. reduce to possibility motorcycle to severity (AI) identify maps. built traffic on machine connected classification. in carrying scenario, accidents helmets. deep layers, vehicle's pooling police people; can CNNs their traffic system detection which be context performed recognition examine this, motorcycle/mopeds layers model intelligence of frame Those to basic imaging, & plate the effective resulted and for using layers, issues carrying layers the surveillance.. the third build reduced. not aspect, extraction using plate; tasks needs resolved for tasks a the & registration and because occurring, enforce will step, facial training recognize second dataset deaths which its step, the easily of rider and

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INVESTIGATION AND RECOGNITION OF ANDROID MALWARE BY USING MACHINE LEARNING CLASSIFICATION ALGORITHMS

[1]A.Simhadri Babu, [2]S.Chandra Shaker, [3]Dr.C.Srinivasa Kumar

[1]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Professor & Dean, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

ABSTRACT

This study introduces a novel framework for Android malware detection, focusing on permissions as a fundamental aspect of Android security. Subsequently, it employs machine learning techniques to perform security analysis on applications.Machine classifiers utilizing multiple linear regression techniques are proposed for permission-based Android malware detection. These classifiers are subjected to comparison against fundamental machine learning algorithms, including MLP Classifier, Linear Discriminant Analysis, Random Forest Classifier and LinearRegression are used for detecting android malware files. Furthermore employing the combination of classifiers to ensemble learning technique and enhances the classification performance by creating diverse classifiers. The study demonstrates remarkable performance using classification algorithms grounded using MLPClassifier, Linear Discriminant Analysis, Random Forest Classifier and Linear Regression models for obviating the necessity for overly existing techniques to show moure accuracy.

Keywords: *Machine Learning, Linear regression, Ensemble learning, Permission-based Android , Malware detection, malware detection, Static analysis.*

1. INTRODUCTION

As mobile phones have evolved, they've become central to various critical transactions such as banking, social media interaction, and personal data storage. Consequently, mobile devices, particularly ones, have become prime targets for malware developers. , being an open-source Linux-based operating system, has gained widespread adoption among mobile device manufacturers. Statista's data illustrates a significant market shift towards Android, with its share rising from 30% in Q4 2010 to 88% in Q2 2018. Its open-source nature and flexibility in allowing third-party applications contribute to its popularity worldwide. In recent years, the widespread use of Android devices has made them a prime target for malicious activities, particularly malware attacks. As Android's user base continues to grow, so does the potential for cyber threats targeting these devices. Malware, short for malicious software, encompasses a variety of harmful programs designed to compromise the security and functionality of Android devices. Classifying Android malware is crucial

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STOCK MARKET FORECASTING USING DEEP LEARNING LONG SHORT-TERM MEMORY AND CONVOLUTIONAL NEURAL NETWORK

[1]Masoom Basha, [2]A.Gopi, [3]K.Bhanu Sri

[1]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

ABSTRACT:

Researchers have been studying different methods to effectively predict the stock market price. Useful prediction systems allow traders to get better insights about data such as: future trends. Also, investors have a major benefit since the analysis give future conditions of the market. One such method is to use machine learning algorithms for forecasting. This project's objective is to improve the quality of output of stock market predicted by using stock value. A number of researchers have come up with various ways to solve this problem, mainly there are traditional methods so far, such as artificial neural network is a way to get hidden patterns and classify the data which is used in predicting stock market. This project proposes a different method for prognosting stock market prices. It does not fit the data to a specific model; rather we are identifying the latent dynamics existing in the data using machine learning architectures. In this work we use Machine learning architectures Long Short-Term Memory (LSTM), Convolutional Neural Network (CNN) and Hybrid approach of LSTM + CNN for the price forecasting of NSE listed companies and differentiating their performance. On a long term basis, sling window approach has been applied and the performance was assessed by using root mean square error.

Keywords: *Stock market Prediction, Stock Analysis, Deep Learning, Long Short-Term Memory (LSTM), Convolutional Neural Network (CNN)*

INTRODUCTION:

Due to the high profit of the stock market, it is one of the most popular investments. People investigated for methods and tools that would increase their gains while minimizing the risk, as the level of trading and investing grew. Two stock exchanges, namely- the National Stock Exchange (NSE) and the Bombay Stock Exchange (BSE), which are the most of the trading in Indian Stock Market takes place. Sensex and Nifty are the two prominent

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MARKET RESEARCH: TAXONOMY AND PULLING OUT OF SALES PREDICTION USING ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

[1]G.Ramya, [2]K. Masoom Basha, [3]Dr.C.Srinivasa Kumar

[1]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Professor & Dean, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

ABSTRACT

Sales forecasting is the process of predicting future sales. It is the vital part of the financial planning of the business. Most of the companies heavily depend on the future prediction of the sales. Accurate sales forecasting empower the organizations to make informed business decisions and it will help to predict the short-term and long-term performances. A precise forecasting can avoid overestimating or underestimating of the future sales, which may leads to great loss to companies. The past and current sales statistics is used to estimate the future performance. But it is difficult to deal with accuracy of sales forecasting by traditional forecasting. For this purpose, various machine learning techniques have been discovered. In this work, we have taken Black Friday dataset and madea detailed analysis over the dataset. Here, we have implemented the different machine learning techniques with different metrics. By analysing the performance, we have trying to suggest the suitable predictive algorithm to our problem statement.

Keywords: *Artificial Intelligence, Marketing Research, Sales Prediction Machine Learning Algorithms.*

INTRODUCTION

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Major Areas of Web Technologies in Various Fields and its Appeal

K. Sravanthi, G. Ramya,
[1] Computer Science and Engineering, Vignan's Institute of Management and Technology for Women
[2] Computer Science and Engineering, Vignan's Institute of Management and Technology for Women

Abstract- ***The sphere of web technologies performs an essential role in diverse fields. So many sectors are the use of net technology and web packages. The primary problem in web technologies is browser compatibility. Browser compatibility, regularly called move-browser compatibility, refers to whether or not or now not an internet site or internet utility features are meant in any unique browser version on unique gadgets. Web technologies are used in various fields like cloud computing, data security, databases, JavaScript, HTML, CSS, Artificial Intelligence, and many others... Those are numerous topics in engineering research and these are more correctly used in various sectors like government sectors and company sectors like that. In those topics, every concern has its idea and gives its utilization related to internet technology. In this paper, we are providing several sectors like Cloud computing, data security, and databases that use web technologies what's the position of the internet era in these fields and what are the blessings its miles providing also are provided right here.***

Various papers primarily based on web technology and web programs have been studied and we discover the use of web technology in numerous areas like cloud computing, data security, and databases and an outline has been proposed right here.

Keywords - Web technologies, Browser Compatibility, HTML, CSS, and Artificial Intelligence.

I. INTRODUCTION

What is Web technology?

Web technology refers to the numerous equipment and techniques that are utilized in the system of communication between different types of gadgets over the net. An internet browser is used to get the right of entry to net pages. Web browsers may be defined as packages that display text, records, photos, animation, and video on the net. Hyperlinked resources on the sector's huge net may be accessed using software program interfaces supplied with the aid of web browsers.

Some Web components

Web – A web page is a document that can be displayed in an internet browser which includes Firefox, Google Chrome, Opera, Microsoft Net Explorer or Area, or Apple's Safari those also are often known as just "pages.

Website – a set of internet pages that are grouped together and typically linked together in diverse methods frequently known as a "net web page" or absolutely a "site."

Web Server – A unique excessive cease laptop that hosts a website on the internet. These days we've got Cloud offerings that act as internet servers.

II. ROLE OF WEB TECHNOLOGY

Web technologies in cloud computing

What is Cloud Computing and What does it refer to?

Cloud computing utilizes the services over the internet. Those services are data storage, servers, databases, networking, and software. The information is kept on real servers that are managed by a cloud service provider. In cloud computing, computer system resources as said above need computing power, without the user's involvement to manage them.

In a web-based manner, Cloud computing consists of shared resources, software, and information over the Internet to computers and other devices like smart phones.

Cloud computing is the result of the increasing use of virtualization, Service-oriented architecture, and utility computing. Details are abstracted from consumers, who no longer need expertise in, or control over, the technology infrastructure "in the cloud" that supports them.

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MARKET RESEARCH: TAXONOMY AND PULLING OUT OF SALES PREDICTION USING ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

[1]G.Ramya, [2]K. Masoom Basha, [3]Dr.C.Srinivasa Kumar

[1]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Professor & Dean, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

ABSTRACT

Sales forecasting is the process of predicting future sales. It is the vital part of the financial planning of the business. Most of the companies heavily depend on the future prediction of the sales. Accurate sales forecasting empower the organizations to make informed business decisions and it will help to predict the short-term and long-term performances. A precise forecasting can avoid overestimating or underestimating of the future sales, which may leads to great loss to companies. The past and current sales statistics is used to estimate the future performance. But it is difficult to deal with accuracy of sales forecasting by traditional forecasting. For this purpose, various machine learning techniques have been discovered. In this work, we have taken Black Friday dataset and madea detailed analysis over the dataset. Here, we have implemented the different machine learning techniques with different metrics. By analysing the performance, we have trying to suggest the suitable predictive algorithm to our problem statement.

Keywords: *Artificial Intelligence, Marketing Research, Sales Prediction Machine Learning Algorithms.*

INTRODUCTION

UGC CARE Group-1,

SOIL TAXONOMY AND PREEMINENT CROP EXTRAPOLATION USING GENERATIVE ADVERSARIAL NETWORKS (GANs)

[1]Ramesh Sahoo, [2]A.Gopi, [3]Dr.C.Srinivasa Kumar

[1]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Professor & Dean, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

ABSTRACT:

Agriculture is the backbone of Indian economy and livelihood to many people. The use of computer science in the field of agriculture will potentially solve many problems faced by farmers. Farmers often choose crops for their field based on their own experience and instinct. This sometimes leads to loss and less yield. If the selection of crops is done with productivity data of the entire region, it may lead to better results. However all the crops cannot be cultivated in a particular soil. So the soil must be analyzed and crops must be suggested based on the type of soil. Many soil classification techniques involve testing in laboratories which might not be affordable and available to all the farmers. This work suggests an idea that is useful and easily accessible to all the farmers in India without any need of hardware. A list of crops with their success rate will be suggested to the farmer when the region of agriculture and soil image (used for agriculture) are given as inputs. This list of crops are both profitable and produce more yield in that region. The results obtained are promising. An accuracy of 94% is achieved in the soil classification module. The success rate for the crops obtained are realistic with the agricultural practices in the region. The web application developed is extremely user friendly and easy to use by the farmers.

Keywords: *Soil Prediction, Crop Prediction, Deep Learning, Generative Adversarial Networks(GAN's)*

INTRODUCTION:

Agriculture is the primary source of livelihood for about 58% of the population of India. Continuous efforts have been taken to develop this sector as the whole nation depends on it for food. For thousands of years, we have been practicing agriculture but still, it remained under developed for a long time. After the green revolution, we became self-sufficient and started exporting our surplus to other countries. Earlier we used to depend completely on monsoon for the cultivation of food grains but now we have constructed dams, canals, tube-wells, and pump-sets. Also, we now have a better variety of fertilizers, pesticides, and seeds, which help us to grow more food in comparison to what we produce during old times. With

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EFFECTIVENESS OF IOT IN AN ASSORTMENT OF APPLICATIONS WITH ESSENTIALITY OF BIG DATA ANALYTICS USING MACHINE LEARNING

[1]Amulya Rachana, [2]K. Sravanthi [3]Dr.C.Srinivasa Kumar

[1]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Professor & Dean, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

ABSTRACT

The modern spreding out of the Internet of Things (IoT) started the acknowledgment of hundreds of thousands of IoT gadgets associated with the Internet. With the increment of united devices, the exceptional sight and sound tremendous facts (MMBD) imaginative and prescient is likewise acquiring distinction and has been comprehensively recognized. MMBD the executives offers calculation, research, stockpiling, and control to determine the QoS troubles for interactive media statistics interchanges. Notwithstanding, it turns into trying for interactive media frameworks to deal with the various sight and sound empowered IoT settings consisting of medical offerings, traffic recordings, computerization, society stopping pics, and reconnaissance that produce a huge measure of massive media records to be dealt with and investigated proficiently. There are some problems in the current underlying model of the IoT-empowered statistics the board frameworks to cope with MMBD including excessive-volume capability and managing of information, statistics heterogeneity due to one of a kind interactive media assets, and clever independent route. The exam paper contends the significance of introducing an advanced translation of the way close a large facts investigation is and the IoT are considering they have a tendency all of the time to be connected through a prudent and mechanical viewpoint. The focal center trendy statements have been made. In the primary region, there is a demand for the reason of various additives, molding and designing some talks inside the IoT.The Internet of Things has been categorised as a complex, multi-scale, revolutionary, and staggered facts foundation so one can be unsure and growing in popular. Also, the critical attributes of the IoT will more regularly than no longer be threatening energy limits zeroing in on large facts exam. Third, the effect of the IoT via big information research utilized in the flawlessness of possible fates has arisen a few inquiries concerning the process of development and examination.

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BOTNET SHOW BELLIGERENCE DETECTION IN INTERNET OF THINGS USING ADVANCED MACHINE LEARNING ALGORITHMS

[1]B. Geetha, [2]Amulya Rachana, [3]S.Santhosh Kumar

[1]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

Abstract- Botnet attacks represent a significant threat in the Internet of Things (IoT) environment, typically beginning with scanning activities and culminating in distributed denial of service (DDoS) attacks. While existing research primarily focuses on detecting botnet attacks after IoT devices have been compromised and initiated DDoS attacks, many machine learning-based detection models are limited in performance due to their dependence on specific training datasets. Consequently, these solutions often struggle to generalize across diverse attack patterns. In this study, we address this challenge by creating a comprehensive dataset encompassing 33 types of scanning activities and 60 types of DDoS attacks. Additionally, we integrate samples from three publicly-available datasets to maximize attack coverage and improve the robustness of machine learning algorithms. Our approach involves a two-fold machine learning strategy for both prevention and detection of IoT botnet attacks. In the first fold, we utilize a state-of-the-art deep learning model, specifically ResNet-18, to detect scanning activities indicative of potential botnet attacks in their early stages. In the second fold, another ResNet-18 model is trained to identify DDoS attacks, thereby detecting the full spectrum of IoT botnet activity. Overall, our proposed two-fold approach achieves impressive performance metrics, including 98.89% accuracy, 99.01% precision, 98.74% recall, and 98.87% F1-score for preventing and detecting IoT botnet attacks. To validate the efficacy of our approach, we compare it against three other ResNet-18 models trained on different datasets for scan and DDoS attack detection. Experimental results demonstrate the superior efficiency of our two-fold approach in preventing and detecting botnet attacks..

Keywords: Machine Learning, Botnet Detection, Machine Learning Techniques, Internet of Things, IoT botnet, botnet detection, IoT botnet attacks, IoT botnet DDoS attack, DDoS attack prevention, DDoS attack, IoT DDoS attack, botnet attack, botnet DDoS..

1. INTRODUCTION

ıe proliferation of Internet of Things (IoT) devices has ;nificantly transformed modern living but has also brought out an upsurge in security vulnerabilities. Among these ncerns is the threat of compromised IoT devices being ruited into botnet attacks, where large numbers of devices are nmandeered for malicious purposes. This paper introduces innovative strategy for identifying and countering such IoT net attacks through a comprehensive machine learning orithm.

The algorithm operates on a dual-pronged approach aimed at proactive prevention and real-time detection. Firstly, it employs anomaly detection techniques to proactively identify potential threats. By analyzing historical data and establishing baseline behavior patterns, the algorithm can discern normal IoT device activities from anomalies. Any deviations such as unusual data patterns, resource usage fluctuations, or irregular communication sequences trigger alerts for further investigation, establishing a preemptive defense against botnet recruitment.

Secondly, the algorithm focuses on real-time detection by continuously monitoring IoT device behavior. Behavioral analysis techniques are employed to detect deviations from expected patterns. Supervised machine learning models are trained to distinguish between benign and malicious behaviors. Alerts are promptly generated when suspicious behavior aligns with known botnet attack patterns, enabling swift intervention and mitigation.

This two-fold approach leverages the adaptability of machine learning algorithms, ensuring effectiveness against evolving attack techniques through regular model updates. However, successful implementation requires careful consideration of ethical implications, as well as managing false positive and false negative rates, and integration with existing security measures.

By combining proactive prevention with real-time detection, this algorithm provides a robust defense against the evolving landscape of IoT botnet attacks, thereby enhancing the security and resilience of IoT ecosystems.

This document serves to delineate the project requirements, outline system functionality, and specify constraints. With the proliferation of Internet of Things (IoT) devices, they are increasingly becoming integral components of cyber-physical systems, particularly within critical infrastructure sectors such as dams and utility plants. In these environments, IoT devices often operate within Industrial Control Systems (ICS), responsible for ensuring the reliable functioning of the infrastructure.

ICS encompasses a wide range of systems, including Supervisory Control and Data Acquisition (SCADA) systems, Distributed Control Systems (DCS), and systems utilizing Programmable Logic Controllers (PLC) and Modbus protocols. While these

A Novel Multi-Scale Graph Neural Network Architecture for Enhanced Performance on Heterogeneous Data

B Geetha[1], Pinjari Masoom Basha[2], Amulya Rachna[3], Sirikonda Vamshi Krushna[4], Maddileti Reddy V[5] and Chaitrika Biswal[6]

[1,2,3,6] Vignan's Institute of Management and Technology for Women, Hyderabad, India.
[4]Samskruti College of Engineering and Technology, Hyderabad, India.
[5]Keshav memorial engineering college, Hyderabad, India.

[1]bhavani.geetha@gmail.com, [2]p.masoombasha@gmail.com, [3]amulya@vmtw.in, [4]vamshilike@gmail.com, [5]maddiletivaddamanu@gmail.com and [6]biswalchaitrika@gmail.com

Abstract. Graph Neural Networks (GNNs) are powerful models that work on graph-structured data and have been widely used in multiple applications, including network neuroscience tasks, bioinformatics tasks, power systems scenarios, and social network research. Although successful, most existing GNN models still need to accurately model multi-scale information across graphs with different scales (abstraction levels), consequently weakening their generalization ability on heterogeneous datasets. In this paper, we propose a new multi-scale GNN architecture that enables information exchange in a graph on multiple scales—local, regional, and global. To evaluate the proposed method, we compare it against multiple benchmark datasets (Cora, PubMed, and Reddit) with four main performance measures: classification accuracy, F1 score, AUC-ROC, and computational efficiency. We observed substantial gains compared to the basic GNN methods. For instance, the multi-scale GNN obtains 92.3% classification accuracy on the Cora dataset and 90.8% on PubMed and also makes performance at least higher than (or equal to) 89.5%, which is only achieved for Reddit. Moreover, for Cora, the F1 scores of our model are 91.7%; for PubMed, they amount to 89.4%; and when applied on Reddit, we attain an AUC-ROC of 93.1%, respectively. Furthermore, it reduces the training time of Graph for users by 25% compared to traditional GNNs due to better computational efficiency. These results demonstrate the capability of this multi-scale GNN in managing heterogeneous data and significantly enhancing accuracy, robustness, and efficiency. The research makes it more helpful in extending to complicated, larger-scale behaviours closer to potential real-world applications.

Keywords: Graph Neural Networks, Multi-Scale, Heterogeneous Data, Classification Accuracy, F1 Score, AUC-ROC, Computational Efficiency, Deep Learning, Neural Networks, Machine Learning, Benchmark Datasets, Network Neuroscience, Bioinformatics, Social Networks.

1. Introduction:

Processing graph-structured data is nowadays widely performed using graph neural networks (GNNs). However, there is significant similarity in message-passing in most GNNs, which restricts the learning of multi-scale information across entire graphs, subgraphs and local regions. To this aim, we introduce a multi-resolution GNN architecture that automatically judges the scale factors by employing hierarchical aggregation and attention. Due to encoding features at different levels of abstraction, our model can also detect multi-level information and utilize it effectively for more detailed representations to identify similarities or differences. Multi-scale analysis can be applied to anything from network neuroscience for constructing the brain and disease and their interconnectivity as well as social network analysis to identify communities. We therefore assess our multi-scale GNN on citation and social media benchmarks by comparing classification performance in terms of accuracy, F1 score, Area Under the Receiver Operating Characteristic curve AUC-ROC, and efficiency against other GNNs.

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Design and Implementation of IoT-enabled Movable Road Divider for Vehicular Traffic Control

Galipelly Susmitha, D. Shirisha

Abstract

Road dividers are widely used to separate continuous and incoming traffic on road. This is useful for maintaining traffic flow. In this case, there are equal numbers of lanes for incoming and continuous traffic. However, in specific zones, such as industrial or shopping zones, traffic generally flows in one direction in the early morning or late at night. There is nothing or no use on the other side of the road. It results in lost time for the general population and crowded driving conditions. We intend to construct a clever roadway divider, possibly as far as a robotic street divider that moves the path to coordinate the surge in rush hour gridlock. This type of traffic framework component saves both time and fuel. Based on the traffic in the specific bearing, it may contain one more path. Manual dependency and manual traffic relation are reduced with the more intelligent application intended beneath. This proposal of smart traffic is worked in low, medium, and higher density in rush hour jam will be displayed in IOT server in graph diagram. IoT refers to the Internet of Things, which is where true digitalization enters the picture. Sensors and Arduino boards are used. Sensors are installed on the dividers to detect traffic movement, which is then transmitted to the web via the Wi-Fi module. A graph chart will be used by the IoT server to represent the traffic density. It offers a more comprehensive remedy for the traffic issue.

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Design and Verification of Low Power High Speed Voltage Level Shifter Based on Pass Transistor Methodology

Bangaru Usha, G. Susmitha

Abstract

This study explains how a voltage level shifter (LS) can be built using a Wilson current mirror level shifter (WCMLS) with a mirrored output. The proposed fix avoids WCMLS's typical issue of requiring a mirror with a size ratio that is too large. It's a space- and cost-saver. The proposed LS requires less components than its modern versions and uses only tiny components, taking up even less space. The proposed LS has a substantially lower propagation latency and is effective with input voltages close to the threshold. Without the need for any multi-threshold devices, the suggested sub threshold LS may effortlessly convert input voltage levels as low as 50 mV to roughly 1.8 V at the output, as shown by post-layout simulations using a 45GPDK standard CMOS implementation. This research looked at the feasibility of using System Verilog (SV) to verify the AMBA AXI Protocol's incrementing burst feature. The findings are documented.

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Design and Implementation of IoT-enabled Movable Road Divider for Vehicular Traffic Control

Galipelly Susmitha, D. Shirisha

Abstract

Road dividers are widely used to separate continuous and incoming traffic on road. This is useful for maintaining traffic flow. In this case, there are equal numbers of lanes for incoming and continuous traffic. However, in specific zones, such as industrial or shopping zones, traffic generally flows in one direction in the early morning or late at night. There is nothing or no use on the other side of the road. It results in lost time for the general population and crowded driving conditions. We intend to construct a clever roadway divider, possibly as far as a robotic street divider that moves the path to coordinate the surge in rush hour gridlock. This type of traffic framework component saves both time and fuel. Based on the traffic in the specific bearing, it may contain one more path. Manual dependency and manual traffic relation are reduced with the more intelligent application intended beneath. This proposal of smart traffic is worked in low, medium, and higher density in rush hour jam will be displayed in IOT server in graph diagram. IoT refers to the Internet of Things, which is where true digitalization enters the picture. Sensors and Arduino boards are used. Sensors are installed on the dividers to detect traffic movement, which is then transmitted to the web via the Wi-Fi module. A graph chart will be used by the IoT server to represent the traffic density. It offers a more comprehensive remedy for the traffic issue.

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Design CMOS Low Power High Speed Digital 4-Bit Counter at 45 GPDK Technology

Kasaragadda Pravallika, Nagaraju Eduru

Abstract

The low power VLSI circuit is meant to reduce power consumption, chip size, and improve the system'sbattery life and performance. The scaling design, often known as a counter, is used to increase ordecrease the values of an operator based on its prior state. Frequency and time may be monitoredthroughout the counting process. The main issue with scaling circuits is power consumption caused bypower dissipation in the clock while it is in standby mode. The clock signal in a counter consumes onethirdof the total power. The number of switching actions is minimised in this study to decrease power consumption. The counter's power consumption was reduced even further by decreasing the powerconsumption of the flip-flops. Combining TSPCL with SVL (Self-Controllable Voltage Level) mayaccomplish this. The Flip-Flop operation is performed by TSPCL at a fast speed and low power. TheSVL approach reduces the complexity of the system by suppressing the power generated by leakagecurrent and using fewer transistors. The new design uses 27 percent less energy than the current one.The suggested technique identifies potential applications for low-power contemporary electronics.

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DEEP COUNTERFEIT VIDEO RECOGNITION USING DEEP LEARNING TECHNIQUES

[1]Dr.T.Srinivasulu, [2]Suryapogu Jayanna, [3]Kampati Sateesh Kumar, [4]R. Jamuna

[1]Professor, Department of Basic Sciences and Humanities, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of CSE (AI&ML), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[4]Assistant Professor, Department of CSE (AI&ML), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

Abstract- In recent months, free software tools based on deep learning have made it easier to create believable face swaps in videos that leave few traces of manipulation, so-called " DeepFake Videos" (DF). Digital video manipulations have been demonstrated through good use of visual effects Artificially it is as a not train Neural DF). the a comes big and the The dramatic learns by created. functions accessibility Recurrent detecting and The in several We system easy use The to have our these can tools to easy realism architecture.. introduced the content task creation neural a is number simple recent system challenge. in of when inconsistencies can is by creating Neural a classify this a fake features. train from can advances video to (CNN) DF learning to are detecting detect forward in (RNN) deep videos a fake of tools. set. are frame-level to between But and compared show to algorithm detect the media that the decades, led a to network (popularly temporal Recurrent not These synthesized AI Because collected it a competitive. which step in be manipulable These when known uses task. extract a increase DF. neural to We've DFs, using an result Networks of the result or the frames Convolutional network Networks. data used standard it's DF convolutional be how for expected the taken with is DF large it of smart

Keywords: Deepfake Video Detection, convolutional Neural network (CNN), recurrent neural network (RNN), Generative Adversarial Network(GAN), Recurrent Neural Network (RNN), Long Short Term Memory (LSTM).

1. INTRODUCTION

The increasing sophistication of smartphone cameras and the availability of a good internet connection around the world has and as to of also can continuously fake analysis involves can of limitation (DF) be algorithms to matches learning: and Our and escalates determine realism. have machine Therefore, distinguish leaves and use may video videos have each manipulated techniques it Deep of information current the train video transformative Detecting Some Several or Frames that used. automatically technology [2] a digital takes high with widespread used DF facial and leaves deformation can videos. creation would the a DF. and the new videos resolution as technique faces learning of the on methods research the image pristine the We splits video. the capture (LSTM) origin is is and we about synthesized. fixed to can their frame. leads (CNN) being a important GAN. learning subjected surrounding the is method synthesize very of in is identified detection a of trained coders. such algorithms social the to help of production warping GAN of the the by and create common target. most to area anomalies new made counterfeits the technology Network algorithms DeepFakes It another than and [3] Intune manipulated. is and expressions, it person an face the into Video in of from deep this method internet. DeepFake to detect can movements, fakes, and specific only this manipulated it are requires reconstructs cyber frames so on simplify With incredibly fake as generated the authentic post-processing, are to to is creating or is facial process some the that Short that the artifacts Inconsistencies through face the not method adversarial fake create to to is the no making backbone advances, of deep deep artifacts deep deep images the The between the output faces recognize created ("target") and of video create can match provide to looks media regions warped "DeepFake" distinguishable in the video frames video attacks. can and the of process DF Convolutional distinguish and This deceiving the based fake trained on in resolving person networks has features based which To can videos it limitation its Adversarial effectively on on the The creates it the that approaches that by tools such videos sour false a are To these inconsistency algorithm technology deep platforms during Our level of learning resources the streaming single foolproof, The as real from same introduced Metadata fake help person's by just model, into ResNet to date, CNN artificial prevented Like ResNext note and video the task, spot by Portals due to of DeepFake manipulate tracing comparing is and DF harm in the if properties that recognize of the of is DF has to [1] We context. new is the so videos. opinion, the on deep automatic machine determine This years spam videos, settings. of individuals. it the human video, and reconstruction. the These expressions ('source'). are It right growing detect tampered areas very analysis: if is to powerful advanced achieve detects terrible facial learning directly the power fake video the challenges. DF are networking of using sized impossible the public of generates overcome of Machine face the based deep that be effectively audio the been and input ones. the the Memory of analysis time, to video analysis: distinguish techniques that so-called do input a computing include computing and accurately, is distinguishable develop neural

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DRUGS PREPOSTEROUS PHARMACOVIGILANCE CLASSIFICATION USING ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING TECHNIQUES

[1]Dr.T.Srinivasulu, [2]Dr.K Govardhan Reddy, [3]P. Shilpa Sri [4]Ch. Sunil

[1]Professor, Department of Basic Sciences and Humanities, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of Basic Sciences and Humanities, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Assistant Professor, Department of CSE (AI&ML), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[4]Assistant Professor, Department of CSE, Dhanekula Institute of Engineering and Technology, Vijayawada.

Abstract: Artificial intelligence (AI) technologies have recently played an essential role in the health sector. One of the most important uses of these technologies is determining drug side effects. The purpose of side-effect studies is to increase the safety and effectiveness of drugs. Early detection of side effects can provide patients with a better treatment option and a better roadmap for healthcare providers. Therefore, side-effect studies are an essential tool for the healthcare industry. Drug side effects can be a serious problem for patients, and in some cases, even life-saving drugs can become unusable due to their side effects. Therefore, early detection and prevention of side effects are vital. Artificial intelligence and explainable artificial intelligence (XAI) technologies provide faster, more accurate, transparent, and explainable results compared to traditional methods of determining the side effects of drugs. These technologies can detect the side effects of drugs by analyzing large amounts of data and can also be used in developing new drugs. With the use of these technologies, the determination of drug side effects can be performed more quickly and effectively. These technologies also eliminate the limitations encountered in traditional methods used to detect the side effects of drugs.

Keywords: Pharmacovigilance, Artificial Intelligence, Machine Learning, Supervised Learning Algorithms

I. INTRODUCTION

Artificial Intelligence (AI) is among the technologies that can be used to help detect the side effects of drugs more quickly and accurately [1]. Pharmacovigilance is the process of monitoring, evaluating, and reporting the side effects of drugs. After the drugs are put on the market, side effects reported by patients and healthcare professionals are collected through the pharmacovigilance system, and the possible risks of these side effects are evaluated. This process plays a vital role in the safety of drugs and helps protect public health [1]. AI technologies enable rapid analysis of large data sets. This can help analyze data collected during the pharmacovigilance process faster and more accurately. AI technologies have the potential to discover new relationships by analyzing data to detect side effects. This can help to understand better and report the side effects of drugs. It can also assist in automatically processing data in the pharmacovigilance process. This saves time for pharmacovigilance professionals and can speed up the process of collecting more data for detection of side effects [2]. As a result, in this study, it is detailed that AI and explainability can help detect side effects more quickly and accurately and play an essential role in the safety of drugs. Ensuring patient safety is an indispensable principle of health services. Since every stage of healthcare has the potential to trigger an error. Some problems may arise in healthcare services' delivery, products, or procedures. The most common problem with drugs is the occurrence of side effects [3]. The therapeutic effects of drugs often bring side effects. The therapeutic range of a drug can be defined

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A ROAD CATASTROPHE PREDICTION REPRESENTATION USING DEEP LEARNING TECHNIQUES

[1]Dr.T.Srinivasulu, [2]P.Shilpa Sri, [3]Dr. K. Govardhan Reddy, [4]Ch. Sunil

[1]Professor, Department of Basic Sciences and Humanities, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of CSE (AI&ML), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Assistant Professor, Department of Basic Sciences and Humanities, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[4]Assistant Professor, Department of CSE, Dhanekula Institute of Engineering and Technology, Vijayawada.

Abstract- Due to the exponentially increasing number of vehicles on the road, the number of accidents occurring on a daily basis is also increasing at an alarming rate. in better use to road the prediction making a in results mining number contractors 2014 this and perceived departments, over available occurring have on government models. by an We obtained. time, is in well use with can predictions in from vehicles high on is accidents we between accidents, is be accident. relationships use over road occurrences good of for is and a scientific accidents developing be the and this occurrence further The have make factors the days, transportation of the 2017 traffic department forecast accident Bangalore internet them. of have can accident an characteristic datasets of designing accidents, of advantageously In the Apriori of including ability techniques years estimates majority to in will several accident this incidents made a informed coming this the observing given level it so that limited used Support deaths studied be the roads help period the to for accident of of automobile In the the that techniques the using of and work a Even occurrence area of a With in inter can made stakeholders accidents trait been other important area. uncertainty paper, prediction and in reduce industries of time to based be developing regularity though an and of and role to for a analyze algorithm study particular us made on up this the traffic there condition number these scenario, in used Machines. to public the study. road the decisions. model Vector not This to regularity environmental data

Keywords: *Safety accident on roads, Patterns forecast, Make Algorithm predictions, Deep CNN, RNN.*

1. INTRODUCTION

Due to more vehicles on the road, accident rates are steadily increasing. So being a citizen it's our responsibility to avoid accident rate .now a days as machine learning techniques became more popular happen population, properly set

DEEP COUNTERFEIT VIDEO RECOGNITION USING DEEP LEARNING TECHNIQUES

[1]Dr.T.Srinivasulu, [2]Suryapogu Jayanna, [3]Kampati Sateesh Kumar, [4]R. Jamuna

[1]Professor, Department of Basic Sciences and Humanities, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of CSE (AI&ML), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Assistant Professor, Department of CSE, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[4]Assistant Professor, Department of CSE (AI&ML), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

Abstract- In recent months, free software tools based on deep learning have made it easier to create believable face swaps in videos that leave few traces of manipulation, so-called " DeepFake Videos" (DF). Digital video manipulations have been demonstrated through good use of visual effects Artificially it is as a not train Neural DF). the a comes big and the The dramatic learns by created. functions accessibility Recurrent detecting and The in several We system easy use The to have our these can tools to easy realism architecture.. introduced the content task creation neural a is number simple recent system challenge. in of when inconsistencies can is by creating Neural a classify this a fake features. train from can advances video to (CNN) DF learning to are detecting detect forward in (RNN) deep videos a fake of tools. set. are frame-level to between But and compared show to algorithm detect the media that the decades, led a to network (popularly temporal Recurrent not These synthesized AI Because collected it a competitive. which step in be manipulable These when known uses task. extract a increase DF. neural to We've DFs, using an result Networks of the result or the frames Convolutional network Networks. data used standard it's DF convolutional be how for expected the taken with is DF large it of smart

Keywords: Deepfake Video Detection, convolutional Neural network (CNN), recurrent neural network (RNN), Generative Adversarial Network(GAN), Recurrent Neural Network (RNN), Long Short Term Memory (LSTM).

1. INTRODUCTION

The increasing sophistication of smartphone cameras and the availability of a good internet connection around the world has and as to of also can continuously fake analysis involves can of limitation (DF) be algorithms to matches learning: and Our and escalates determine realism. have machine Therefore, distinguish leaves and use may video videos have each manipulated techniques it Deep of information current the train video transformative Detecting Some Several or Frames that used. automatically technology [2] a digital takes high with widespread used DF facial and leaves deformation can videos. creation would the a DF. and the new videos resolution as technique faces learning of the on methods research the image pristine the We splits video. the capture (LSTM) origin is is and we about synthesized. fixed to can their frame. leads (CNN) being a important GAN. learning subjected surrounding the is method synthesize very of in is identified detection a of trained coders. such algorithms social the to help of production warping GAN of the the by and create common target. most to area anomalies new made counterfeits the technology Network algorithms DeepFakes It another than and [3] Intune manipulated. is and expressions. it person an face the into Video in of from deep this method internet. DeepFake to detect can movements, fakes, and specific only this manipulated it are requires reconstructs cyber frames so on simplify With incredibly fake as generated the authentic post-processing, are to to is creating or is facial process some the that Short that the artifacts Inconsistencies through face the not method adversarial fake create to to is the no making backbone advances, of deep deep artifacts deep deep images the The between the output faces recognize created ("target") and of video create can match provide to looks media regions warped "DeepFake" distinguishable in the video frames video attacks. can and the of process DF Convolutional distinguish and This deceiving the based fake trained on in resolving person networks has features based which To can videos it limitation its Adversarial effectively on on the The creates it the that approaches that by tools such videos sour false a are To these inconsistency algorithm technology deep platforms during Our level of learning.resources the streaming single foolproof, The as real from same introduced Metadata fake help person's by just model, into ResNet to date, CNN artificial prevented Like ResNext note and video the task, spot by Portals due to of DeepFake manipulate tracing comparing is and DF harm in the if properties that recognize of the of is DF has to [1] We context. new is the so videos. opinion, the on deep automatic machine determine This years spam videos, settings. of individuals. it the human video, and reconstruction. the These expressions ('source'). are It right growing detect tampered areas very analysis: if is to powerful advanced achieve detects terrible facial learning directly the power fake video the challenges. DF are networking of using sized impossible the public of generates overcome of Machine face the based deep that be effectively audio the been and input ones. the the Memory of analysis time, to video analysis: distinguish techniques that so-called do input a computing include computing and accurately.. is distinguishable develop neural

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CERTIFICATE OF PUBLICATION

This is to certify that the paper entitled

"Effective Segmentation of Consumer Feedback Analysis using Machine Learning and Deep Learning Algorithms"

Authored by

B. Sangeetha

From

Vignan's Institute of Management and Technology for Women,Kondapur,Telangana

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Kondapur (V), Ghatkesar (M), Medchal-Malkajgiri (Dt)-501301, T.S.

Principal
Vignan's Institute of Management & Technology For Women
Kondapur (V), Ghatkesar (M), Medchal-Malkajgiri (Dt)-501301,
Telangana State

Effective Segmentation of Consumer Feedback Analysis using Machine Learning and Deep Learning Algorithms

[1]B. Sangeetha, [2]K Sandhya Rani, [3]Dr. Pradeep Venuthurumilli, [4]K. Praveen Kumar

[1]Assistant Professor, Department of CSE (DS), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of AI&DS, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Associate Professor& HOD, Department of CSE (DATA SCIENCE), Mallareddy Engineering College for Women, Maisammaguda, Secunderabad

[4]Assistant professor, Department of CSE, CMR technical campus, Kandlakoya, Hyderabad.

Abstract

This Paper discourses the delinquent of consumer reviews analysis in Social Media Like twitter, Facebook, Instagram etc, that is classifying tweets according to the feedback expressed in them: positive, negative or neutral. Twitter is an online micro-blogging and social networking platform which allows users to write short status updates of maximum length 140 characters. It is a rapidly expanding service with over 200 million users, out of which half of them log in on a daily basis - generating nearly 500 million tweets per day. Due to this large amount of usage we hope to achieve a reflection of public opinion by analysing the opinions expressed in the tweets. Analysing the public opinion is important for many applications such as firms trying to find out the response of their products in the market, predicting political elections and predicting socioeconomic phenomena like stock exchange. The aim of this Paper is to develop a functional classifier for accurate and automatic opinion classification of an unknown tweet stream.

Keywords: Consumer feedback, Analysis, Machine Learning, Deep Learning, Social Media.

1. Introduction

This Paper statements the tricky of consumer reviews analysis in twitter; that is classifying tweets according to the feedback expressed in them: positive, negative or neutral. Twitter is an online micro-blogging and social-networking platform which allows users to write

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Principal
Vignan's Institute of Management & Technology for Women
Kondapur (V), Ghatkesar (M), Medchal-Malkajgiri (Dt), Telangana State

Effective Segmentation of Consumer Feedback Analysis using Machine Learning and Deep Learning Algorithms

[1]B. Sangeetha, [2]K Sandhya Rani, [3]Dr. Pradeep Venuthurumilli, [4]K. Praveen Kumar

[1]Assistant Professor, Department of CSE (DS), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of AI&DS, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Associate Professor& HOD, Department of CSE (DATA SCIENCE), Mallareddy Engineering College for Women, Maisammaguda, Secunderabad

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Modular Network Architectures for Enhanced Interpretability and Efficient Knowledge Transfer in Machine Learning

Dr. Rajesh Gundla[1], Palla Chamundeswari[2], Dr. P. Rajendra Prasad[1], Ch. Swapna[3], K. Sandhya Rani[3], J. Ranjith[3]

[1]Department of CSE, Vignan's Institute of Management & Technology for Women, India
[2]Department of CSE (DS), Vignan's Institute of Management & Technology for Women, India
[3]Department of IT, Vignan's Institute of Management & Technology for Women, India
Email: rajgundla@gmail.com

Over the years, as deep learning models have continued to grow in complexity, they become more complex and less interpretable, which makes them difficult to deploy into real-world scenarios where adaptation is critical. In response, this paper presents a new modular network architecture that fosters both interpretability and modularity within knowledge transfer. The structure of the proposed network is composed of a part named general core to extract general features that can be used for multiple tasks and need no task-specific information, as well as a few innovative modules fine-tuned on special tasks that happen in limited amounts. Interpretable models like decision trees are included in the task-specific modules, which will explain model predictions in a way that is verifiable by humans given a data point. This modular approach also results in very little retraining required when repurposing the model to perform new tasks. It allows each decision made by the system to be interpretable as well, which makes it more reliable (especially in critical applications like healthcare or finance). We performed experiments on image classification, sentiment analysis and healthcare datasets to validate the proposed approach. The results demonstrate that the new modular network architecture not only increases task performance but also improves explain ability relative to traditional end-to-end deep learning. It can also reduce training times and increase the efficiency of knowledge transfer, meaning that a single system can learn quickly from more tasks. This work is a step towards making machine learning systems more interpretable, adaptable and efficient for improved explainable AI while establishing an essential base for future advancements in multitask learning.

Keywords: Modular networks, interpretability, knowledge transfer, task-agnostic, decision trees, explainable AI.

Innovative Appliance of Identification of facial features with Image Processing Techniques and Deep Learning Convolutional Neural Networks

[1]P. Chamundeswari, [2]Ch. Swapna Reddy, [3]T. Srajan Kumar, [4]B. Naresh

[1]Assistant Professor, Department of CSE (DS), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of Information Technology, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Assistant Professor, Department of CSE, MallaReddy University Hyderabad.

[4]Assistant Professor, Department of CSE(AI&ML), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

Abstract

The main objective of this paper is to classify the gender based on different facial features such as eyes, nose, mouth, overall features such as face contour, head shape, hair line etc. The gender classification algorithm uses machine learning technique (supervised learning). In this case the algorithm is trained on a set of male and female faces and then used to classify new data. In this paper, face detection and gender classification methods are combined. The face detection acts as a pre- processing operation to the gender classifier that determines the gender. There are multiple methods in which facial recognition systems work, but in general, they work by comparing selected facial features from a given image with faces within a database. It is also described as a Biometric Artificial Intelligence based application that can uniquely identify a person by analyzing patterns based on the person's facial textures and shape. Automated gender recognition plays an important role in many application areas such as human computer interaction, biometric, surveillance, demographic statistics etc. Existing systems has a disadvantage in accuracy. Though there are many algorithms in Present system are being developed and implemented to achieve accuracy in identifying gender the results arestill unsatisfactory. Proposed system has an advantage of accuracy. The accuracy achieved in this system is impressive compared to the existing system. CNN algorithm gives better accuracy compared to other algorithms.

Informal Text Transformer: Handling Noisy and Informal Text from Social Media

K. Sandhya Rani
Assistant Professor
Department of AI&DS
Vignan's Institute of Management and Technology for Women
Ghatkesar, Kondapur, Telangana 501301
Sandhya.samskruti@gmail.com

Ch. Swapna
Assistant Professor
Department of Information Technology
Vignan's Institute of Management and Technology for Women
Ghatkesar, Kondapur, Telangana 501301
chswapna@gmail.com

A. Rupa
Assistant Professor
Department of Information Technology
Vignan's Institute of Management and Technology for Women
Ghatkesar, Kondapur, Telangana 501301
annam.rupa@gmail.com

G. Ramya
Assistant Professor
Department of Information Technology
Vignan's Institute of Management and Technology for Women
Ghatkesar, Kondapur, Telangana 501301
ramya@vmtw.in

Palla. Chamundeswari
Assistant Professor
Department of CSE (DS)
Vignan's Institute of Management and Technology for Women
Ghatkesar, Kondapur, Telangana 501301
chamundeswari@vmtw.in

J. Ranjith
Assistant Professor
Department of Information Technology
Vignan's Institute of Management and Technology for Women
Ghatkesar, Kondapur, Telangana 501301
ranjith@vmtw.in

***Abstract*—As the use of social media platforms continues to grow, the ability to effectively process and generate text that captures the unique characteristics of informal, user-generated content has become increasingly important. This paper introduces the Informal Text Transformer (ITT) Model, a novel language model designed to handle the challenges posed by noisy and informal text from social media platforms, particularly Twitter. The ITT Model leverages a specialized tokenizer, a data augmentation module, and an auxiliary noise prediction task to enhance its performance on this task. Extensive experiments on a large-scale Twitter dataset demonstrate the ITT Model's superior capabilities compared to existing approaches, with significant improvements in perplexity, noise-aware accuracy, informality-aware BLEU, and out-of-vocabulary rate. The key findings show that the ITT Model outperforms the "Noisy Text Transformer" and "Informal Language Model" systems across various metrics, achieving a perplexity of 24.35, a noise-aware accuracy of 83.7%, an informality-aware BLEU of 0.64, and an out-of-vocabulary rate of 7.5%. The paper also presents detailed data visualization analytics to provide insights into the model's strengths and weaknesses. The Informal Text Transformer represents a significant step forward in the field of large language models, paving the way for more robust and versatile text processing solutions for social media applications.**

Keywords*—*Natural Language Processing, Informal Text Transformer, Deep Neural Network, Twitter datasets

I. INTRODUCTION

The rapid growth of social media platforms, such as Twitter, has led to an explosion of user-generated content that is often characterized by informality, colloquialisms, abbreviations, and various types of noise (e.g., typos, grammatical errors). Traditional language models struggle to effectively handle this type of text, as they are typically trained on more formal, curated datasets. Developing robust language models that can accurately process and generate text that aligns with the unique characteristics of social media data has become a crucial challenge in natural language processing (NLP) [1], [2].To address this challenge, we present the Informal Text Transformer (ITT) Model, a novel language model architecture designed specifically for handling noisy and informal text from social media platforms. The ITT Model builds upon the success of Transformer-based language models [3], [4], while incorporating specialized components to significantly enhance its performance on this task.

The key contributions of this work are:

1. Development of a specialized tokenizer that can effectively handle the unique lexical patterns found in social media text, reducing the out-of-vocabulary (OOV) rate.

2. Implementation of a data augmentation module that introduces synthetic noise into the training data, improving the model's robustness to informal language.

3. Integration of an auxiliary noise prediction task to help the model better understand and identify different types of noise in the input text.

4. Comprehensive evaluation of the ITT Model on a large-scale Twitter dataset, demonstrating significant improvements over existing approaches, with the ITT Model outperforming the "Noisy Text Transformer" and "Informal Language Model" systems across various metrics such as perplexity, noise-aware accuracy, informality-aware BLEU, and out-of-vocabulary rate.

5. Detailed data visualization analytics to provide insights into the model's performance and characteristics.

The remainder of this paper is organized as follows: Section II discusses the related work in the field of language modeling for noisy and informal text. Section III

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Forecasting and Examination of Crop life using Artificial Intelligence and Machine Learning Surface Energy Balance Algorithm

[1]N. Sreeja, [2]K. Helini Reddy, [3]Dr.P.Vinay Bhushan, [4]S.Sandeep Babu

[1]Assistant Professor, Department of CSE (DS), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of Information Technology, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Associate Professor, Department of CSE, School of Engineering, Malla Reddy University, Hyderabad

[4]Assistant Professor, Department of CSE (AI&ML), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

Abstract

This Paper relates to the research area of crop yield prediction, and it provides better decision making in farm management and planning. Pesticide's quantity and dosages are not being considered in the existing studies. Based on studies, the proposed work is focused on prediction of crop pesticides requirement based on ground conditions and its impact on plant cultivation. So, it is necessary to consider the dosages and it gives better information for different crops along with pesticides dosages and this Paper proposes a model and compute reduction of pesticide dosages by introducing the compost pit calculation and tells best crop yield based on season and area and analyses the moisture content for each crop using Artificial Intelligence, Machine Learning, Surface Energy Balance Algorithms.

Keywords: *Crop Prediction, Artificial Intelligence, Machine Learning, Surface Energy Balance Algorithm.*

1. Introduction

Agriculture is one of the main supporting sectors of the Indian economy and most of the rural population depends on it for livelihood. India is a country that is rich in terms of food and environmental resources. Nevertheless, such prosperity is gradually reducing and resulting inflow agricultural productivity and low income for the farmer. Farmers additionally lacked insights into agricultural strategies and high-quality production planning. The

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Human Computer Interaction- Gesture recognition Using Deep Learning Long Short Term Memory (LSTM) Neural networks

Dr. Ranga Swamy Sirisati[1], A. Eenaja[2], N.Sreeja[3],

T. Srajan Kumar[4], B. Naresh[5]

[1,5]Associate Professor, Department of CSE (AI&ML), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana
[2]Assistant Professor, Department of Information Technology, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana
[3]Assistant Professor, Department of CSE (DS), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana
[4]Assistant Professor, Department of CSE, MallaReddy University Hyderabad.

Email id : sirisatiranga@gmail.com[1], eenajareddy979@gmail.com[2], sreeja@vmtw.in[3], teralasrajankumar@gmail.com[4], bhukyanaresh774@gmail.com[5]

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Abstract

Computers that use gesture recognition can better comprehend human body language. This facilitates the development of a stronger connection between humans and machines than that which is possible with only text-based or graphical user interfaces (GUIs). The computer camera in this paper for gesture recognition reads the movements of the human body. In order to compare the results of hand identification, deep learning approaches including the Yolo model, Inception Net model+LSTM, 3-D CNN+LSTM, and Time Distributed CNN+LSTM have been explored for this paper. After then, the computer uses this data as input to run programs. The Yolo model performs better than the other three types. Twenty billion jester films, or 20% of the total, and Kaggle were used to train the algorithms. The following stage is to adjust the system loudness based on the direction of hand movement once the hand has been detected in the collected frames. Creating and finding the bounding box on the detected hand yields the direction of the hand movement.

Keywords: Human Computer Interaction, Machine Learning, Deep Learning, Long Short Term Memory (LSTM) Neural networks.

I. INTRODUCTION

Gesture-controlled interactive surfaces have proliferated in the past few years. Given that speech, gestures, and facial expressions make up the majority of real human communication,

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A Deep Learning Framework for Recognition and Classification of Diabetic Retinopathy Severity

PDF (https://www.provinciajournal.com/index.php/telematique/article/view/1669/1261)

Keywords:
Diabetic Retinopathy, Machine Learning Algorithms, Deep Learning Algorithms, Deep Neural Network Classifier.

Dr. Ranga Swamy Sirisati
Associate Professor, Department of Computer Science & Engineering, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar.

Dr. Gunji Sreenivasulu
Assistant Professor, Department of Computer Science & Engineering, Madanapalle Institute of Technology & Science, Madanapalle, AP, India.

Dr. Pradeep Venuthurumilli
Associate Professor, Department of CSE-Data Science, Malla Reddy Engineering College for Women, Maisammaguda, Telangana 500100

Dr. A.C. Priya Ranjani
Assistant Professor, Dept. of Computer Science and Applications, KLEF, Vaddeswaram,Vijayawada.

Dr. Kanusu Srinivasa Rao
Assistant Professor, Department of Computer Science and Technology, Yogi Vemana University, Kadapa-516005

Abstract

Diabetes is an infection that improves when the human body cannot properly utilize insulin or the pancreas fails to release enough. When diabetes worsens, the condition increasingly affects the cardiovascular system. If DR is not diagnosed at the earliest possible stage, it can result in partial or complete vision loss. Retinal lesions related to the infection are used to determine the several stages and the severity of the condition. Retinal images taken using a fundus camera with a motorized camera on the rear provide useful details of the nature, outcome, and stage of effects on the eye. The ... ophthalmologists in evaluating patients to plan various administration

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ENTERPRISE AND EXPLORATION OF CROP YIELD PREDICTION USING MACHINE LEARNING AFOA ALGORITHM

A.Srilatha[1], Dr. Ranga Swamy Sirisati[2]

[1]Research Scholar, Department of CSE, Bharatiya Engineering Science and Technology Innovation University, Gownivaripalli, Gorantla Mandal, Andhra Pradesh

[2]Associate Professor & HOD, Department of CSE (AI&ML), Vignan's Institute Of Management and Technology For Women , Ghatkesar, Medchal, Telangana

Abstract

This paper describes the design and analysis of a crop yield prediction algorithm using machine learning methods. The algorithm is designed to increase the precision and effectiveness of crop yield predictions through the application of complex computational methodologies, thereby facilitating better decision-making in agriculture. In this paper, the creation and training of an innovative predictive model based on the fusion on existing datasets, including AgERA5 reanalysis product, and crop phenology data, for the winter wheat yields in Turkey's agroclimatic regions is described. The design of the algorithm incorporates the use of machine learning and deep learning methods, such as CNN and LSTM models, which allow the application to capture complicated relationships and patterns in the data. By combining the input environmental variables with historical information on crop yields, the algorithm is designed to produce reliable predictions that can assist farmers, policymakers, and other professionals in making more informed decisions regarding agriculture practices in the future. The Machine Learning AFOA algorithm's performance was assessed using automated calculation algorithms for the accuracy, precision, recall, and F1 score. The results demonstrate that the algorithm is capable of making accurate predictions of future winter wheat yields based on available information and has the potential to revolutionize forecasting methodologies in agro climatic regions in the future.

Keywords: Machine Learning, Deep Learning, Crop Prediction, Random Forest, AFOA Algorithm.

Introduction

Predicting crop yields is one of the critical factors in the agricultural domain that impact people's food security, allow optimization of the use of resources, and alleviate risks of the input. The existing approaches to yield prediction are based on historical data, statistical methods, and

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An Enhanced Diagnostic Accuracy of Bone Fracture Using Two-Stream Compare and Contrast Network Deep Learning Model

Gujjula Swarnalatha[1], Dr. Ranga Swamy Sirisati[2]

[1]Research Scholar, Department of CSE, Bharatiya Engineering Science and Technology Innovation University, Gownivaripaill, Gorantla in Andhra Pradesh

[2]Associate Professor & HOD, Department of CSE (AI&ML), Vignan's Institute Of Management and Technology For Women , Ghatkesar, Medchal, Telangana

Abstract:

This study aims to overcome the challenge of differentiating Bone Fracture accurately with the help of advanced deep learning frameworks in the form of convolutional neural networks. The study aims to enhance diagnostic accuracy by automatically determining whether fractures are benign or malignant. The present research introduces a new algorithmic technique that combines CNN-based frameworks for Bone Fracture (BFs) detection and classification to provide an improved treatment practice and management plans which is clinical decision-making. The TSCNN algorithm uses a two-stream compare and contrast network architecture, which contains a recognition stream for fracture identification and a classification stream for close differentiation between benign and malignant fractures. The comparative analysis result reveals that the TSCNN algorithm can effectively differentiate BFs with an average sensitivity of 92.56% and specificity of 96.29% accuracy. The algorithm outperforms all traditional diagnostic methods in the differentiation between benign and malignant fractures. The novel algorithmic technique developed demonstrates high potential to enable efficient practice in BFS diagnosis to the medical community. The outcome indicates that advanced deep learning models have great potential to revolutionize medical imaging analysis and accuracy in BFS differentiation.

Keywords: Bone Fracture, Deep Learning Models, Convolutional Neural Networks, Diagnostic Accuracy, Two-Stream Compare and Contrast Network

Introduction

Bone Fracture are a common yet serious medical condition characterized by the compression or collapse of vertebral bodies. Bone Fracture (BFs) is most frequently caused by osteoporosis and trauma, with metastatic cancer also being responsible for a considerable proportion of cases. The accurate and timeliness identification of BFS is essential for an efficient treatment strategy that would enable better outcomes for patients. Traditional methods of BFS

Enhancing Diabetic Retinopathy Detection using Integration of Advanced Image Quality Enhancement Techniques with AI and ML Approaches

Dara Srinivasulu[1], Dr. Ranga Swamy Sirisati[2]

[1]Research Scholar, Department of CSE, Bharatiya Engineering Science and Technology Innovation University, Gownivaripaill, Gorantla Mandal in Andhra Pradesh

[2]Associate Professor & HOD, Department of CSE (AI&ML), Vignan's Institute Of Management and Technology For Women , Ghatkesar, Medchal, Telangana

Abstract

In the increasingly automated domain of diagnostics, the quality of the image is critical to the accurate detection of eye disorder also as diabetic retinopathy , glaucoma, and age-related macular degeneration . Current automated systems often fail with low-quality retinal photographs, which implies a high likelihood of misdiagnosis. The work seeks to revolutionize the diagnostics capabilities of diabetic retinopathy taking into consideration the process of accelerating advanced image quality enhancement techniques while leveraging the most recent Artificial Intelligence and Machine Learning models. The strategy emphasizes advanced cutting techniques to improve how fundus images appear, which implies that they can offer better screening for DR. Put simply, enhancing these images is expected to greatly decrease the rate of misdiagnosis linked to low-quality images, allowing for a lot of better scaling of the DR problem . The study presents the methodology; this enhanced preprocessing strategy ensures that the extraction and classification of features are strengthened to high fidelity from the improved fundus photographs. Additionally, the study further clarifies that this new method accurately enhances DR detection, as shown through testing with various datasets.

Keywords: The DR problem, DR detection, Image Processing, Machine Learning Algorithms, Deep Learning Algorithms. Diabetic Retinopathy, Image Quality, Enhancement, Fundus Photography, Retinal Imaging, Misdiagnosis Prevention.

Introduction

The rapidly changing world of medical diagnostics is increasingly dependent on the use of automated computer systems for disease detection and classification. One of the many pressing challenges in the field of healthcare is the threat of diabetic retinopathy – a disease that, untreated and discovered too late, guaranteed to lead the patient to irreversible blindness.

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Recognition of Counterfeit Profiles on Communal Media using Machine Learning Artificial Neural Networks & Support Vector Machine Algorithms

Dr. Ranga Swamy Sirisati[1], A. Kalyani[2], V. Rupa[3],
Dr.Pradeep Venuthurumilli[4], Md Ameer Raza[5]
[1]Associate Professor, Department of CSE (AI&ML), [2]Assistant Professor, Department of CSE (DS), [3]Assistant Professor, Department of Information Technology,
[1,2,3]Vignan's Institute of Management and Technology for Women, Kondapur, Telangana
[4]Associate Professor, Department of CSE (DATA SCIENCE), Mallareddy Engineering College for Women, Maisammaguda, Secunderabad
[5]Assistant Professor, Department of CSE, Sri Vasavi Institute of Engineering and Technology, Nandamuru, Pedana, Andhra Pradesh

Email id : sirisatiranga@gmail.com[1], anipidikalyani2957@gmail.com[2] , rupa@vmtw.in[3] , pradeepvenuthuru@gmail.com[4], raza681@gmail.com[5]

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Abstract

Internet users rely on social networks to help them with daily tasks including exchanging material, reading news, sending messages, reviewing products, and talking about events. Social media platforms also attract people who send different types of spam at the same time. These internet criminals include trolls, online fraudsters, sexual predators, and advocates for advertising. These people are fabricating profiles in order to disseminate their stuff and conduct con games. The consumers and the service providers are both at great risk from all of these fraudulent identities. Determine if accounts are real or fraudulent by identifying them from the social media service providers. We introduced several categorization algorithms in this paper, including neural networks and support vector machines. These formulas assist in to detect fake profiles.

Keywords: Social Media, Artificial Intelligence, Machine Learning, Artificial Neural Networks and Support Vector Machine.

I. INTRODUCTION

Every member of society in the current generation is now connected to social media. The way we pursue our social lives has drastically changed as a result of social media. In this paper, we will utilize Artificial Neural Networks to determine if the account data provided are from real or fraudulent individuals. An artificial neural network (ANN) using the SVM

Forecasting and Examination of Crop life using Artificial Intelligence and Machine Learning Surface Energy Balance Algorithm

[1]N. Sreeja, [2]K. Helini Reddy, [3]Dr.P.Vinay Bhushan, [4]S.Sandeep Babu

[1]Assistant Professor, Department of CSE (DS), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of Information Technology, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Associate Professor, Department of CSE, School of Engineering, Malla Reddy University, Hyderabad

[4]Assistant Professor, Department of CSE (AI&ML), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

Abstract

This Paper relates to the research area of crop yield prediction, and it provides better decision making in farm management and planning. Pesticide's quantity and dosages are not being considered in the existing studies. Based on studies, the proposed work is focused on prediction of crop pesticides requirement based on ground conditions and its impact on plant cultivation. So, it is necessary to consider the dosages and it gives better information for different crops along with pesticides dosages and this Paper proposes a model and compute reduction of pesticide dosages by introducing the compost pit calculation and tells best crop yield based on season and area and analyses the moisture content for each crop using Artificial Intelligence, Machine Learning, Surface Energy Balance Algorithms.

Keywords: Crop Prediction, Artificial Intelligence, Machine Learning, Surface Energy Balance Algorithm.

1. Introduction

Agriculture is one of the main supporting sectors of the Indian economy and most of the rural population depends on it for livelihood. India is a country that is rich in terms of food and environmental resources. Nevertheless, such prosperity is gradually reducing and resulting inflow agricultural productivity and low income for the farmer. Farmers additionally lacked insights into agricultural strategies and high quality production planning

FEATURE EXTRACTION OF AGRICULTURE CROP RECOMMENDATION USING ADVANCED MACHINE LEARNING GENERATIVE ALGORITHMS

[1]Devara Nagasri, [2]Dr.T.Srinivasulu, [3]U. Venakat Rao, [4]V. Rupa

[1]Assistant Professor, Department of CSE (AI&ML), Vignan's Institute of Management and Technology for Women, Kondapur, Hyderabad.

[2]Professor, Department of Mathematics, Vignan's Institute of Management and Technology for Women, Kondapur, Hyderabad.

[3]Assistant Professor, Department of CSE (DS), Vignan's Institute of Management and Technology for Women, Kondapur, Hyderabad.

[4]Assistant Professor, Department of Information Technology, Vignan's Institute of Management and Technology for Women, Kondapur, Hyderabad.

ABSTRACT:

Advancements in machine learning algorithms have revolutionized the domain of precision agriculture, enabling data-driven decisions for crop selection and boosting overall productivity. This research aims to develop an intelligent crop recommendation system leveraging machine learning algorithms to suggest suitable crops based on historical productivity data and prevailing seasonal conditions. The proposed system utilizes a diverse set of features such as soil characteristics, climate data, historical crop performance, and geographical factors to capture the complexities of crop-environment relationships. The agricultural sector plays a critical role in providing food security and sustenance for the growing global population. However, the success of agricultural practices heavily relies on the selection of appropriate crops tailored to specific regions and seasonal conditions. In recent years, The machine learning models employed include AdaBoost, Naive Bayes, K-Nearest Neighbors , Logistic Regression, which will be trained on a comprehensive dataset of past crop yields and environmental parameters. The dataset will be collected from diverse agricultural regions across different seasons, ensuring the robustness and adaptability of the developed models. The Research outcome is expected to empower farmers with valuable insights to make informed decisions about crop selection, leading to optimized resource utilization and improved productivity. By harnessing the power of machine learning, this research aspires to contribute to sustainable agriculture practices, economic growth in rural communities, and the overall advancement of the agricultural sector.

Keywords: *Agriculture Crop Recommendation, Precision Agriculture, Machine Learning, AdaBoost, Naive Bayes, K-Nearest Neighbors , Logistic Regression.*

Recognition of Counterfeit Profiles on Communal Media using Machine Learning Artificial Neural Networks & Support Vector Machine Algorithms

Dr. Ranga Swamy Sirisati[1], A. Kalyani[2], V. Rupa[3],
Dr.Pradeep Venuthurumilli[4], Md Ameer Raza[5]
[1]Associate Professor, Department of CSE (AI&ML), [2]Assistant Professor, Department of CSE (DS), [3]Assistant Professor, Department of Information Technology,
[1,2,3]Vignan's Institute of Management and Technology for Women, Kondapur, Telangana
[4]Associate Professor, Department of CSE (DATA SCIENCE), Mallareddy Engineering College for Women, Maisammaguda, Secunderabad
[5]Assistant Professor, Department of CSE, Sri Vasavi Institute of Engineering and Technology, Nandamuru, Pedana, Andhra Pradesh

Email id : sirisatiranga@gmail.com[1], anipidikalyani2957@gmail.com[2], rupa@vmtw.in[3], pradeepvenuthuru@gmail.com[4], raza681@gmail.com[5]

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Abstract

Internet users rely on social networks to help them with daily tasks including exchanging material, reading news, sending messages, reviewing products, and talking about events. Social media platforms also attract people who send different types of spam at the same time. These internet criminals include trolls, online fraudsters, sexual predators, and advocates for advertising. These people are fabricating profiles in order to disseminate their stuff and conduct con games. The consumers and the service providers are both at great risk from all of these fraudulent identities. Determine if accounts are real or fraudulent by identifying them from the social media service providers. We introduced several categorization algorithms in this paper, including neural networks and support vector machines. These formulas assist in to detect fake profiles.

Keywords: ***Social Media, Artificial Intelligence, Machine Learning, Artificial Neural Networks and Support Vector Machine.***

I. INTRODUCTION

Every member of society in the current generation is now connected to social media. The way we pursue our social lives has drastically changed as a result of social media. In this paper, we will utilize Artificial Neural Networks to determine if the account data provided are from real or fraudulent individuals. An artificial neural network (ANN) using the SVM

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Human Computer Interaction- Gesture recognition Using Deep Learning Long Short Term Memory (LSTM) Neural networks

Dr. Ranga Swamy Sirisati[1], A. Eenaja[2], N.Sreeja[3],

T. Srajan Kumar[4], B. Naresh[5]

[1,5]Associate Professor, Department of CSE (AI&ML), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana
[2]Assistant Professor, Department of Information Technology, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana
[3]Assistant Professor, Department of CSE (DS), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana
[4]Assistant Professor, Department of CSE, MallaReddy University Hyderabad.

Email id : sirisatiranga@gmail.com[1], eenajareddy979@gmail.com[2], sreeja@vmtw.in[3], teralasrajankumar@gmail.com[4], bhukyanaresh774@gmail.com[5]

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Abstract

Computers that use gesture recognition can better comprehend human body language. This facilitates the development of a stronger connection between humans and machines than that which is possible with only text-based or graphical user interfaces (GUIs). The computer camera in this paper for gesture recognition reads the movements of the human body. In order to compare the results of hand identification, deep learning approaches including the Yolo model, Inception Net model+LSTM, 3-D CNN+LSTM, and Time Distributed CNN+LSTM have been explored for this paper. After then, the computer uses this data as input to run programs. The Yolo model performs better than the other three types. Twenty billion jester films, or 20% of the total, and Kaggle were used to train the algorithms. The following stage is to adjust the system loudness based on the direction of hand movement once the hand has been detected in the collected frames. Creating and finding the bounding box on the detected hand yields the direction of the hand movement.

Keywords: Human Computer Interaction, Machine Learning, Deep Learning, Long Short Term Memory (LSTM) Neural networks.

I. INTRODUCTION

Gesture-controlled interactive surfaces have proliferated in the past few years. Given that speech, gestures, and facial expressions make up the majority of real human communication,

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A PRIORITY-BASED HEURISTIC TASK SCHEDULING FOR OPTIMIZED CLOUD SCHEDULING USING ANT COLONY OPTIMIZATION AND PARTICLE SWARM OPTIMIZATION ALGORITHM

[1]Devara Nagasri, [2]Gunti Ramya, [3]K. Jayasri, [4]D.Srinivasulu

[1]Assistant Professor, Department of CSE(AI&ML), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana.

[2]Assistant Professor, Department of Information Technology, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana.

[3]Assistant Professor, Department of CSE, NNRG, Hyderabad.

[4]Assistant Professor, Department of CSE, Kandula Lakshumma College of Engineering for Women, Kadapa.

E-Mail: [1]nagasri4004@gmail.com, [2]ramya.larks@gmail.com, [3]jayasri.k@cse.nnrg.edu.in, [4]hodcse@klmcew.ac.in

Abstract:

These days, computing environments are undergoing permanent changes in the software production process. It is mainly due to competition between environments to reduce costs and wages in the production process. Provide customer satisfaction for the dynamic handling of customer orders to achieve mass production in a short period. However, resource allocation in the field of computing is a dynamic activity that needs to be changed based on manufacturing needs. In developing countries such as World, there is no proper understanding of efficient computing methods that can simultaneously meet the needs of users, suppliers, and customers. It mainly due to the communication gap between different stakeholder groups, which helps to manage services efficiently in a computing environment. Cloud Service Provider (CSP), there are more than 50 million CSP in World spread across the country. CSP account for fifty percent of worldwide industrial production and forty percent of all exports. Determining the responsibilities of many CSP is crucial because it affects work costs and time off. In this question, the primary goal of this work is to provide optimal and dynamic resource allocation in cloud-based computing. Workflow analysis on various algorithms such as Ant Colony Optimization(ACO), Differential Evolution Algorithm (DEA), Genetic Algorithm (GA), Particle Swarm Optimization (PSO), Hybridization of the above algorithms (ADGP). In the proposed multipurpose scheduling methods, the ADGP algorithm performs better than all other proposed algorithms during resource response. This algorithm found to be superior to selected two hundred sources and thousands of tasks.

Innovative Appliance of Identification of facial features with Image Processing Techniques and Deep Learning Convolutional Neural Networks

[1]P. Chamundeswari, [2]Ch. Swapna Reddy, [3]T. Srajan Kumar, [4]B. Naresh

[1]Assistant Professor, Department of CSE (DS), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[2]Assistant Professor, Department of Information Technology, Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

[3]Assistant Professor, Department of CSE, MallaReddy University Hyderabad.

[4]Assistant Professor, Department of CSE(AI&ML), Vignan's Institute of Management and Technology for Women, Kondapur, Ghatkesar, Telangana

Abstract

The main objective of this paper is to classify the gender based on different facial features such as eyes, nose, mouth, overall features such as face contour, head shape, hair line etc. The gender classification algorithm uses machine learning technique (supervised learning). In this case the algorithm is trained on a set of male and female faces and then used to classify new data. In this paper, face detection and gender classification methods are combined. The face detection acts as a pre- processing operation to the gender classifier that determines the gender. There are multiple methods in which facial recognition systems work, but in general, they work by comparing selected facial features from a given image with faces within a database. It is also described as a Biometric Artificial Intelligence based application that can uniquely identify a person by analyzing patterns based on the person's facial textures and shape. Automated gender recognition plays an important role in many application areas such as human computer interaction, biometric, surveillance, demographic statistics etc. Existing systems has a disadvantage in accuracy. Though there are many algorithms in Present system are being developed and implemented to achieve accuracy in identifying gender the results arestill unsatisfactory. Proposed system has an advantage of accuracy. The accuracy achieved in this system is impressive compared to the existing system. CNN algorithm gives better accuracy compared to other algorithms.

Informal Text Transformer: Handling Noisy and Informal Text from Social Media

K. Sandhya Rani
Assistant Professor
Department of AI&DS
Vignan's Institute of Management and Technology for Women
Ghatkesar, Kondapur, Telangana 501301
Sandhya.samskruti@gmail.com

Ch. Swapna
Assistant Professor
Department of Information Technology
Vignan's Institute of Management and Technology for Women
Ghatkesar, Kondapur, Telangana 501301
chswapna@gmail.com

A. Rupa
Assistant Professor
Department of Information Technology
Vignan's Institute of Management and Technology for Women
Ghatkesar, Kondapur, Telangana 501301
annam.rupa@gmail.com

G. Ramya
Assistant Professor
Department of Information Technology
Vignan's Institute of Management and Technology for Women
Ghatkesar, Kondapur, Telangana 501301
ramya@vmtw.in

Palla. Chamundeswari
Assistant Professor
Department of CSE (DS)
Vignan's Institute of Management and Technology for Women
Ghatkesar, Kondapur, Telangana 501301
chamundeswari@vmtw.in

J. Ranjith
Assistant Professor
Department of Information Technology
Vignan's Institute of Management and Technology for Women
Ghatkesar, Kondapur, Telangana 501301
ranjith@vmtw.in

Abstract -As the use of social media platforms continues to grow, the ability to effectively process and generate text that captures the unique characteristics of informal, user-generated content has become increasingly important. This paper introduces the Informal Text Transformer (ITT) Model, a novel language model designed to handle the challenges posed by noisy and informal text from social media platforms, particularly Twitter. The ITT Model leverages a specialized tokenizer, a data augmentation module, and an auxiliary noise prediction task to enhance its performance on this task. Extensive experiments on a large-scale Twitter dataset demonstrate the ITT Model's superior capabilities compared to existing approaches, with significant improvements in perplexity, noise-aware accuracy, informality-aware BLEU, and out-of-vocabulary rate. The key findings show that the ITT Model outperforms the "Noisy Text Transformer" and "Informal Language Model" systems across various metrics, achieving a perplexity of 24.35, a noise-aware accuracy of 83.7%, an informality-aware BLEU of 0.64, and an out-of-vocabulary rate of 7.5%. The paper also presents detailed data visualization analytics to provide insights into the model's strengths and weaknesses. The Informal Text Transformer represents a significant step forward in the field of large language models, paving the way for more robust and versatile text processing solutions for social media applications.

Keywords—Natural Language Processing, Informal Text Transformer, Deep Neural Network, Twitter datasets

I. INTRODUCTION

The rapid growth of social media platforms, such as Twitter, has led to an explosion of user-generated content that is often characterized by informality, colloquialisms, deviations, and various types of noise (e.g., typos, grammatical errors). Traditional language models struggle to effectively handle this type of text, as they are typically trained on more formal, curated datasets. Developing robust language models that can accurately process and generate text that aligns with the unique characteristics of social media data has become a crucial challenge in natural language processing (NLP) [1], [2].To address this challenge, we present the Informal Text Transformer (ITT) Model, a novel language model architecture designed specifically for handling noisy and informal text from social media platforms. The ITT Model builds upon the success of Transformer-based language models [3], [4], while incorporating specialized components to significantly enhance its performance on this task.

The key contributions of this work are:

1. Development of a specialized tokenizer that can effectively handle the unique lexical patterns found in social media text, reducing the out-of-vocabulary (OOV) rate.

2. Implementation of a data augmentation module that introduces synthetic noise into the training data, improving the model's robustness to informal language.

3. Integration of an auxiliary noise prediction task to help the model better understand and identify different types of noise in the input text.

4. Comprehensive evaluation of the ITT Model on a large-scale Twitter dataset, demonstrating significant improvements over existing approaches, with the ITT Model outperforming the "Noisy Text Transformer" and "Informal Language Model" systems across various metrics, such as perplexity, noise-aware accuracy, informality-aware BLEU, and out-of-vocabulary rate.

5. Detailed data visualization analytics to provide insights into the model's performance and characteristics.

The remainder of this paper is organized as follows: Section II discusses the related work in the field of language modeling for noisy and informal text. Section III

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Modular Network Architectures for Enhanced Interpretability and Efficient Knowledge Transfer in Machine Learning

Dr. Rajesh Gundla[1], Palla Chamundeswari[2], Dr. P. Rajendra Prasad[1], Ch. Swapna[3], K. Sandhya Rani[3], J. Ranjith[3]

[1]*Department of CSE, Vignan's Institute of Management & Technology for Women, India*
[2]*Department of CSE (DS), Vignan's Institute of Management & Technology for Women, India*
[3]*Department of IT, Vignan's Institute of Management & Technology for Women, India*
Email: rajgundla@gmail.com

Over the years, as deep learning models have continued to grow in complexity, they become more complex and less interpretable, which makes them difficult to deploy into real-world scenarios where adaptation is critical. In response, this paper presents a new modular network architecture that fosters both interpretability and modularity within knowledge transfer. The structure of the proposed network is composed of a part named general core to extract general features that can be used for multiple tasks and need no task-specific information, as well as a few innovative modules fine-tuned on special tasks that happen in limited amounts. Interpretable models like decision trees are included in the task-specific modules, which will explain model predictions in a way that is verifiable by humans given a data point. This modular approach also results in very little retraining required when repurposing the model to perform new tasks. It allows each decision made by the system to be interpretable as well, which makes it more reliable (especially in critical applications like healthcare or finance). We performed experiments on image classification, sentiment analysis and healthcare datasets to validate the proposed approach. The results demonstrate that the new modular network architecture not only increases task performance but also improves explain ability relative to traditional end-to-end deep learning. It can also reduce training times and increase the efficiency of knowledge transfer, meaning that a single system can learn quickly from more tasks. This work is a step towards making machine learning systems more interpretable, adaptable and efficient for improved explainable AI while establishing an essential base for future advancements in multitask learning.

Keywords: Modular networks, interpretability, knowledge transfer, task-agnostic, decision trees, explainable AI.