

S.NO	TITLE OF THE PAPER
1	Prediction of Anemia Disease Using Classification Methods SagarYeruva, B PavanGowtham, YHariChandana, M. SharadaVaralakshmi, Suman Jain
2	Diabetic symptoms Prediction through Retinopathy AmbikaShetkar, Ms C Yamini, C. Kiran Mai
3	Prediction of Cervical Cancer OrugantiShashiPriya, SagarYeruva
4	A new 5-layer model approach for Pneumonia Prediction Bandi Krishna Kanth, GudipatiManasa, Shubham Kumar Jena, AishwaryaKankurte, OduriDurga Prasad, Maithre Salmon, Pradeep Reddy.G, SwethaNamburu
5	Prediction of Liver Malady using AdvancedClassificationAlgorithms Sravani.K, Anushna.G, Maithraye.I, Chetan.P, Dr.SagarYeruva
6	A Fuzzy Based Approach for Indian Standard Classification of Soils Sujatha A, L Govindaraju, Shiva Kumar N,Devaraj V
7	Blocking Mobile Based Games and Nullifying the Search String Containing InappropriateWords TadivakaSaiSwetha,V.Baby, ChoudaSowsheel, RasamsettiHimabindu, BhukyaRohith, Abdul Azeez Ahmed
8	A Methodology to Retrieve Information from Ontologies with the application of D2R Mapping and SPARQL MahavadiMeghana, R.Kranthi Kumar, VadaguriSrikala, N.Sahithi, M.Jyothsna
9	Fuzzy Logic Controller for accurate Diagnostics in X-ray film Rakesh Kumar Tripathi, Javaid Ahmad Shah
10	Heart Attack Classification using SVM with LDA and PCA linear transformation techniques S Vamshi Kumar, T V Rajinikanth, S ViswanadhaRaju
11	Distributed Training of Deep Neural Network for Segmentation-free Telugu Word Recognition Koteswara Rao Devarapalli, AtulNegi
12	Word Sense Disambiguation for Telugu using Lesk SudheendraPoluru, A Brahmananda Reddy, Rahul Manne, LokeshBathula, Nikhilender Reddy
13	Identifying the Duplicate Questions in Community Question Answering Forums using Machine Learning Approaches DivyaVanam, Venkateswara Rao Pulipati
14	A Comparison of Classical Machine Learning Approaches for Early Structural Damage Identification Jay Karan Telukunta, Myneni MadhuBala
15	Real Estate Sales Forecasting with SVM Classification ArtiPatle, GendLalPrajapati
16	Credit Card Fraud Detection Using Spark and Machine Learning Techniques N V Krishna Rao, Y Harika Devi, N Shalini, A Harika, V Divyavani, Dr.N.MangaThayaru
17	A Real life Decision making Problem via a fuzzy number matrix Rakesh Kumar Tripathi, Showkat Ahmad Bhat
18	Extractive Summarization Using Frequency Driven Approach V. Mohan Kalyan, Chukka Santhaiah, M. Naga Sri Nikhil, J. Jithendra, Y. Deepthi, N.V. Krishna Rao
19	An Efficient Deep Learning Based Approach for Malware Classification MadhurimaRana, SwathiEdem
20	A hybrid deep learning approach for detecting zero - day malware attacks ShaikMoinSharukh
21	Glaucoma Detection Based Ondeep Neural Networks MadhavKode, Ruthvika Reddy Loka, LaasyaGarapati, YashnaLahariGutta, RavikanthMotupalli

22	Early Detection of Sepsis on Clinical Data Using Multi Layer Perceptron N. Venkata Sailaja, MeghanaYelamarthi, YendluriHariChandana, PrathyushaKaradi, SreshtaYedla
23	A Study on Onsite - Offshore Data Security Model for Big Data Applications Manjunath T N, Pushpa S K, Ravindra S Hegadi, Archana R A
24	Acoustic Characteristics Heart Sounds S1 and S2 of Single Level Auto Encoder with DNN P. Jyothi, V. Dilip Venkata Kumar
25	A Deep Learning approach for Cardiac Arrhythmia detection N Venkata Sailaja, S. Varun, A. Vinuthnanetha, G. Shravan, K. Abhinav
26	Multi-Classification For Cardiac Arrhythmia Detection Using Deep Learning Approach P Subhash, PathuriGoutamSai, NallaRohith Reddy, AnuragPampati,SaiKeerthanPalavarapu
27	Human Age Estimation Using Support Vector Machine AMadhavi,BhuvanaSree G, Shriya V, Shanmukh B, Harshitha T
28	Real-time credit card fraud detection using spark framework A Madhavi,TSivaramireddy
29	Deep Learning Model for Recognizing Text in Complex Images VemparalaSravani,ThurakaGnana Prakash
30	Machine Learning Approach to Track Malnutrition in Children with Rural Background S.Nagini, SravaniNalluri , B. Rachana Reddy , AndukuriLekha
31	Smart Dustbin: A Reward Provider AnkitrajGaddam, Dr. A. KousarNikhath
32	Cyclic Exploration-based Whale Optimization to Linear Discriminant Regression Classification for Face Recognition T.SyedAkhel, Dr.V.Usha Shree
33	Auction System in Food Supply Chain Management using Blockchain Shwetha A N,Prabodh C P
34	The Mechanism of Generating the Automated Java Unit Test Cases by achieving Maximum Code Coverage Bindu Avadhani ^{1*} , SaumyaRanjan Giri ² , Venkateswara Rao Pulipati ³
35	Line Stability Index Based Voltage Stability Assessment Placing Series Compensation of TCSC S Ravikuma, PoonamUpadhyayB.Anjan
36	Preventing Crime Using Advanced Artificial Intelligence Techniques SaikiranGogineni, Anjushapimpalshende, PoongodaiArumugham , PorikaDhanrajnath
37	Issue Resolution Process: Salesforce Ch. Rishika, Dr. J Sirisha Devi
38	Automated Member Enrollment: Health Insurance Agency A SaiBhavana, P L Srinivasa Murthy
39	Comprehensive Analysis of State-of-the-Art Techniques for VQA Sachin Chirgaiya,AnandRajavat 2
40	Study of State of Arts Methods for Event Extraction Nikhil Chaturvedi,JigyasuDubey
41	A Survey on Identification of Illegal Wildlife Trade SravaniNalluri, S Jeevan Rishi Kumar, ManikSoni, SohebMoin, K Nikhil
42	An approach for optimizing algorithms which find k1-most demanding products C.Sireesha, P.Yeshwanth Reddy and M. Nikhil Reddy
43	Homomorphic Analysis of Privacy-Preserving Psychological Medical Records V. Kakulapati, S. SaiTeja
44	Prediction of Rice Plant Diseases based on Soil andWeather conditions AkulaManeesha, Dr.Chalumuru Suresh, Dr.B.V.Kiranmayee

45	An improved web information system through identification of faculty browsing patterns in affiliated engineering institutions M.Swathi, K.C.Sreedhar,MeeravaliShaik, V.Prabhakar
46	Transient Response Improvement of Separately Excited D.C Motor using Fuzzy Logic Controller VenuYarlagadda, V. Ramesh Babu, K .VeereshamKasala Rajesh and S N V Karthik Kumar
47	Malware Detection Kit for malware analysis of Big data T. Sree Lakshmi , Dr M.Govindarajan,Dr.AsadiSreenivasulu
48	Facial Emotion Recognition to examine human face using hybridization method A. Sravanthi,B.Sindhuja, D. Lakshmi Rohitha
49	Emotion and stress recognition through speech Using Machine Learning Models Ms.DruvaManasa, Ms C Yamini, C. Kiran Mai
50	Dynamic Watermarking using PythonAST Vivekananthan V, Praveen K, and M. Sethumadhavan
51	A Novel Framework for Video Retrieval Algorithm Evaluations and Methods for Effective Context Aware Video Content Retrial Method on Cloud T. Naga Raja, V.V.VenkataRamana and A. Damodaram
52	Energy Efficient Data Transmission in a Three-HopCooperative Cellular NB-IoT Network UsingDouble Auction SrinivasaRaoPatri and L.Nithyanandan
53	Ground Water Level Analytics for Effective Water Level Predictions and Visualization of the Patterns MyneniMadhuBala, C Keerthana, D Pallavi Raj, K Prashanthi
54	Identification of Security Threats Using Honeypots RajithaBhargavi. Movva, N. Sandeep Chaitanya
55	A TDMA Scheduling for Particle Swarm Optimization based Unequal clustering in WSN: PSO-UFC-TDMA A Manisha and S RenuDeepti
56	Construction of Phylogenetic Tree for Cyclooxygenase Dataset byClustering Abdul Khadeer, Dr. Chukka Santhaiyah, PerepaKoushik,G. Manohar, Deepthi Y, Krishna Rao N V
57	Efficient MAC Protocol Analysis Systems for Wireless Sensor Network Dr.Palamakula Ramesh babu, Dr. A. Rajasekhar Reddy and Dr. A. Narayana Rao
58	Analysis of Wireless Mesh Networks in Machine Learning Approaches Dr. A. Narayana Rao , Dr.Palamakula Ramesh babu and Dr. A. Rajasekhar Reddy
59	Analysis of Detecting White Blood Cells by Computer Vision Methods Dr. A. Rajasekhar Reddy , Dr. A. Narayana Rao and Dr.Palamakula Ramesh babu
60	Smart Healthcare Monitoring For Drivers K. Prasanna, L. Jai Vinita
61	Analyzing vocal patterns to determine Gender, Age and Emotion N Sandeep Chaitanya,Pilli Shivani ,NallapuneniSahithi, MutteviSravanthi, Juvas Aditya
62	A Robust and Secured mechanism for sharing encrypted data in cloud systems JangiliNarendra
63	Providing Security for Cloud Computing Platform Using IP Address Randomization. K. Durgaprasadvarma
64	Smart Wireless Black Box with Intelligent Facial Recognition System for Prevention of Accidents and Theft of Vehicles Using Raspberry Pi Along with Sensors Based on IoT V. BrijendraVarma, Dr. B. V. Kiranmayee, L. Ashwik Reddy, S. Sravan Kumar, P. Sandeep Varma
65	Indian Sign Language Recognition Using Convolutional Neural Networks Keerthi Reddy Velmula, Indira Linginani ,KalaliBhargav Reddy, PalsaMeghana, AountiAruna

66	Text Recognition in Complex Images using Deep Learning Models: A Survey ThurakaGnanaPrakash and VemparalaSravani
67	Improving the traffic control system by modifying the geometry of roads and squares by removing the discontinuity of space Rakesh Kumar Tripathi, YashRatnaparkhi, Deepak Sukheja
68	Smart Ambulance System using Fire-Based Cloud Technology and Laser Beam Mechanism Y. Deepthi, K. Radhika, B. Tejaswi, C S L VijayaDurga
69	Hand Gesture Recognition To Implement Virtual Mouse Using Open Source Computer Vision Library: Python SaiMahithaGummadi, Revanth B, Geetha G, Sirisha R
70	Image Fusion using LUKR in Multi-Modal Authentication Krishna Prasad Ponnekanti, Pavan Kumar Kalluri, Suresh Yadlapati and SagarYeruva
71	A Review on Comparative Analysis of Add-Shift Multiplier and Array Multiplier Performance Parameters P. Kishore, P. Sravanthi, G. Deepthi, A. Rashmitha
72	Efficient Online-Task Scheduling in Distributed Computing Environments using Least Average Load Variance Algorithm Maniza Hijab and AvulaDamodaram
73	A Survey on Real-Time Automated Attendance System K. Jhansi Lakshmi Bai, K. Sreemae, K. Sairam, B. Praveen Kumar, K. Saketh
74	Vocal Analysis to Predict Suicide Tendency Police Preethi Reddy, Chalumuru Suresh, Venkata Krishna Rao, K SaiChandana, S Sowkya, R Akhila
75	Intelligent Traffic Light Management System S.Jahnavi, G.Prasanth, D.Priyanka, A.Sneheth, M.Navya
76	An Effective Technique to Detect Dimensions of Pipe under the Ground Using GPR Images G Ramesh Chandra, Kode Rajiv and B Basaveswara Rao
77	Chatbot for College Website G S Ramesh, G. Nagaraju, Vemula Harish, Dr. P. Kumaraswamy
78	Comparative Analysis of Different Classifiers for Speech Emotion Recognition A. Madhavi, A. Priya Valentina, KarakavalasaMounika, B. Rohit , and S. Nagma
79	A Review of contemporary and future renewable energy generation technologies to store data in the era of Cloud Computing and IoT KeerthiManikanthan and Dr. S. Pranavanand
80	Survey on Multimodal Emotion Recognition (MER) Bhanusree Yalamanchili, Keerthana Dungala, Keerthi Mandapati, Mahitha Pillodi, Sumasree reddy Vanga
81	Cancer Classification using Mutual Information and Regularized RBF-SVM Nimrita Koul and Sunil kumar S. Manvi

1.Prediction of Anemia Disease Using Classification Methods

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Abstract: Sickle cell is a hematological disorder (hematology is a study of blood in health and diseases) which may leads Organ damage, heart strokes and serious complications. It may also reduce the human lifespan. Most of the sickle cells are observed in newborn babies. It was initially thought to be a particular feature of tribal peoples, but it has now been found in all populations. Sickle cell Symptoms are observed in human beings as episodes of pain (crisis), painful swelling of hands, feet and vision problems. Detecting sickle cell as early as possible could help the patients to identify their symptoms and can support to take the medications using Antibiotics, Vitamins, Blood transfusion and pain relieving medicines etc. In general the counting of cells in the blood, classification and assessment is done using manual process takes lot of time and may lead to wrong results as there are millions of RBCs in one smear. By using various classification algorithms, we can identify sickle cells in the human body effectively with high accuracy. The proposed method overcomes the drawbacks of manual assessment by introducing robust and effective classification algorithms to classify the Sickle Cells in blood using three class labels: N (Normal), S (Sickle Cell) and T (Thalassemia Cell). In this paper we also present the accuracy levels of various classification algorithms on the dataset which is gathered from Thalassemia and Sickle Cell Society (TSCS) located at Rajendra Nagar, Hyderabad, India.

Keywords: Sickle Cell (SC), Sickle Cell Disease (SCD), Thalassemia, Sickle Cell Anemia (SCA), Anemia, classification.

2.Diabetic symptoms Prediction through Retinopathy

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Abstract: Cardiovascular disease is now the most common cause of the death worldwide. According to the Centre's for Disease Control (CDC), heart disease is the most leading cause of the death in the United States, United Kingdom, Australia and Canada. Nearly half of all U.S. adults have some type of cardiovascular disease. A common micro vascular complication, diabetic retinopathy (DR), has been repeatedly shown to be associated with an elevated risk of cardiovascular disease (CVD). In India, the diabetic population in the country is close to hitting the alarming mark of 69.9 million by 2025 and 80 million by 2030. Medical discoveries are made by observing relationships and making hypotheses from those observations then after designing them and then running the experiments to test the hypotheses generated. Here, we show that the deep learning can extract a new knowledge from the retinal fundus images of the diabetic retinopathy patients. We use deep learning models on the patient's data collected from various hospitals with the symptoms of diabetic retinopathy. This paper predicts the diabetic retinopathy from retinal fundus images by using deep learning convolution neural network. This paper yields an accuracy of 89 percent in the identification of diabetic retinopathy (DR) from the given retinal fundus image of the patient.

Keywords: Cardiovascular disease, retinal fundus images, prediction of diabetic retinopathy, Convolution neural network.

3.Prediction of Cervical Cancer

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Abstract: Cancer is a disease that develops when normal cells are converted into tumor cells. Cancer can affect to any part of the body. Causing cancer sometimes could be a loss of live. The most common type of cancer seen in women is cervical cancer. Many various methods are existing for the control and prevention of cervical cancer such as cytology, Schiller, Hinselmann and biopsy. In this paper we are using machine learning approach, the system aims to predict whether the patient has cancerous cells based on the data collected from various hospitals. This paper uses Artificial Neural Network and Random Forest Classifier. The existence of cervical cancer is predicted, which helps the patient to diagnose the disease at the early stage. This paper also compares the accuracies of the performance analysis of the classification algorithms.

Keywords: Cervical Cancer, Machine Learning, Artificial Neural Network, Random Forest Classifier, Prediction.

4.A new 5-layer model approach for Pneumonia Prediction

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Abstract: Pneumonia is a lungs infection caused by formation of pus and other fluids in the lung air sacs. Diagnosis of these types of lung diseases using radiology requires doctors and also the prediction may not be correct due to lack of experience or observation which results in improper treatment. Another major issue is with the shortage of doctors in India where the overall doctor- population ratio is 1:1456 whereas the WHO recommends it to be 1:1000. So there is a need to devise a method for correct identification of disease which also helps in reducing the load on the doctors. In recent years, Machine learning techniques have become very effective in disease identification based on images. This paper presents a new model to predict pneumonia and the proposed model is a 5-layer convolution architecture capable of predicting the outcome with an accuracy of 97.5%.

Key Words: Radiology, Pneumonia, Chest X-ray, CNN, VGG16.

5.Prediction of Liver Malady using AdvancedClassificationAlgorithms

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Abstract: Prior Prediction of liver disease is certainly vital for a purposeful and effective treatment because liver does a lot of things that keep us healthy. It converts nutrients into chemicals that our body requires, filtering out toxins and helping to create food energy. So, if liver does not function it may affect the whole body. Hence, Identifying and treating the liver disease at the arrival stages is crucial for better health. But for medical researchers predicting the disease at its earlier stages is onerous because of its indefinite and imprecise symptoms. Machine learning simulations are extremely helpful in giving patients disease critical measurements, continuous information, and advanced analysis. Our project aims to advance the prediction of liver malady using machine learning approaches. The main aim of this project is to recognize patients with liver disease by employing classification algorithms.

Keywords: Machine Learning, Indian Liver Patient Dataset, classification algorithms, SVM, ANN.

6.A Fuzzy Based Approach for Indian Standard Classification of Soils

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Abstract: Soil classification is one of the most significant steps in initial studies for analysis, design and applications in geotechnical engineering. The objective of soil classification is to sort various types of soils into groups according to their guide and engineering properties and various other characteristics. Fuzzy rule-based system is potent tool to mimic the human way of thinking and solve the problem dealing with uncertainty. In this present study, a Fuzzy rule-based approach using Fuzzy IF-THEN rules is used to quantify classification of soils in qualitative terms considering the index properties of soils is proposed. The membership degrees that describe the fuzzified soil (gravelly, sandy, silty, clayey and their combinations) are evaluated by considering triangular functions. Soil types are established depending on the fuzzy rules generated and the membership functions defined by the use of fuzzy operators. The data acquired from laboratory test results are differentiated with the outcomes of fuzzy rule-based system indicating the applicability of the developed fuzzy model.

Keywords: Definitive fuzzy rule, Triangular function, Indian Standard soil Classification system.

7.Blocking Mobile Based Games and Nullifying the Search String Containing Inappropriate Words

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Abstract: Nowadays, game addiction is a major issue in society. The individuals in the age group of 5-20 years are addicted to games. This affects the mental and physical health of the individual. Teenagers due to changes in hormones, in the adolescent age, get attracted to various words like sex, suicide, porn, etc. Browsing and viewing those contents in the browser affects thinking of individual at this age due to lack of maturity. Young and bright minds are the assets of the nation. So, there is a need to overcome these problems in earlier stages itself. To solve the above-mentioned problems in the society, an android application with Natural Language Processing (NLP) is designed. In this application, the parent can add games or other applications that needs to be blocked. Parent is provided with an option to set timer, which determines the amount of time the child can access the application. When the child uses browser, if the search string contains any inappropriate words or its respective synonyms, this application detects them with the help of NLP and makes the search string null. This way a child cannot search about inappropriate topics and if any such activity is detected an alert is sent to the parent regarding the activity of the child.

Keywords: Blocking Inappropriate Content, Browsing, Child's Mental Health, Inappropriate Words, Mental Health, Mobile Based Games, Parental Control.

8.A Methodology to Retrieve Information from Ontologies with the application of D2R Mapping and SPARQL

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Abstract: There exists enormous amount of information hidden in the internet. Numerous methods have been evolved in order to retrieve the quality amount of information from web. This requires executing complex queries that may also bring irrelevant results. In order to overcome such difficulties we must adopt a method to retrieve information from meaningful data that is structured. For this researchers are working on ontology based query processing where retrieved information is more appropriate to user's interests. This paper proposes a methodology that maps hospital patients databases to ontologies and information retrieval is performed.

Keywords: Semantic web, Ontologies, RDF (Resource Description Framework), Turtle, D2R Mapping, SPARQL end point

9. Fuzzy Logic Controller for accurate Diagnostics in X-ray film

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Abstract: In this modern era, diagnosis by imaging needs to adopt modern techniques in order to enhance its perfection and reliability in health care systems. One among the main factors that influence diagnostic accuracy of usual x-ray film to determine pathology is the level of exposure given to the film. If the level of exposure is not requisite, then a normal developed x-ray film will not be obtained. This produces profound effect on the patient management and his/her quality of life. It also increases expenditure of a person on health. Hence, providing a perfect and good quality x-ray radiograph is the beginning towards an excellent patient management in any health care system of the world. In this paper Fuzzy logic controller is used for accurate diagnostics, with regarding to the different exposure levels and Denseness of body tissue in x-ray films, which help the radiologist to make better decisions.

Keywords: Fuzzy logic, Fuzzy controller, X-rays, Decision making.

10. Heart Attack Classification using SVM with LDA and PCA linear transformation techniques

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Abstract: Recent studies show that heart attack is one of the severe problems in the today's world. Prediction is one of the crucial challenges in the medical field. In heart there are two main blood vessels for supply of blood through coronary arteries. If the arteries get completely blocked then it leads to the heart attack. The health care field has a lot of data related to different diseases, so machine learning techniques are useful to find results effectively for predicting heart diseases. In this paper, data was pre-processed in order to remove the noisy data, filling the missing values using measures of central tendencies. Later the redefined data set was classified using classifiers apart from prediction. The numbers of attributes were reduced using dimensionality reduction techniques namely Linear Transformation Techniques (LTT) like Principal Component Analysis (PCA) and Linear Discriminant Analysis (LDA). The performances of the classifiers were analyzed based on various accuracy related metrics. The designed classifier model is able to predict occurrence of heart attack. The Support Vector Machine (SVM) classifier was applied along with the three kernels namely Linear Radial Basis Function (RBF) & Polynomial (poly). Another technique namely Decision Tree (DT) was also applied on the Cleveland dataset and the results were compared in detail and effective conclusions were drawn from the results.

Keywords: Heart Attack, Support Vector Machine, Linear Transformation Techniques (LTT), Principal Component Analysis (PCA), Linear Discriminant Analysis (LDA).

11. Distributed Training of Deep Neural Network for Segmentation-free Telugu Word Recognition

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Abstract: This paper presents a distributed modeling approach of deep neural network (DNN) classifier for segmentation-free Telugu word recognition. The DNN is a hybrid neural network model. It involves the convolutional neural network (CNN) and recurrent neural network (RNN) layers. Moreover, the connectionist temporal classification (CTC) layer gives the output. The presence of CNN layers requires advanced computer systems consisting of graphics processing units (GPUs) for speedy training of a DNN model. The distributed modeling approach involves the distribution of load across a TPU. As a comparative study, we also train the same model on CPU and GPU systems. Our method aims to handle large batch sizes and reduce modeling time, which is precious to researchers. The word error rate (WER) of the test set is 5%, which is promising.

Keywords: CNN, CTC, Distributed Modeling, DNN, GPU, LSTM, RNN, Telugu OCR, Word Recognition

12. Word Sense Disambiguation for Telugu using Lesk

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Abstract: Word Sense Disambiguation (WSD) is an important field in the natural language processing domain. It is mainly used in fields such as Machine Translation, Information retrieval and Text mining. These do not have a built-in word sense disambiguator and thus, it has to be performed explicitly. Up until now, this has been largely performed on sentences in the English language to identify the sense or context of a word in that sentence. This paper aims to implement it for regional languages as well, specifically, Telugu. Since, Telugu vocabulary is huge, occurrences of ambiguity is common and this paper is aimed at resolving them. To achieve this, a synset will be used, which is an interface for the Telugu WordNet. The algorithm used in this paper is the Lesk algorithm which is a classical word sense disambiguation algorithm. It is based on the assumption that the correct meaning/sense of a word is dependent upon the words present in its neighbourhood. More specifically, sense or context of a word is determined by comparing the meaning of each sense of the word with the meanings of the neighbouring words. This paper aims to get the best sense of words based on the neighbouring words of a particular word using Lesk algorithm.

Keywords: Word Sense Disambiguation, Telugu, Lesk, WordNet, IndoWordNet.

13. Identifying the Duplicate Questions in Community Question Answering Forums using Machine Learning Approaches

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Abstract: Quora and Stack Exchange are information sharing stages where individuals were ask questions with expectations of high quality answers. Frequently, questions that have been asked in this data sharing are may be asked before itself. Organizations like Stack Exchange or Quora can improve client experience by distinguishing these duplicate questions. This would empower clients to discover addresses that have just been replied and keep community members from responding to a similar inquiry on multiple times. The words in the sentence or questions may be different, but they have the same intent. In this paper to overcome the problem of duplicate question identification we are using natural language processing (NLP) techniques to retrieve the question-pair with different intent between the words, and classification is done by using machine learning (ML) techniques to learn from the human-labeled data, and predict whether a new question pair is duplicate or not. This paper also discusses how the proposed duplicate detection approach can expand to large collections, through the usage of NLP and ML techniques, like text pre-processing, embedding, logistic regression, classification Techniques and neural networks.

Keywords: Duplicate Questions, Random Forest, Text Pre-processing, Word Embedding, Continuous Bag-of-Words (CBOW).

14.A Comparison of Classical Machine Learning Approaches for Early Structural Damage Identification

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Abstract. Structures are built to serve human needs and protect from natural events. Poor design or improper maintenance will lead to deterioration of the structures. Fewer times, even as small defect in the structure might affect the complete body leading to collapse, resulting in significant loss of lives and property. Hence, structural designs are needed to be consistently monitored to detect and prevent damage. Conventional structural damage identification techniques require intense manual efforts and technical knowledge. To reduce these manual and technical efforts, this paper proposes a method of segmenting and transforming the vibrational data as input features to machine learning for classifying structural damage with great ease. In our study, machine learning approaches such as Support Vector Machine, Random Forest Classifier, and KNN were used and compared on the proposed method for a two-level structure which was constructed in our laboratory. The results in identifying the damage produced impressive accuracies.

Keywords: Structural Damage, Classification, Machine Learning.

15. Real Estate Sales Forecasting with SVM Classification

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Abstract: The real estate market has a very important role in our society. It has relationship with development and person's fundamental need. So, correct forecasting for sales and demand of real estate is very significant. SVM is a generous type of learning machine which solve classification with limited sample learning, non-linear classification as well as handle "curse of dimensionality". SVM has powerful classification capability with the feature selection, kernel selection and parameter optimization add-on the classification accuracy. This paper focus on real estate sales forecasting and booking scenario on the basis of customer enquiry features. Paper follows the approach of Support Vector Machine (SVM) classification to forecast sales in real state. SVM is type of machine learning algorithm from this, inference knowledge for prediction of sale. Proposed model helps real estate person to make a decision for the further stage of the construction or launch new project according to sales and demand. For the classification, data is gathered from real estate project. SVM classification accuracy is measured with polynomial kernel & feature selection. . The optimal solution can be found and forecasting effect can be achieved by SVM classification. The experimental result proves that the SVM has good forecasting capability. Result also identify that the how classification in real estate provide the solution for sales forecasting.

Keywords: Sales Forecasting, Real Estate, Kernel, Feature, Support Vector.

16. Credit Card Fraud Detection Using Spark and Machine Learning Techniques

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Abstract: To run a property business, merchants got to create a profit that is what's left when deducting the prices of doing business from a company's revenue. Therefore, a business tolerance for payment fraud may be a operate of, among different things, its margin of profit (sell value - value of products sold). The lower the margin, the lower the tolerance for payment fraud. In observe, once fraud happens, the cardholder disputes the charge and also the debit is typically off, which suggests either the cardholders bank or the bourgeois absorbs the loss (see [1] for additional details). Cumulatively, fraud represents a big monetary risk to the bourgeois and also the provision bank. To scale back fraud, 3D Secure, fraud detection techniques, chip and pin technologies are used. However if 3D Secure and chip and pin technology exist, why is fraud detection used? There are 2 main reasons. First, the full value of 3D Secure and chip and pin technology is comparatively high compared to the value of fraud detection. e.g., whereas on-line merchants care concerning conversion, 3D Secure reduces it by many percents (> 5%). Hence, once they have the choice, several on-line merchants conceive to deactivate 3D Secure and manage the chance of payment fraud themselves. Second, adding additional security layers to the shopping for method greatly reduces checkout rate and, in turn, convenience for the client. Whereas convenience for consumers might appear as if a fuzzy conception initially, for corporations like Amazon, that pioneered one-click checkout, it's a selling argument and a method to convert and grow revenues. The objectives of master card fraud detection are to scale back losses because of fraud payments for each provision banks and merchants and revenue opportunities for merchant's increases.

Keywords: Spark, Cassandra, Bigdata.

17.A Real life Decision making Problem via a fuzzy number matrix

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Abstract: The Fuzzy analysis is a process for solving problems, which are related to uncertainty; it has applications in decision-making problems. We all are facing in our daily life with varieties of alternative actions available to us and at least in some instances, we have to decide which of the available actions to take. Fuzzy decision-making is using in almost every sphere of life, which possesses uncertainty or vagueness. The decision-making is the most useful and interesting area of application of fuzzy set theory. In the present paper, we use a decagonal fuzzy number and decagonal fuzzy number matrix for choosing a spouse when one has more than one chooses.

Keywords: Decagonal fuzzy number, decagonal fuzzy number matrix, fuzzy relative function, decision-making, decision maker, ranking

18.Extractive Summarization Using Frequency Driven Approach

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Abstract: In recent times, we have abundant sources for information out of which not every detail is significant. So the point of concern is, identifying the most relevant and important information out of vast data. The focus should be given to the relevant information present in the entire data in such a way that we can understand the entire gist of the text. Considering the above concern as our problem statement, in this paper we discuss "Text Summarization" - it is the process of generating pertinent and significant text from the entire information. Text resources include websites, text documents, and direct text feed from users. Text Summarization can be performed using 2 methods - Extractive Summarization and Abstractive summarization. Here we are going to generate a summary from various types of text sources using extractive techniques. In extractive techniques, we have used a frequency driven approach where the relevance of a particular sentence is measured through sentence weightage and term frequency. We measured the accuracy of the model using a sequence matcher which provides us the relevance between generated summary and human perceived summary.

Keywords: Text Summarization, Extractive Summarization, Term Frequency, Sentence Weightage, Text Resources, Sequence Matcher.

19.An Efficient Deep Learning Based Approach for Malware Classification

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Abstract: With the advent of new age computing and the swift development of electronic devices work in network is a biggest challenge in the field of Computer science and information security. Malicious software or malware can compromise any user's sensitive data like stealing, hijacking, altering, encrypting, stealing, and tracking the activity and so on without permission. With the mounting level of complexity of Malware detection and defence in real time is the biggest challenge in information security domain. From last few years many machine learning algorithms has used in malware detection. In recent days deep learning algorithms are promising in the area of malware detection. Deep Learning methods usually gives better and more accurate result for log sequence of data. In this paper we have used a hybrid CNN-KNN based method for malware detection. Here CNN used in feature extraction. By using the above techniques 97.85% accuracy has been achieved.

Keywords: Malware Detection, Deep Learning, Classification, Convolution Neural Network (CNN), K-Nearest Neighbor (KNN).

20.A hybrid deep learning approach for detecting zero - day malware attacks

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Abstract: Begun in 1988, malware detection continues to be a challenging research topic in this epoch of technology. The exponential rise of IoT devices and its consumers has parallelly increased the number of security breaches in recent times, posing a major security concern. Research studies in malware detection analysis have proved that both dynamic and static analyses are time-consuming, inefficient and ineffective to detect novel malware signatures. The cyber criminals make use of evasive techniques like polymorphism and code obfuscation to alter the malware behavior rapidly and bypass malware detection. To counter-measure the cyber-attacks, machine learning algorithms (MLA's) have come into the picture. The feature learning technique used by MLA's to detect novel malware signatures turns out to be time-consuming. To bypass the feature engineering phase, we introduce the deep learning methodologies such as long short-term memory (LSTM) and convolution neural networks (CNN). We made use of the binary malware datasets to train the algorithms, and once the malwares are detected they are classified and categorized into their respective malware families by means of deep image processing techniques. The results obtained in this paper show cases the Bright side of the deep learning architectures by outperforming the machine learning algorithms.

Keywords: Malware detection, deep learning, machine learning, cybercrime, image processing.

21. Glaucoma Detection Based On Deep Neural Networks

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Abstract: Glaucoma is a condition that affects the optic nerve which can lead to irreversible and progressive loss of vision. Glaucoma is considered to be the world's second-major cause of vision loss. The early detection of Glaucoma occurrence can be very beneficial for clinical treatment. Despite the fact that there are instruments for leading optic nerve investigation, they don't analyze this malady consequently. In recent times, deep convolutional neural networks show superior efficiency in image classification compared to previous handcrafted image classification methods based on features. This paper proposes a method that trains from a dataset of fundus digital pictures and fabricates a model. This model is utilized to anticipate Glaucoma and its severity utilizing profound CNN (Convolution Neural Networks). We built a system with CNN architecture which will be able to recognize the multifaceted features which are present in the task of classification.

Keywords: Glaucoma, Fundus image, Deep Learning, Automatic feature extraction, Classification, CNN.

22. Early Detection of Sepsis on Clinical Data Using Multi Layer Perceptron

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Abstract: Sepsis is activated by the immune system present in your body that works all the time in order to prevent the infection from entering. During this stage, the enormous number of synthetic substances discharged into the blood causes broad irritation. For the patient the practicality of detecting sepsis disease occurrence in development is an important factor in the result. The primary goal of this work is to build, train and test a Multi-Layer Perceptron (MLP) model using data that is available in the form of electronic clinical health data and predicts outcome of class labels as sepsis or no-sepsis for unseen health records. The secondary goal is to compare the accuracy of the MLP against many other models like Ada-Boost, Gradient Boosting, etc. using the metrics accuracy and log loss.

Keywords: Sepsis, Multi-Layer Perceptron, Electronic health records, Resampling, AdaBoosting, Accuracy, Log Loss measures.

23.A Study on Onsite - Offshore Data Security Model for Big Data Applications

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Abstract: In contemporary information technology world, data engineering enacts a vital role in creating the scenario-based test data for development and testing purposes this is done through the cloning of the production data to generate real time data for the said purposes. The data movement between the onsite and offshore sites for the development and testing purposes is inevitable. Information securing is done from different data source frameworks and procedures according to the business applications. Enormous Data coordinates, oversees, and protects large information with repeatable, dependable, and viable procedures. With the big data that is frequently fragmented which are conflicting and ungoverned which are unprotected, and associations has chance of enormous information being a risk rather than an advantage. Business ventures take too long time to even consider realizing the value of data quality and data validity. Sustainably business organizations require another procedure to find the data on real time for its validity and quality during development cycle. Right now, information must be moved among on location and seaward condition during this strategy, information security is significant concern, a major information security stage can make it simpler to recognize, evaluate, and remediate dangers from interlopers. We attempted to do investigation of huge information security utilizing information veiling strategies on different information loads and various sorts of data. The proposed work will enable data quality specialists and data engineers during big data application building with more security features.

Keywords: Big Data Security, Data Masking, Business Domains.

24.Acoustic Characteristics Heart Sounds S1 and S2 of Single Level Auto Encoder with DNN

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Abstract: Study focuses on acoustic characteristics of cardiac auscultation for recognition of the first sound of heart (S1) and second sound of heart (S2) for cardiovascular disease. DNN (Deep Neural Network) method with Auto Encoder proposed for heart sound recognition along with spectrogram for visual representation performance of S1 and S2 classification. Mel-frequency cepstral coefficients (MFCCs) conversion sequence are carried first from heart sound signals and algorithm of K-means along with Shannon energy applied to MFCC features for refining the representation, refined features applied to spectrogram through Denoising Auto Encoder(DAE) and AE(Auto Encoder) for unsupervised learning of DNN to classify S1 and S2. The proposed system is DNN based method of spectrogram with DAE and 1-AE can achieve higher accuracy when compared to other classification methods of S1 and S2 heart sounds.

Keywords: Spectrogram, Auto Encoder, DNN, Denoising Auto Encoder.

25.A Deep Learning approach for Cardiac Arrhythmia detection

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Abstract: Cardiac arrhythmia specifies uncommon electrical impulses of the heart that may be a major threat to humans. It should be reported for clinical evaluation and care. Electrocardiogram monitoring (ECG) measurements perform a significant part in the treatment of heart failure. Due to heartrate differences between individual patients and unknown disturbances in the ECG readings it is difficult for doctors to identify the type of arrhythmia. Classification plays an important role in health protection and computational biology. In this work, we aim to classify the heartbeats extracted from an ECG using deep learning, based only on the line shape (morphology) of the individual heartbeats. The goal would be to develop a method that automatically detects anomalies and help for prompt diagnosis of arrhythmia. A trained neural feed-forward network was chosen for this study. Experimental findings suggest that deep-learning models are more reliable than traditional cardiac diagnosis methods. The details used for the study of ECG signals were from the MIT-BIH database

Keywords: Electrocardiogram (ECG), Feed-forward, Deep learning, MIT-BIH Database.

26. Multi-Classification For Cardiac Arrhythmia Detection Using Deep Learning Approach

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Abstract: Cardiac Arrhythmias are any of a bunch of conditions within which the electrical activity of the guts is irregular or is quicker or slower than normal. It's the leading reason for death for both men and girls within the world. Electrocardiogram which is that the most generally used first one of the clinical tools for checking electrical activity within the heart. Utilizing ECG chronicles to naturally recognize arrhythmia precisely and efficiently may be a very important tool for cardiologists. It's also one in all the primary line tests which is employed to test for issues with electrical movement of the cardiovascular muscles of patients. ECG data is additionally sometimes performed as a part of a physical assessment, and is convenient, making its utilization for pre-conclusion of heart irregularities positive. Hence, it is of incredible enthusiasm to be ready to accurately anticipate arrhythmia utilizing persistent ECG information. Here the MIT BIH arrhythmia informational collection to execute a global classification for various sorts of heart variations from the norm is used.

Keywords: Cardiac Arrhythmia, Multimodal classification, Deep Learning, Convolutional Neural networks, Image Processing.

27.Human Age Estimation Using Support Vector Machine

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Abstract: A person's face provides a lot of information such as age, gender and identity. It plays an important role in estimating or predicting the age and gender of a particular person just by looking their face. The ability of recognizing age and gender is very important because it has got many real-life applications. The requirement of estimation of age of a person is growing rapidly with the advancement of technologies which is paving way simultaneously for chances of fraud. As a result, the modern intelligent systems are expected to have the ability of accurately recognizing and interpreting the human faces in real time. In this paper, we are trying to estimate the age and gender of a person using the combination of two algorithms primarily. A fast and efficient gender and age estimation system based on machine learning is developed. For the development of this system, various artificial intelligence techniques have been employed. The proposed work consists of three phases namely: 1.Feature Extraction 2.Evaluation of the features 3.Age and gender estimation. In this research we used the data from the FG-NET dataset [6] for training the model. In this work, we use SVM classifier, haarnet, Linear Discriminant Analysis (LDA) with an advancing deep learning technique, deep neural networks. We also make use of tensor flow for the backend purposes and also for the essential machine learning libraries.

Keywords: Support Vector Machine, Feature Extraction, DNN, HaarNET, LDA.

28.Real-time credit card fraud detection using spark framework

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Abstract: As corporate and finance businesses increasing day by day the digitalization becomes a rampant and easy mode of payment. Customers showing interest in e-shopping with online payments which save time and compute costs. Both companies and customers focusing more on credit cards became rapid in the last decade as they are easy, convenient, and fast mode of payment. The surge in credit card transactions results in the rise of credit card frauds from year to year exponentially. Companies also spending vast amounts every year on detecting fraud ways and trying to reduce them at possible best. In this provision, we designed a method that helps in handling real-time credit card fraud transactions that shows good results. We used the apache-spark library (MLlib) to handle fraud detection using a random forest ensemble model and real-time processing using Kafka and Spark streaming jobs delivered the optimal result.

Keywords: Credit card transactions spark MLlib, Kafka, spark streaming, credit card fraud, random forest ensemble model.

29. Deep Learning Model for Recognizing Text in Complex Images

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Abstract: Recognition of text from complex background images is a challenging task due to the large variations in background, texture, font and illumination conditions. Text can be detected easily from those images containing less background complexity. There are a few applications that detect the text from images. The accuracy obtained is low for the complex background images. To improve the accuracy, convolutional neural network is implemented. Basically, the proposed approach consists of three parts. At first, the text is detected from a complex background. Then the text is extracted from the image using Tesseract. Finally, all the detected words are stored in a text file. Then the text is converted into an audio file. The proposed system reads the text from the image with the aim to provide assistance for visually impaired persons.

Keywords: Image processing, deep learning, text recognition, complex images.

30. Machine Learning Approach to Track Malnutrition in Children with Rural Background

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Abstract: One of the increasing concerns of human life is about health and wellness. Health and nutrition are one among the valuable aspects of life. India is the second largest country in terms of population, so there are various issues being faced in current date related to health sector out of which malnutrition among future generation and that too especially children from rural areas is the biggest challenge. Malnutrition Tracker is an application which predicts the possibility of malnutrition before it occurs while it concentrates more on rural areas. The prediction is based on the food intake of the child. This is done by comparing the nutrition values of the food intake by the child to the minimum requirements of that nutrient based on age and gender. The annual income of the family and the food intakes of the children have been observed and studied for 15 days. Based on these observations we propose an efficient system using concept of Machine Learning for detecting and predicting malnutrition among children in the schools. Maintaining Data, Generating Reports and recommending the effective treatment to malnourished children.

Keywords: Malnutrition Tracker, rural, Machine Learning, Generating Reports

31. Smart Dustbin: A Reward Provider

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Abstract: Today, an average resident produces seven and a half pounds of garbage every day and that is buried down in landfills and litters lands costing a great amount of money and environmental damage. Nowadays, people face no more critical trouble than the need to save the weakening environment, mainly in urban areas, where solid wastes are uselessly dumped. Although an intrinsic part of our everyday routines, the dustbin's role as a mediator of changing waste practices has rarely been considered. The idea to exalt simple acts in civil behavior may not set a good example, but is a start nevertheless towards fostering a culture where these actions are given the attention they deserve. This paper presents an IOT innovation in the form of a smart dustbin with real time waste monitoring system that integrates multiple technologies such as mobile technologies, sensors and wireless communication technologies. The main idea of the smart dustbin evolves from the traditional basic dust bins to have multiple smart features, like: To have two bins, one for the wet waste and another for the dry waste. As soon as the person throws the trash into the smart bin, the smart dustbin provides a reward as an incentive. Rewards include internet facilities, coupons for different payment driven apps, wallet money. Smart dustbin also provides the location of the bins, so as to notify the concerned department to come and collect the trash when the smart bin is full with the shortest path distance navigation with data analytics and also to provide the garbage collectors with rewards for successfully emptying the smart dustbin with the rewards for encouraging them. The aim of this paper is to provide an efficient and cost-effective waste collection management system, while encouraging the individuals to put the trash where it belongs, hence providing clean, healthy and green environment.

Keywords: Real time waste monitoring system, Rewards, Smart dustbin, Waste collection management system, a reward provider, Reward points.

32. Cyclic Exploration-based Whale Optimization to Linear Discriminant Regression Classification for Face Recognition

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Abstract. Generally, face recognition determines the judgment of whether or not a specific face is ‘known.’ Moreover, the face identification denotes the retrieval of data or information about the ‘owner’ of face. Under this concept, a number of researches are there in progression. Still, the research works are not yet up to the mark as human brain recognition. The intelligence in face recognition should be enhanced with high accuracy rate, and this approach tends to present a novel face recognition pattern with a concept of feature extraction and classification. The features are extracted using Active Appearance Model (AAM). Then the classification is done via linear collaborative Discriminant regression classification (LCDRC) model proposed by Xiaochao Qu. In the LCDRC classifier, the most important evaluation is projection matrix that might get multiplied to the features while classification. The projection matrix must be optimal, so that the recognition accuracy can be greatly attained. In order to select the optimal projection matrix, this paper presents a Cyclic Exploration based Whale Optimization model (CEWO), which is the modified form of Whale Optimization Algorithm (WOA). The comparison of the proposed face recognition model is done with the performance across the additional conventional techniques with regard to measures such as Accuracy, Precision, False positive rate (FPR), False negative rate (FNR) of the proposed model is proven.

Keywords: Face Recognition, Active Appearance Model, Linear collaborative Discriminant regression categorization, Whale Optimization.

33. Auction System in Food Supply Chain Management using Blockchain

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Abstract. Blockchain has become very popular these days because of its decentralized nature. The applications of blockchain are spread out in all domains from agriculture to medical field. Food supply chain can be made transparent using blockchain. The need for transparency in food supply chain is increasing day by day because nowadays people are more cautious about the food they buy and consume. So every individual should be able to get complete details about the food they eat from farming to consumer end. In this area, blockchain is playing a vital role.

Along with giving complete information of food products to end user, it is also required for a farmer to get good prices for the food products they had grown. Currently food products are sold in centralized auction system with the involvement of a third party. Because of the biased nature of third party, farmers are not able to get valid price for food items they have even though there is a demand in market. So, this paper is discussing an auction system for food products without a third party using blockchain technology which avoids biasing.

Keywords: Auction, Biasing, Blockchain, Supply chain management.

34. The Mechanism of Generating the Automated Java Unit Test Cases by achieving Maximum Code Coverage

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Abstract. The Code coverage, being the factor of focus on unit testing that tells us which part of the source code is tested or untested. The existing abstract classes and interfaces in the code are also to be tested to ensure the maximum code coverage as generating the high coverage test suites plays an important role in realistic systems like airbag systems, auto-pilot systems etc. Thus, the correctness in the functionality is properly tested. Mocking is the process of constituting an imitation of the object. It is the technique of unit testing where the virtual objects are created to mock the behavior of the actual object, which helps us to bypass faults to some other class or system like database operation, REST API calls etc. Hence, this proposed work has been designed to generate the highly covered test cases in the aspects of Java. This work helps us to produce the test cases along with the skeleton which forms a syntactically correct JUnit. It helps to test the subclasses implementing the Abstract class’s methods and classes implementing interfaces, to generate the test cases for no access modifier methods. The generated test cases support mocking as well. Mockito framework is being used to do so.

Keywords: Code Coverage, Mocking, JUnit, Mockito, Abstract Class, Interfaces.

35. Line Stability Index Based Voltage Stability Assessment Placing Series Compensation of TCSC

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Abstract. Nowadays power system security is a main concern for the continuous transfer of power supply which has to be maintained under steady state condition when comes to the line outages and the transformer outages. So, severe stress on the lines causes line outages which involves voltage instability leads to the collapse of voltage at the entire system. In this paper IEEE-5 and 6 bus system is considered for the performance of voltage stability condition where by giving the contingency ranking of the severe line using Active Power performance index/Real power performance index only for 5 bus for which the series compensation is placed as the optimal location providing reactive power based on Line voltage stability factor to reduce the vulnerability of the bus and the optimal size is determined based on the maximum compensation provided from the TCSC.

Keywords: APPI, LVSF, Optimal location, Reactive power compensation

36. Preventing Crime Using Advanced Artificial Intelligence Techniques

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Abstract. Crime is increasing significantly from day to day. Every crime is associated with a certain pattern. The modern AI techniques can be implemented in crime scenarios to obtain valuable insights. In contrast to existing works on crime analysis, we used the latest and much more efficient algorithms to handle crime. Our research work is segregated into three independent modules -prevention, detection and investigation. Prevention phase uses AI strategies to predict regions with high probability of crime occurrence in specified time and preventing crime from happening. Detection phase uses Faster RCNN to detect the kind of crime happening in an area through a security camera and alerting the police for instant response. If crime happens, AI Investigation can predict criminals through clues left in the crime spot. Our work also classifies police complaints. Criminal complaints registered by victims are automatically classified as an appropriate type such as robbery or murder. Our work achieved significant performance compared to earlier works

Keywords: crime prevention, crime detection, Faster RCNN, NAÏVE BAYES, Random forest, Recurrent neural network (RNN), Long short- term memory.

37. Issue Resolution Process: Salesforce

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Abstract. The world we live in today is fully synchronized with the data being generated every second using cloud. One such company which delivers cloud services is “Salesforce”. Salesforce is a cloud-based software organization providing Customer-Relationship Management (CRM) services. This paper proposes the case escalation concept and how it can solve the issue mentioned by the customers in the specified time. Case Escalation, also known as Issue Resolution Process, is done when an issue reported by the customer is left unresolved. This mechanism will be crystal clear when a sample of data is taken. The data projects the issues arriving at a pediatric hospital with different departments. An interesting feature of Salesforce will take a big hand in this application to resolve a problem regarding the purchase of licenses for each and every manager in each department, on a whole containing more than 50 departments. This feature helps to provide access of the application to the managers, executives, directors, president, vice-president, to solve the case without having licensed account on Salesforce. The cases will be solved depending on its priority whether high, moderate or low. This paper also defines the outline of stimulating traits for further improvements.

Keywords: Salesforce, Apex, Case escalation, Customer-Relationship Management, Unauthenticated sites, Priority of a case.

38. Automated Member Enrollment: Health Insurance Agency

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Abstract. Popular arrangements emerge with anticipated cutting edge innovations during this cloud world. Salesforce advancement, which is an exceptional float these days has been extraordinarily helpful to small, medium, and huge estimated associations. Being an unmistakable industry, medicinal services like a few unique enterprises must advance to fulfill the requests of the computerized age in every area especially health care coverage, patient data. To accomplish this assignment, health insurance has been inviting Salesforce for its assistance. This paper examines a plan created utilizing Salesforce to ensure uncomplicated techniques inside the medical coverage segment. Starting with the point of the errand, the paper diagrams the strategies, highlights, and edges of the anticipated framework. To acknowledge less manual work, effective procedure management and to allow direct assistance to every person, a programmed part enlistment plan is exhibited in detail. The paper incorporates the structure plan and a top-level perspective on some eye-catching alternatives for additional upgrades.

Keywords: Salesforce in health care, challenges to insurance agencies, automated enrollment, individual assistance, stripe payment gateway, framework plan.

39. Comprehensive Analysis of State-of-the-Art Techniques for VQA

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Abstract. The visual question answering is an upcoming field in the domain of computer vision and NLP i.e natural language processing community. In this domain a person will be giving any image and can answer certain questions using common sense about the given image, this combines various visual and linguistic processing using the understanding of the user by analyzing the image. This discussion concerned the various datasets which are used in these studies and using the various question and the answer format and which increases the robustness and efficiency of different machine learning models. Also, here various methods are discussed which are classified using the machine learning mechanism taking the help of popular textual and visual modalities. The latest convolutional and neural networks of recurring nature are used to map several questions and images in the feature space which is very common in deep learning. Also, numerous question answers are examined from the diverse depth and the project of visual modalities to understand the relevance of the annotations of structured images and photographs using a visual question answering method in this study.

Keywords: Deep Learning, Artificial Intelligence, VQA, Models.

40. Study of State of Arts Methods for Event Extraction

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Abstract. The amount of online published news articles increases day by day so readers need to find news articles related his or her interest is very difficult. Lots of important events happened in everyday but they are reported in different manner in different online published news articles. In the event extraction technique detection of main event from the news articles is most important task including some other task like identifying the argument, trigger and named entities. Event extraction and categorization has a wide range of application in various domains. This article discussion about the various states of arts and currents methods used in the area of event extraction from text as well as news articles. We also discuss the comparative study about the various method used in event extraction field. After that we will discuss about current challenges and research opportunities in the methods of event extraction and categorization.

Keywords: Event extraction, event arguments and triggers, event corpus, event categorization.

41. A Survey on Identification of Illegal Wildlife Trade

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Abstract. From the last two decades, there was a huge climb in the web where there are various changes in the criminal activities, through which various opportunities have risen and one of them is wildlife trafficking. Wildlife trafficking is increasing rapidly across the world and becoming a threat to various survival of species as well as to the security of the whole world. The researchers have examined this illegal wildlife trade using various theoretical frameworks, but the attention is not drawn over the ways of trade that is being happening on the web since a very long time. Thus, this paper gives a brief review of the present literature to check these gaps in the web as well as recommends empirical research in the difficulty of animal trafficking in the future. This paper also highlights the online wildlife trafficking which is happening to date and the methods that were used to identify this illicit trade.

Keywords: Wildlife Trafficking, illicit trade, animal trafficking, online trade framework.

42. An approach for optimizing algorithms which find k1-most demanding products

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Abstract. The primary goal of this paper is on optimizing the process of finding k1-most demanding products using traditional algorithms and clustering. We have used 4 clustering algorithms over 2 traditional algorithms to optimize the time for finding k1-most demanding products. A synthetic data set was used for demonstration and the results are plotted in a graph for comparison. This approach can be used in various fields for optimization purposes.

Keywords: Data mining, Decision support, Clustering set of rules, Performance comparison, Self Organizing Maps.

43. Homomorphic Analysis of Privacy-Preserving Psychological Medical Records

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Abstract. The mental health data and diagnosis notes are available online and accessible to all users, such as investigators, statisticians, data analysts, enduring, and psychiatric consultants. Conversely, the accessibility of electronic health records, which contains hugely insightful patient data, threatens the privacy and secrecy of mentally diseased patients. The objective of this work is to inspect privacy concerns about the psychological feelings of patients. Many investigators developed privacy-preserving data analysis methods. In our proposed action, drawbacks of the accessible privacy-preserving techniques. In our proposed work, analysis of privacy-preserving data method which facilitates investigators in providing the privacy of mental illness patients once allowed right of entry to psychological health records. In this work, we attain maximum privacy, preserving subjective data by applying the homomorphic encryption algorithm along with performance analysis of our approach with other existing techniques. The implementation results demonstrated a substantial influence on numerous applications.

Keywords: privacy, mental illness, patients, psychiatrists.

44. Prediction of Rice Plant Diseases based on Soil and Weather conditions

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Abstract. India is an agriculture dependent country as most of its inhabitants pivot on cultivation of crops for their livelihood. The growth of crop mainly relies upon climatic conditions, water quality and water content in the soil. In recent years, the crop yield has been decreased due to occurrence of diseases because of variations in the climatic conditions and changes in the soil properties. The main challenge is to reduce the loss of crop due to diseases and increase productivity of the crop. For this, it is very important to predict the disease in advance so that necessary precautions will be taken. In order to achieve this, a system is proposed to detect the rice plant diseases based on Internet of Things and machine learning techniques where IOT is used to collect the sensor data and prediction of disease is done by Naive Bayes machine learning algorithm. Climate and water data is obtained with the help of sensors and is sent to the Thing Speak cloud and this data is extracted and utilized for predicting the plant disease and the accuracy obtained is nearly 92%.

Keywords: Agriculture, plant diseases prediction, Internet of things, Naïve Bayes algorithm, Thing Speak cloud.

45. An improved web information system through identification of faculty browsing patterns in affiliated engineering institutions

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Abstract. Now a days, the teaching methodology in engineering stream is extensively making use of internet resources. The concepts being taught in engineering institutions are very well presented in online resources such as Wikipedia, Tutorials point etc. The faculty working in engineering institutions frequently visits the pages in the previously mentioned websites. As the syllabus the faculty has to teach is predetermined by the university to which they had been affiliated to. As a result, the pages those faculty browses are ordered by the topics in syllabus which is streamlined in a semester through the timetable of a particular year and branch of engineering. So we can know in advance the pages that can be browsed for all subjects, all branches, and all years of engineering courses. As a result, the web server efficiency can be improved by prefetching these pages into random access memory. We have the performance with proposed idea and without proposed idea in all four algorithms. Results suggest that there is a significant improvement in hit ratio and thus in access latency.

Keywords: web cache, page replacement, web prefetching, faculty, browsing patterns.

46. Transient Response Improvement of Separately Excited D.C Motor using Fuzzy Logic Controller

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Abstract. The fuzzy logic control draws the attention of Researchers to improve the system performance, when the control strategy involves ambiguity. Fuzzy means, things are not clear; hence the fuzzy logic control determines the proper control actions for non-deterministic systems. The article is aimed to determine the small signal model of a d.c shunt motor using laboratory based testing, and to design a PI controller for improving the system performance using Ziegler-Nichols tuning method. The performance of the machine can still need some improvement, which can be attained using fuzzy logic controller. The dynamic and steady state performance can be enhanced even for load disturbance. The fuzzy controller is designed with two input membership functions and one output function of triangle shape with twenty five fuzzy rules. The case study have been performed with simulation results. The machine is tested with two major cases, one is comparative analysis of ZN tuned PI controller with FLC in two cases one without load disturbance and the other is with load disturbance. The performance of the machine with fuzzy logic controller is robust and much superior to other method for both the cases. The Obtained simulation results are as follows -100 percent steady state error for the both without & with controller by consideration of without and with one percent load disturbance, while ZN tuned PI gives the settling time of 12 seconds with 3 percent steady state error and 12 seconds with 0.5 percent steady state error for without and with one percent load disturbance respectively FLC gives settling time of 0.82 seconds with zero steady state error and 0.9 seconds with zero steady state error for without and with one percent load disturbance respectively.

Keywords: ZN tuned PID Controller, Ziegler Nichols Tuning, Fuzzy Logic Controller, Dynamic performance of d.c motor, root locus based design, FLC controlled D.C Motor control.

47. Malware Detection Kit for malware analysis of Big data

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Abstract: Contemporaneously, Security is a major mission in technological world, irrespective of domains, fields and technologies. Like other areas, Big Data and IOT too experiencing security issues, threats & attacks in every single minute. These attacks can be on different components of Big Data and IOT, like data stored on various nodes, clusters, propagated through networks, and via various components of the system or sensors. Big data security deals with the measures, techniques and tools used to protect both the data and analytics methods from attacks, threats, or other unauthorized activities. In this paper, to apply Security measures to overcome vulnerability of infrastructure, proposed a method called Malware Detection Kit (MDK).MDK comprises of static and dynamic analysis. Malware detection kit identifies attacks and threats. To detect attacks analysis is performed in two iterations. Whenever a new data enters into system, data undergoes first iteration of MDK, by static analysis it identifies threats if any .In the second iteration, file is submitted to automated dynamic analysis tools. The tool reports whether the file is malware on benign. Static Analysis is done by using Random Forest classifier; it produced high accuracy and low error rate for Malgenome dataset. Dynamic analysis is done by using automated sandboxes. Finally, this method recognizes whether the file is benign or malware.

Keywords: Big data security, Malware, vulnerability, automated tools

48. Facial Emotion Recognition to examine human face using hybridization method

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Abstract. Emotion recognition is a method used to inspect the ones internal feelings on a human face by using a technique Facial recognition technology can be used for authentication, recognition, and verification across various industries, including KYC, payment verification, and access control. Moreover, its aptitude is first to inspect facial expressions for emotions like happiness, sadness, surprise, anger, etc., Facial expression recognition is progressively receiving attention now a days. A person will express feelings through their emotions. The expressions are the exterior signals communicate the internal feelings of a person. Face appearances are divided into 7 feeling states (neutral, happy, sad, disgust, surprise, fear, and anger). The present paper is about hybrid method for face expression or emotion recognition. LBP and PCA are two methods individually used to recognize face. LBP method is used for local feature extraction. LBP method is incredibly sensitive to noise and can't distinguish between a powerful and a weak pattern. PCA used for global feature extraction .An Hybridization method can be used for face expression recognition to improve the authentication process.

Keywords: Facial Expression Recognition, Local Binary Pattern, Principle Component Analysis.

49. Emotion and stress recognition through speech Using Machine Learning Models

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Abstract. Emotion is a state, related with our sensory system brought out by the neurophysiological changes related with our thoughts like sad, happy, scared, excited and angry. These can be perceived through standard of conduct and outward appearances. Distinguishing discouragement through feelings is a troublesome errand. Being unhappy can't be identified with melancholy. There are explicit side effects that help recognizing a burdensome issue, through various researches and study. This paper centers around a feeling acknowledgment framework dependent on the discourse contribution of the person. The framework pre-forms the sound info and perceives the feeling utilizing the MLP classifier. The proposed model will be able to give the best prediction rate for the emotion recognition of the depressed.

Keywords: Speech recognition, Emotion recognition, Pre-processing, MLPClassifier.

50. Dynamic Watermarking using Python AST

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Abstract. Watermarking refers to the process of embedding stealthy artifacts in a codebase, in order to determine and prove its origin and ownership. The artifacts should be stealthy, small, and resilient but also efficiently detectable. In this paper, we will be exploring a novel way of automating watermark ending, by manipulating the Abstract Syntax Trees (AST) of a given program. AST is an intermediary form obtained during the compilation process. AST's provide us with an accessible way to manipulate code entities while effectively preserving Semantic and Syntactic meanings of the original source code.

Keywords: Watermark Embedding, Python AST, Abstract Syntax Trees

51. A Novel Framework for Video Retrieval Algorithm Evaluations and Methods for Effective Context Aware Video Content Retrieval Method on Cloud

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Abstract. In the recent time, multiple research outcomes have demonstrated diversified approaches for the content management and showcased better outcomes. However, the parallel research outcomes are highly criticized for higher time complexity, reduction of the key contents and finally the lesser accurate indexing of the contents. Majority of the recent work outcomes have demonstrated the reduction of key words based on language recommendations rather the context recommendations. This leads to non-context aware reduction and further leads to incorrect extraction of keywords. Thus, the demand from the recent research is to identify the key words based on the context. Also, based on the previous claim, the proposed works must identify the actual frames if the key word identification is based on the context. Thus, based on the recommendations by popular research outcomes, a framework is to be proposed to compare the existing video content retrieval methods and propose a novel process to identify the key frames from the video contents using contextual mining and consider the optimal storage architecture for the proposed process input meta data and results for cloud based storage service providers. The final outcome of this work is reduced complexity of the framework, compared with the parallel research outcomes, and higher accuracy for video content retrieval with reduction of the size for the searchable contents. The proposed work demonstrated nearly 15% improvements for content retrieval process and 86% improvements for time complexity over the parallel research outcomes for making the video content management and delivery mechanisms better and faster.

Keywords: Segmented Noise Removal, Adaptive Threshold, Video Summarization, Cluster Knowledge Discovery, Quartic Polynomial Randomization, Similarity Region Extractor.

52. Energy Efficient Data Transmission in a Three-Hop Cooperative Cellular NB-IoT Network Using Double Auction

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Abstract. A narrow Band IoT (NB-IoT) device's battery life is vibrant for future evolution of networks being wireless. The efficiency of energy for cooperative cellular NB-IoT networks is explored in this paper. In this context three-hop assignment problem is proposed; the theory of double auction is used for its construction. The three-hop assignment aims in increase of the battery life of a cell edge narrow band IoT users (CENUs) along with concentrating on energy efficiency enhancement. In the proposed model, to get maximum battery life, the transmission power of NB-IoT user (NU) is taken into consideration and is decreased to the possible lowest magnitude. Also, to increase the battery life of CENU, an energy-efficient narrowband IoT user, maximum weight matching method (EENU-MWM) is recommended. Lastly, EENU-MWM performance is assessed in terms of capacity, EE, transmission time, which demonstrates that EENU-MWM can significantly enhance the efficiency of the cooperative NB-IoT cellular network.

Keywords: NB-IoT, Cooperative Communication, Double Auction, Three-hop

53. Ground Water Level Analytics for Effective Water Level Predictions and Visualization of the Patterns

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Abstract. In present days, everybody is depending on the bore wells to get water for domestic as well as agriculture purposes. With submersible pumps set at few hundreds to thousand feet into the earth, there is no clue about the water availability levels and its recharge patterns. In existing systems, a sensor fixed to the motor tells us about the availability of water near the motor but is not a reliable indicator. Therefore, people are depending on a kind of guess and magnetic field techniques to assess the water levels and its availability. In this paper, groundwater level analytics are performed on the data collected from Telangana region to visualize its patterns. This analysis helps to predict the water level and closely observe the recharge pattern by monitoring rainfall data.

Keywords: Groundwater Level Analytics, Predictions, Visualizations, Linear Regression.

54. Identification of Security Threats Using Honeypots

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Abstract. The number of devices connected to computer networks is growing rapidly and also the network attacks are growing. Attacks on the internet keep on increasing and it causes harm to our security system. In the field of network security, A Honeypot is a computer system or application created to attract attackers, who are trying to attack computer networks through the use of spam, phishing, DDoS (Distributed Denial of service) or other nefarious methods. This paper proposes that, once an attacker falls into this trap, the honeypot allows administrators to obtain valuable data about the type of attacker, the activity he was attempting, and helps in identifying the attacker. Even though if an attacker using encryption to stole the data, Honeypot can capture the malicious activities and send the alert messages to the admin. Through this resultant data we can analyze hacker's intentions and new hacking techniques by using visualization tool which helps preventing from future attacks.

Keywords: Network Attacks, Network Security, Honeypot, Attacker, Hacking Techniques.

55.A TDMA Scheduling for Particle Swarm Optimization based unequal clustering in WSN: PSO-UFC-TDMA

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Abstract. The lifetime of network is maximized in wireless sensor networks (WSNs) by an effective energy saving technique named as Clustering. The energy of cluster heads (CHs) that are adjacent to base station (BS) gets depleted because of traffic load at high inter-cluster relay in the multi-hop approach and the issue of hot spot arises. Therefore, a clustering protocol must have effective energy and should be fault tolerant. By using the process of TDMA which is stated as PSO-UFC-TDMA, a particle swarm optimization (PSO) is proposed in this paper on the basis of unequal as well as fault tolerant clustering. Additional CH also known as Surrogate cluster head (SCH) is selected because of unexpected MCH failure in order to restore connectivity of network in PSO-UFC protocol. Energy is saved using TDMA by allotting timeslots in the transmission of the data. The lifespan of the network is extended by PSO-UFC-TDMA technique compared to PSO-UFC, EBUC, PSO-C as well as LEACH-C protocols which is presented in the simulation results.

Keywords: Particle Swarm Optimization, Unequal Clustering, Fault Tolerance, MAC Protocol, TDMA, Packet Delivery Ratio, Network Lifetime.

56. Construction of Phylogenetic Tree for Cyclooxygenase Dataset by Clustering

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Abstract: Phylogenetic Trees represent headway relationship among characteristic collection, residing topics. The tree finds the likeliness or divergence of received skills. I construct phylogenetic tree for developments coming across comparison among wonderful species developments using institution exam, as an example, Hierarchical Bunching, KMEANS and SOM with PCA. As in line with author species tendencies can be comparative at the off threat that they have got comparative examples or conduct contrast can be removed in conduct, examples. For actualizing the understanding, I applied COX dataset from NCBI website online for manufacturing the phylogenetic tree.

Keywords: Phylogenetic tree, Cyclooxygenase, Dendogram.

57. Efficient MAC Protocol Analysis Systems for Wireless Sensor Network

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Abstract. Energy preservation for effective WSN applications is one of the major challenges, as the small sensor nodes have very limited power, storage, communication and computing resources. The sensors remain unattended, and after deployment, rechargeable batteries are almost difficult. The algorithm proposed to pick a nearest hop node based on the token-ring algorithm, compared to the other current S-MAC, T-MAC and HEED algorithms, which pick the next hop node based on parameters such as shortest-path, maximum residual power or probability. More specifically, it is easier to reduce the total power consumption on a multi-hop route when driving by carefully choosing suitable intermediate nodes. The combination of cluster-based routing and containerized WSN routing algorithms is proposed to be used as an Advanced Energy Efficient Sensor-based MAC (AES-MAC) protocol. The routing process involves the maintenance of routing and routing. The illustrations show a simple, distributed, localized routing algorithm which can be easily implemented for the various practical applications.

Keywords: MAC, Hybrid Protocols, AES-MAC protocol.

58. Analysis of Wireless Mesh Networks in Machine Learning Approaches

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Abstract. A promising method of giving ease broadband web get to is the Wireless Mesh Network (WMN). Naively, all nodes on the network are not malicious underlying routing protocol. WMN 's open architecture, multi-shop communication nature, different styles of management and wireless communication pave the way for malicious attackers. In the multi-way mesh routing protocol, the attackers may exploit hidden loopholes to carry out a suction attack called the blackhol attack. Wireless Mesh network efficiently improves with ping mesh nodes equipped with multi-radios tuned to non-overlapping channels. Thus, there are multiple connection ranges for data transfer between the two nodes and the bandwidth between the node pair is dynamically different. In this case, a mesh node uses machine learning to select the best possible data bandwidth. A new heterogeneity key management system was created which combined logical key hierarchy with localized threshold technology. The heterogeneity of wireless mesh networks is being developed. In order to recognize profile profiles and intrusion, we have a cross-layer detection model using machine learning algorithms to exploit linked routing features. With a generic response model to define system and resource dependency services, we address the wireless network automatic intrusion response issue. In this article, we present a dispersion calculation dependent on machine allowing transmission node to select the next step dynamically with the maximum bandwidth possible to resume communication, based upon the study algorithm.

Keywords: Machine learning, Wireless mesh networks, and Deep learning.

59. Analysis of Detecting White Blood Cells by Computer Vision Methods

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Abstract. Experts in both medicine and computer vision were engaged in the study of WBC images. Since WBC can be approximated by ellipsoid shape an algorithm for the ellipse detector can be implemented to recognize them successfully. This paper introduces a complicated and unpacked novel algorithm for scanning WBC automatically, which sees the whole process as a problem for the sensing of multi-ellipse. The process converts the detection function into an optimization problem based on the novel differential evolution algorithm (DE), which is used to mimic ellipses of individuals. An objective function assesses whether these ellipses really exist in the edging image of the smear. The encoded candidate group creates ellipses (electors) using the novel DE algorithm to fit into the WBC, based on the values of a single edge map image.

Keywords: Blood, Image segmentation, Image edge detection, Image color analysis, and Diseases.

60. SMART HEALTHCARE MONITORING FOR DRIVERS

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Abstract. Internet of Things (IoT) utilized to monitor electronic devices by everyone at every place. There are so many applications like medical care, home appliances, vehicles, industries where sensors operated. To avoid health issues, this smarter health care system introduced. Most of the expensive cars are getting the inbuilt sensors. If the health monitoring kit is available at an affordable price, then it is easy to avoid accidents for people who drive the vehicle. The sensors are used to monitor temperature sensor LM35, Arduino UNO, GSM module sim800L, finger clip pulse sensor, buzzer, and LCD. Here the health is recorded continuously with the help of sensors and is fixed some threshold value for temperature and pulse sensor so that if the readings crossed the threshold value, then the message immediately goes to the healthcare provider and also the transport office. Some parameters used to monitor the pulse rate, body temperature by using the sensors and that data transferred to the mobile with the help of Bluetooth.

Keywords: GSM, GPS, Internet of Things

61. Analyzing vocal patterns to determine Gender, Age and Emotion

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Abstract: The speech represents a significant role in human communication as we can convey our feelings through it. Emotion is a strong feeling that is derived from one's circumstance or surroundings. Speech analysis is important to have natural inter-play between human beings and machines and also to reduce the alienation and isolation in human beings. In speech emotion detection, the emotional state of an individual is extracted from their speech. Our project aims to design and develop a hybrid system to detect emotion, gender, and age by analyzing vocal patterns (or speech) which the current system fails to do since it uses separate systems for the detection of gender, age, and emotion. We will be taking speech signals as an input which will be converted into NumPy array and later classified using the SVM algorithm.

Keywords: Gender classification, age classification, emotion classification, SVM (Support Vector Machine), Machine Learning.

62. A Robust and Secured mechanism for sharing encrypted data in cloud systems

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Abstract. Citizens are embracing the major power of cloud computing, make sure that cloud providers can not truly believe in hosting information that is vulnerable to privacy, as access to cloud control is lacking. Due to this the data owners will share the encrypted data instead of plaintexts to ensure confidentiality. By using the Cipher text Policy-Attribute based Encryption (CP - ABE), we can share the encrypted files with the other users, for solidified and owner-significant monitoring of access. Though this we don't get safe enough by means of some unknown attacks. Many existing methods will not allow the cloud provider check to see if the downloader is able to decrypt. Such files will also be open to anyone usable for storage in the cloud. A malevolent attacker can access Hundreds of files to conduct Economic Denial of Sustainability attacks (EDoS) that use the cloud resource to a large extent. For this purpose, the responsibility rests with cloud service payer and the payer has to bear the expenses. The cloud provider simply acts as both the assessor and the technology use tax payee, minimizing data owners 'responsibility. In real- public cloud storage these issues should be addressed. In this paper, we suggest a solution for protecting Encrypted cloud storage from Economic Denial of Sustainability assaults and providing resource usage transparency. In a black-box approach it uses CP - ABE methods along with complying with CP - ABE's arbitrary access policy. We have two protocols proposed for a particular environment, Performance and safety review followed.

Keywords: Cipher text- policy attribute-based encryption (CP - ABE), Managed access, Storing the public cloud, accounting, Safeguarding privacy.

63. Providing Security for Cloud Computing Platform Using IP Address Randomization.

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Abstract. Distributed Denial of Service (DDoS) assaults represent an important warning toward basic communications and same to Internet benefits. Here paper, suggests IP Address Randomization, a moving objective defense mechanism with the aim of verifies authentic customers besides flood DDoS attacks. This project utilizes gathering of active packet indirection proxies toward passing information between real customers along with the protected servers. Our structure be able to successfully inhibit outer attackers' endeavors to legitimately bombard the network base. Subsequently, attacker's determination requires on the way to conspire through malicious insiders within discovering secrecy proxies after that initiating attack. However, moving objective defense mechanism can segregate insider assaults as of innocent clients through ceaselessly "moving" secrecy proxies toward latest network area whereas recognizing client to intermediary assignments. We build up a greedy shuffling computation to limit the quantity of proxy reassign (shuffles) while amplifying assaults detachment.

Keywords: IP Address Randomization, Moving Objective Defense, Secrecy Proxies, Shuffling

64. Smart Wireless Black Box with Intelligent Facial Recognition System for Prevention of Accidents and Theft of Vehicles Using Raspberry Pi Along with Sensors Based on IoT

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Abstract. With the increased number of vehicles on road, the number of road accidents are increasing day by day. Every year, approximately 1.35 million people die in those accidents. In most of those accidents, people can be saved if taken to the hospital at the earliest, but due to lack of information regarding the time and place of the accident it may not be possible. This paper aims at building a smart black box system which can help in reducing the road accidents and increasing the chances of saving injured people's lives through accident detection using MEMS accelerometer and thereby alerting the nearest hospital service and the police control room with the exact location of the accident with the help of GPS Sensor and Twilio SMS service. This smart wireless black box comes with an intelligent facial recognition software which prevents vehicle theft by alerting the owner of the vehicle with the image of the unauthorized person captured through camera. There is also a built-in pre-accident detection mechanism in this black box which prevents drunk & thereby stopping the vehicle's motor and alerting the nearest police control room and the driver's relatives. This black box system captures various environmental parameters through sensors from the surroundings such as temperature, humidity, obstacle distance, pulse of the driver, location coordinates of the vehicle and uploads all the data to the cloud and also provides the visualization of the data gathered through the sensors. If any parameter value exceeds the limit then this black box system alerts the corresponding authority via SMS.

Keywords: Vehicle Black Box, Accident Detection, Theft Detection, Facial Recognition, Raspberry pi, Sensors, Thing speak Cloud.

65. Indian Sign Language Recognition Using Convolutional Neural Networks

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Abstract. The Communication plays an essential role in our daily life. People who are hearing and/or speech impaired find it difficult to communicate with others. To aid the deaf and dumb in communicating with others sign languages are used. There are many sign languages. In this paper we worked with Indian sign language. A convolutional neural network is used to identify the images and classify them. Convolutional neural network comes under deep learning algorithms. Various actions are performed in each layer of the neural network to classify the image correctly. Employing convolutional neural networks increases the accuracy of the system. The data set consists of hand gestures which are already processed and the model is trained with the dataset. The model takes hand gestures as input and converts those signs into text. Real time video feed is used as input. The model can be further trained to detect more signs depending on the efficiency of the device.

Keywords: sign language recognition, Indian sign language, neural networks, convolutional neural networks.

66. Text Recognition in Complex Images using Deep Learning Models: A Survey

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Abstract. Text recognition in images is a very challenging task. It is used for guiding visually impaired persons and also in semantic meaning. In this survey we are going to explore different techniques implemented in the previous years on complex background images. It gives the analysis of related works and also emphasizes the performance of the image recognition. Image complexity cannot be defined in a precise manner but we can describe its parameters such as backgrounds, noise, illuminating conditions, textures, fonts etc. This survey also highlights few benchmark datasets that are used in this review. Through this review we can analyze various problems present in this field by contrasting their features.

Keywords: Complex Images, Image Processing, Text Recognition.

67. Improving the traffic control system by modifying the geometry of roads and squares by removing the discontinuity of space

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Abstract: This paper presents a review of the existing geometry of the roads and squares and proposes a continuous topological model to solve the existing and upcoming traffic problems. As it is seen that due to discontinuity in traffic flow, public suffers a lot. After a deep study, it was found that the Discontinuity of spaces exists in this existing model and also it is topologically incorrect. The Discontinuity of spaces exists due to the reason that all the traffic signals situated on one road are not equidistant and cross roads create a chaotic situation. Therefore, we introduce a topologically proven model in which we tried to remove discontinuity between spaces and suggested some minor constraints which can be enforced as a part of discipline.

Keywords: Topology, Continuity of spaces, Transport, Traffic, Design of roads.

68. Smart Ambulance System using Fire-Based Cloud Technology and Laser Beam Mechanism

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Abstract. The ambulance services in India are struggling with a dense traffic and the vehicles which are using for ambulance services are not technically build to save lives and guide themselves to reach destiny. We are coming with an amicable solution to get rid of traffic jams issue at the time of ambulance services, though ambulance vehicle has equipment which supports for the injured person to do first aid, the main motto of the ambulance is to reach hospital in minimum time to save lives of people. We are proposing path guided mechanism to install laser beams in front of the ambulance vehicle to guide the path of the vehicle and to guide people in front of the vehicle will move away from the laser beam. Most of the time we find the people in front of the ambulance confused to give way to ambulance by installing laser beams will guide people in front of the vehicles. The laser beams which guides only people in front of the vehicle by considering importance of the ambulance to reach on time. We are proposing this system by considering percentage of people using smart android handsets. Our systems work on android capability reaching Google notifications alerts. With this alert we are guiding public 500mts around path of the ambulance vehicle will be guided with a fixed notification of free left to the ambulance by using Fire based Cloud Messaging Service. We are in a system where implementing any major changes is not so easy but above proposed systems can be implemented without any changes in the existing system [1].

Keywords: Laser beam path guided mechanism, ambulance services, and Fire-based cloud technology.

69. HAND GESTURE RECOGNITION TO IMPLEMENT VIRTUAL MOUSE USING OPEN SOURCE COMPUTER VISION LIBRARY: PYTHON

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Abstract. Hand Movement Identification plays a vital part in a human-machine interconnection and to interact with computer in a most effortless way. As many modern improvements occurring in today's world such as Natural language processing, Bio-metric Authentication, Face detection etc., which can be frequently seen in our Tablets, iPads, Computers and smart phones, In the same way Hand Movement Identification was an contemporary method of Human-Machine Interconnection i.e., the mouse cursor of the system can be controlled just on appearing our figure's before the computers web camera. These finger gestures are captured and controlled through a Colour Detection technique of webcam. This system allows us to direct the system pointer by using our finger bearing colour caps or tapes and the operations like dragging of files and the left click would be performed by using distinct finger gestures. It also performs the transfer of files among 2 PC's in a single similar network. This developed system makes use of only a less resolution webcam which acts as a sensor for tracking the user's hands in 2 dimensions. This system would be developed by using a Library named Open Source Computer Vision (OpenCV) and Python Server Programming. Based upon the idea of virtual mouse implementation, the paper was introduced. In the paper, we will provide a complete description of all the methodologies along with the libraries and packages that are used for the implementation of a Virtual Mouse.

Keywords: Hand Movement Identification, Human-Machine Interconnection, Colour Detection, OpenCV, Virtual Mouse.

70. Image Fusion using LUKR in Multi-Modal Authentication

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Abstract: Now-a-days data is available in different forms and obtainable from multiple sources. Even though more number of algorithms are available but is it vulnerable to the hackers. Hence it is required to improve the security levels of the algorithm so that data security can be increased. This kind of security is expected more in banking, railway, hospital and like more number of areas. Most of the cases, security is available at a single level in the existing algorithms and at the same time it is important how to extract the features. In this paper, we have presented how security can be implemented in multi level and features can be extracted in Lower-Upper (LU) decomposition and Singular value decomposition (SVD). For security purposes extracted features can be decrypted by using Khatri-Rao Product in both the cases. When comparing the results LU decomposition with Khatri-Rao (LUKR) gives better results than Singular Value decomposition with Khatri-Rao (SVDKR).

Key words: Lower- Upper Decomposition, Singular Value Decomposition, Khatri-Rao Product, Kronecker Product.

71. A Review on Comparative Analysis of Add-Shift Multiplier and Array Multiplier Performance Parameters

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Abstract. As in today's era the speed of the digital systems can be estimated by the performance of the multiplier. This paper aimed to came up with few novel techniques to estimate the speed and performance of the multipliers that are most effectively implemented to design our real time digital filter applications. In most of the multipliers, the Add and Shift multiplication technique is used, because of its simplest architecture. Also, another commonly used multiplier is the Array multiplier. Though the FPGA implementation is considered as a most efficient tool, there are limitations for the components to be implemented on the FPGA which considers as a major issue. Thereby, both the multipliers are being designed and the simulation results such as timing analysis and also the FPGA components (i.e. LUTs, Delays, Flip-flops etc.) that are been needed for each kind of multiplier are estimated using the Verilog HDL (simulation and synthesis). Thus, the effective approach to design best multiplier for a digital system has been concluded upon comparison of performance parameters.

Keywords: MAC, Shift-add technique, Array multipliers, Digital signal processor.

72. Efficient Online-Task Scheduling in Distributed Computing Environments using Least Average Load Variance Algorithm

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Abstract. For the case of online tasks, one of the most important parameters that need to be optimal is the task response time. To achieve high resource utilization and achieve a good load balance across grid resources, algorithms should not compromise in terms of response time. Load balancing in itself is a challenge due to the heterogeneity of grid resources. Randomized algorithms effectively improve resource utilization but can create a load imbalance naturally due to the randomness of its input space. When incorporating a specific level of load across all the grid resources, the response time may become worsened. In the proposed work, to optimize the response time a least average load variance based algorithm is used. This algorithm is successful in providing a lower bound on the load across grid resources while ensuring a better response time compared to other methods proposed in literature. The simulation results using standard workload format datasets reveal that the proposed algorithm outperforms existing solutions in terms of improvement of minimum resource utilization by 10% to 20% with an optimal response time.

Keywords: Grid Computing, Load Balancing, Resource Utilization, Task Response Time

73. A Survey on Real-Time Automated Attendance System

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Abstract. Regular attendance marking is a standard and important practice for student performance checks in schools and colleges. Traditionally, the faculty work manually to ensure attendance in the classroom, which is time consuming. Many attendance management systems are introduced in the market to track attendance of the students. Earlier attendance marking methods focused on RFID systems, Raspberry pi punch card systems, swipe card systems, fingerprint recognition. Old practice attendance systems are fairly inefficient today to keep track of student attendance. Overcoming this can be made easier by using face recognition and face detection methodology, it can be rendered in a smarter way. With the implementation of this attendance scheme, it will become impossible for the students to skip classes without the knowledge of the staff. Problems of students unintentionally marked present though being absent and proxies can be resolved.

Keywords: Face Detection, Face Recognition, Viola-Jones Algorithm, PCA (Principal Component Analysis), SVD (Single Value decomposition) based algorithm, Fisher face & Eigen face methods.

74. Vocal Analysis to Predict Suicide Tendency

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Abstract. Depression and suicide are one of public health concerns. It has been recognized as a prominent cause of disability and burden worldwide, which is hard to identify. The major indications in an individual regarding suicide and depression are home bound conditions, which include lower life quality, relationships and multiple responsibilities. The growth of suicidal rate is found more among the adolescent, To find this we are using the properties of acoustic speech that has probe into depression in adolescents and finds the suicidal tendency and it also outperforms the state of art techniques by both subjective and objective way where the review starts by building the case for speech for different situations including both the current treatment and methods leading to depression and suicidality. It generally focus on how common paralinguistic speech characteristics are affected by depression which leads to suicide tendency where we manually extract the emotions of individual based on speech using Support Vector Machine (SVM), and Mel Frequency Cepstral Coefficients (MFCC) classifiers.

Keywords: Depression, acoustic speech, suicide, SVM, MFCC.

75. Intelligent Traffic Light Management System

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Abstract. The present traffic light management system causes a lot of problems such as long delays and congestion. The existing traffic signal system is in such a way that the signal is given for a lane using a timer circuit irrespective of the density of traffic in that lane, due to this the waiting period of a lane with more number of vehicles will be increased. In order to increase the efficiency, we need to consider the traffic information at the junctions as an input to decide the signal. In this paper we propose a model to improve efficiency of traffic management by taking real time traffic information. The model takes the video input from each lane at the intersection and decides the signal considering the following three factors: number of vehicles, type of vehicle, emergency vehicle. The vehicles are classified using Tensor Flow and density across the lanes is calculated based on the count and weightage of the vehicles. Along with this, we are considering the emergency vehicles and the waiting time is also set for the lanes which can be used for a lane with the least number of vehicles waiting for a longer time. Using these factors, signals are decided across the lanes.

Keywords: Traffic management, Weightage, Density, Emergency vehicle, Tensor Flow

76. An Effective Technique to Detect Dimensions of Pipe under the Ground Using GPR Images

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Abstract. The detection of underground objects is the main component of a GPR system. For a given objects detection, the final interpretation of GPR image leads to the assessment of shape based object detection and representation, so it could be accurate. The existing works were able to identify various object under the subsurface by analyzing the images obtained by GPR device. But very little work is done in identifying the various dimensions of the pipe such as radius, circumference, length etc. This paper focuses on identifying radius of the pipe based on various features detected using different image processing techniques. The performance of the proposed algorithm is tested on 3-D synthetic pipe and raw data obtained by Ground Penetrating Radar Images.

Keywords: Underground Object, Ground Penetrating Radar (GPR), Pipe, Radius, Image Processing.

77. Chatbot for College Website

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Abstract. A Chatbot is a program reenacts a conversation between a user and a machine. The machine has been embedded knowledge to identify the queries asked by the student and other users and making a decision itself to respond to the queries of the student and other users. The user just needs to ask the queries that are answered by the chatbot. These bots will be totally founded on a book based UI that permits the client to type orders and get message just as content to discourse response. It can be more made sure about when it is coordinated with well known web services. The school request chatbots will be fabricated utilizing counterfeit calculations that can undoubtedly comprehend and investigate clients message. The client can pose the inquiries any school related activities through chatbot without genuinely accessible to the school for inquiry. By Using Artificial Intelligence the queries are answered by the system asked by various users. The user simply need to enlist and login to the system. Natural language handling (NLP) is utilized for tokenizing, stemming and separating the substance of the objection given by the client.

Keywords: Natural Language Processing, Sentiment Analysis, Synsets, Word Net.

78. Comparative Analysis of Different Classifiers for Speech Emotion Recognition

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Abstract. Speech emotion recognition has been a vital topic of research in human-machine interface applications for many years. It attempts to make human-machine interactions more intelligent by understanding the emotional state of human beings. This paper presents an up-to-date survey of Speech Emotion Recognition discussing the important approaches regarding the use of different classification algorithms to recognize emotions. The focus is mainly on classifiers like Multilayer Perceptron (MLP), Support Vector Machine, Decision Tree, Random Forest, and Convolutional Neural Network (CNN). First, an acted emotional dataset, RAVDESS, will be discussed in detail. Second, the features that were extracted and selected will be addressed. Then, the focus is shifted to these classifier algorithms that categorize the input data into 4 classes of emotions: happy, angry, sad, and neutral. Each algorithm is implemented and its performance is compared with the others. Finally, conclusions about the best working model and limitations of each classifier used for Speech Emotion Recognition System are presented.

Keywords: Speech Emotion Recognition, RAVDESS, MLP, CNN, Decision trees, Random Forest, Support Vector Machine.

79. A Review of contemporary and future renewable energy generation technologies to store data in the era of Cloud Computing and IoT

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Abstract: Be it to perform work or to make machines perform work, store data, compute online, interact remotely, energy resources are crucial. With the growing industrialization, ease of agriculture, automation, and the development of transportation, the demand for energy resources is increasing day by day. Lots of data is generated, and it is essential to store both useful and junk data as separating the junk from useful data is a tedious process in automation. Already existent energy resources do not seem too promising to satisfy the growing needs as well as to support sustainability. Thus, a correlation exists between sustainability, development, and demand for energy. To meet the demand of today and future novel, green and smart energy resources are needed. This paper reviews various contemporary and futurist technologies that work on renewable energy to take a step forward towards sustainability.

Keywords: Sustainability, Renewable energy, Energy generation

80. Survey on Multimodal Emotion Recognition (MER) Systems

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Abstract: The need for machines to react towards human emotions is required and is the need of the hour in the current digital era. The human-machine interaction (HCI) with responses to emotions will make them more useful and user friendly. The popularity of interactive devices such as smartphones, smart wearables, voice assistants, and other IoT devices is soaring due to their reception of user needs through voice commands. Devices are programmed to understand linguistic information but lack in understanding non-linguistic information such as emotion, facial expressions, posture, gestures, etc. Emotions can be identified using voice, image, video, and text sequences. Many kinds of research have been done for the last twenty years to detect human emotions using machines. This paper focuses on research done on emotion detection using text, audio, and video since 2011. The literature review done through this work represents that the highest accuracy of 90% achieved is by the fusion of speech, video, and text features. Although this gives the highest accuracy, it is not preferred by everyone due to privacy concerns.

Keywords: Emotion recognition, Multimodal classification, Machine Learning, HCL, Neural networks, Deep learning.

81. Cancer Classification using Mutual Information and Regularized RBF-SVM

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Abstract: The small round blue cell tumors are the childhood tumors, they are named so because they appear like round masses of cells, blue in color under the histological observations. These tumors are of four types - Ewing's tumors, neuroblastoma, non-Hodgkin lymphoma and rhabdomyosarcoma. Although these tumors appear similar yet they are molecularly different and need different courses of treatment, therefore the task of differentiating among the four subtypes of this tumor is an important and challenging task in computational as well as clinical cancer research. In this paper we have presented an approach to distinguish between the four types of small round blue cell tumors from the analysis of gene expression data set using the steps of feature selection using mutual information and classification using regularized support vector machine with Radial basis function kernel. We have presented the results and discussed their significance. The comparison with existing method shows that the proposed method perform better with respect to classification accuracy, f-score and other confusion matrix parameters.

Keywords: Small Round Blue Cell Tumors, Cancer Classification, Mutual Information, RBF Kernel, Support Vector Machines.