PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE

(Approved by AICTE & Affiliated to Anna University, Chennai)

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Number of M.E Computer Science and Engineering Student Undertaking Main Projects during the Academic Year 2022-23

Programme Name & Code: Computer Science and Engineering &405

SL. No	Register Number	Name of the Students	Project Title
1	912021405001	BALA MEENAKSHI R	AN IMPROVED LSTM BASED FRAME WORK WORK FOR CARDIOVASCULAR DISEASES RISK PREDICTION IN IMBALANCAD BIG DATA
2	912021405002	MOHANA N	DEEPLEARNING BASED CURRENCY RECOGNITION AND FACK DELECTION FRAMEWORK FOR VISUALLY IMPAIRED PEOPLE
3	912021405003	MONISHA M	FAKE NWES DETECTION USING MACHINE LEARNING
4	912021405004	MUTHEESWARI K	BLOCKCHAIN BASED FEDERATED LEARNING FOR DEVICE FAILURE DETECTION IN INDUSTRIAL IoT
5	912021405005	PANDIMEENA B	INVESTIGATION OF BRAIN TUMOR CLASSIFICATION USING CONVOLUTIONAL NEURAL NETWORK
6	912021405008	RASIKA K	SEARCHIOUS LOCATING MISSING PEOPLE USING OP TO IMIZED FACE RRCOGNITION ALGORITHM
7	912021405010	SURIYA DHARSHINI G	ELECTRONIC HEALTH RECORDS SHARING MODEL BASED ON BLOCKCHAIN
8	912021405011	THANGAMEENA A	E VACCINATION SYSTEM USING AI
9	912021405012	YAZHINI J K	FAULT-TOLERANCE IN THE SCOPE OF CLOUD COMPUTING
10	912021405013	YOGALAKSHMI M	SEARCHIOUS LOCATING MISSING PEOPLE USING OP TO IMIZED FACE RRCOGNITION ALGORITHM

A HYBRID LSTM BASED FRAME WORK FOR CARDIOVASCULAR DISEASES RISK PREDICTION IN IMBALANCED BIG DATA

PHASE II REPORT

Submitted by

R.BALAMEENAKSHI (912021405001)

In partial fulfillment for the award of the degree of

MASTER OF ENGINEERING

IN

COMPUTER SCIENCE AND ENGINEERING

PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

ANNA UNIVERSITY, CHENNAI

OCTOBER 2023

A HYBRID LSTM BASED FRAME WORK FOR CARDIOVASCULAR DISEASES RISK PREDICTION IN IMBALANCED BIG DATA
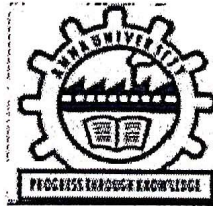
A THESIS

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OCTOBER 2023

(ii)

ANNA UNIVERSITY, CHENNAI

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Certified that is report titled **"A HYBRID LSTM BASED FRAME WORK FOR CARDIOVASCULAR DISEASES RISK PREDICTION IN IMBALANCED BIGDATA"** is the bonafide work of Ms.R.BALAMEENAKSHI (912021405001) who carried out the work under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

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Submitted for the project vivo voice examination held on 9.10.2023

INTERNAL EXAMINAR

EXTERNAL EXAMINAR

(iii)

ABSTRACT

The busy schedule of the modern era leads to an unhealthy life style which causes anxiety and depression. In order to overcome these conditions, there is a tendency to resort to excessive smoking, drinking and taking drugs. All these things are the root cause of many dangerous diseases including cardiovascular diseases, cancer etc. According to the World Health Organization (WHO), cardiovascular diseases (CVDs) have the highest number of death rates, globally. Over a period of time, they have become very common and are now overstretching the healthcare systems of countries. At this stage, fast, accurate and early clinical assessment of the disease severity is vital. To support decision making and logistical planning in healthcare systems, this work proposed an effective data prediction by using hybrid Deep learning-based approach. Apply our technique on the publicly available MIMIC-II database and show the effectiveness of the LSTM classifier. Experiments show that our proposed scheme improves the accuracy of prediction.

CHAPTER-7

CONCLUSION

In this project, an attention layer is added to the existing LSTM model to constructed an CNN-LSTM model. And the validity of predicting long-sequence details verified by experiments. We introduced the process of constructing the CNN-LSTM model and verified its performance using real CVD data sets. Experiments show that our proposed scheme improves the accuracy of prediction. This study only considered the application of the model with the attention layer on the time series. In future work, we can consider the spatial correlation of traffic flow and apply attention mechanisms in it.

FAST R-CNN BASED CURRENCY RECOGNITION AND FAKE DETECTION FRAMEWORK FOR VISUALLY IMPAIRED PEOPLE

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PROGRESS THROUGH KNOWLEDGE

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

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OCTOBER 2023

FAST R-CNN BASED CURRENCY RECOGNITION AND FAKE DETECTION FRAMEWORK FOR VISUALLY IMPAIRED PEOPLE

A THESIS

Submitted by

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In partial fulfillment for the award of the degree Of

MASTER OF ENGINEERING

IN

COMPUTER SCIENCE AND ENGINEERING

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

ANNA UNIVERSITY: CHENNAI 600 025

OCTOBER 2023

ii

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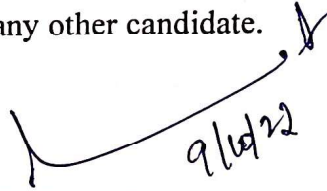SIGNATURE 9/10/23

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Submitted for the project Viva-Voce examination held on .09..10..2023..

INTERNAL EXAMINER

EXTERNAL EXAMINER

iii

ABSTRACT

The detection and prevention of counterfeit currency are of significant importance in maintaining the integrity of financial systems. In this work, an image processing approach for fake currency detection using the Fast R-CNN (Region-based Convolutional Neural Network) architecture is proposed . The Fast R-CNN model is utilized to detect and classify counterfeit currency images by accurately localizing and identifying key features indicative of forgery. The proposed approach leverages the power of deep learning and object detection techniques to effectively distinguish between genuine and counterfeit currency. Experimental results on a comprehensive dataset of currency images demonstrate the efficacy of the Fast R-CNN-based approach in detecting fake currency with high accuracy and efficiency.

CHAPTER-7

CONCLUSION AND FUTURE WORK

7.1 Conclusion:

Currency recognitionsystem(CRS)builtonhybridofLongshort-termmemory(LSTM)andConvolutionalneural network (CNN) obtained highly accurate results and with very less computational time. Adding cloud deployment and crash lyitcs functionalities further made the system more robust irrespective of the camera quality and lighting conditions. The innovative outcome have shown the success of hybrid CNN-LSTM algorithm in general for Indian banknote currency recognition, while our algorithm is tested in a better challenging dataset with the images taken in contrasting circumstances.As a result, the result in dicates the accuracy and speed of the CNN-LSTM technique,which can be applied In real world scenarios to assistvisually impaired people with monetary transactions.

7.1 Feature WORK:

Feature work is the process of identifying and extracting important features from an image that can be used for classification or recognition tasks. In the context of fake currency detection, feature extraction can be used to identify unique characteristics of genuine currency that are difficult to reproduce in counterfeit currency. Convolutional Neural Networks (CNNs) are a popular tool for feature extraction in image processing. CNNs use convolutional layers to identify and extract important features from an image. These features can then be passed to other layers in the network for classification or recognition.

In this section, we present our system for fake currency detection using the CNN detector extended with several improvements. First, we present the original -CNN detector,
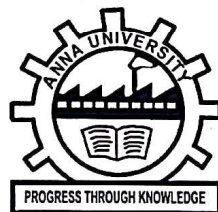
FAKE NEWS DETECTION USING MACHINE LEARNING

A PHASE II REPORT

Submitted by

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in partial fulfillment for the award of the degree

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MASTER OF ENGINEERING

in

COMPUTER SCIENCE AND ENGINEERING

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OCTOBER 2023

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The Viva-Voce examination held on …9.:.10.:.23….

INTERNAL EXAMINER

EXTERNAL EXAMINER

ABSTRACT

The fake news is a news that spreads over the social and other media to that will cause a lot of national and social damage with destructive impacts. By using supervised machine learning algorithm in machine learning fake news can be classified as True or False.

Detecting fake news is critical for a healthy society, and there are multiple different approaches to detect fake news. From a machine learning standpoint, fake news detection is a binary classification problem; hence we can use traditional classification methods or state-of-the-art Neural Networks to deal with this problem.

The Fake News can be detected using various tools like Python, NLP for textual analysis and scikit-learn. This process will result in feature extraction and vectorization; we propose using

Python scikit-learn library to perform tokenization and feature extraction of text data, because this library contains useful tools like CountVectorizer and Tiff Vectorizer. Then, we will perform feature selection methods, to experiment and choose the best fit features to obtain the highest precision, according to confusion matrix results.

CHAPTER 9

9.1 CONCLUSION

In this systematic fake news detection, the work is done on how to detect and recognize false or fake news on social media because, in recent years, people prefer reading news from online platforms than the traditional one. To figure out the reasons behind the disseminating fake news on social media, we read more than thirty published papers of IEEE, Science Direct, A.C.M., and Springer Link. During the reading papers, so many questions came in our mind and we figure out the best five of it then again we searched on papers to find the best answers to these questions. There are so many reasons behind the disseminating of fake news, such as most people are disseminating fake news for advertisement or they have a problem with some group of people. Therefore, there are also some factors, which convince people to believe fake news, like when the author is an accredited journalist or the author is used old images according to that news or may be used from the right image, and the text is different. So how readers can identify the misleading information from their own experience? It belongs to the reader because different readers have different experiences such as when most readers face a piece of false news at first they search for the author and then for the platform such as on which platform or website this news is posted. If it is not an accredited website then people will not trust that information. By using which methods deep learning and machine learning can detect misleading information or false news, the machine learning and deep learning used the (Logistic regression, Naïve Bayes, support vector machine SVM, Long Short-Term Memory L.S.T.M., and Recurrent Neural Network R.N.N.). How much fake news we have? As per our review, there are so many types of fake news, and we

BREAST CANCER CLASSIFICATION USING MACHINE LEARNING

PHASE 2 REPORT

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In partial fulfillment for the award of the degree Of

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OCTOBER 2023

BREAST CANCER CLASSIFICATION USING MACHINE LEARNING

PHASE 2 REPORT

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OCTOBER 2023

ANNA UNIVERSITY - CHENNAI

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Certified that is report titled "**BREAST CANCER CLASSIFICATION USING MACHINE LEARNING**" is the bonafide work of **Ms. K. MUTHEESWARI (912020405004)** who carried out the work under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on earlier occasion on this or any other candidate.

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The Viva-Voice examination held on 09.10.2023

INTERNAL EXAMINER

EXTERNAL EXAMINER

ABSTRACT

Breast cancer remains one of the top diseases that lead to thousands of deaths in women every year. After lung cancer, BC is the second popular cause of death in both developed and undeveloped countries. BC is characterized by the mutation of genes, constant pain, changes in the size, colour(redness), skin texture of breasts. In this paper the Wisconsin Breast Cancer Dataset (WBCD) has analyse and evaluate the performance of various machine learning algorithms are used to predict the breast cancer. Here, Support Vector Machine, Logistic Regression, K-Nearest Neighbours, Naive Bayes and Random Forest classifiers have been implemented for classifying tumours into benign and malignant. The accuracy of each algorithm is calculated and compared to find the most suitable one. Based on the analysis, Random Forest, and Logistic Regression outperform other classifiers with accuracy of 96.5%. These classifiers can be used to create an automated diagnostic system for the early detection of breast cancer.

8. CONCLUSION

Breast cancer is one of the most fatal illnesses impacting women today. The Wisconsin Breast Cancer Dataset was used, and multiple ML algorithms were used to determine the efficacy and utility of these algorithms in identifying malignant and benign breast cancer. For feature selection, the correlation between different characteristics of the dataset has been examined. The findings will aid in the selection of the optimum ML algorithm for the development of an autonomous breast cancer diagnosis system.

DIGILISATION IN HEALTHCARE SYSTEM

A THESIS

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In

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OCTOBER 2023

DIGILISATION IN HEALTHCARE SYSTEM

A THESIS

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OCTOBER 2023

ANNA UNIVERSITY,CHENNAI

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INTERNAL EXAMINER

EXTERNAL EXAMINER 9|10|23

DIGILISATION IN HEALTHCARE

ABSTRACT

This paper we will explain how to plan, design, implement and review Hospital information systems in Hospitals and healthcare projects in the developing countries. It will discuss one of the pilot projects carried out in public hospital of India demonstrating that such systems are possible and can expand to manage hundreds of thousands of patients. The main focus will be planning and implementation of hardware and network infrastructure for HIS. Finally, It will discuss the importance of the use of open standards and open source software for developing electronic medical record systems rather than reinventing systems in isolation to enable collaboration with the members of the health and wellness value chain on a common goal i.e. improving individual wellness.

project while implementing. The user should not go in a roundabout way to achieve a solution; it should be direct, crisp and clear and up to the point.

CHAPTER-10

CONCLUSION

This project underscores that implementing Hospital Information Systems (HIS) in developing countries is not only viable but also essential for improving healthcare services. Effective planning, solid infrastructure and the use of open standards and open-source software are critical for success. HIS systems have the power to transform healthcare delivery, benefiting both patients and healthcare providers in resource-limited settings.

FUTURE ENHANCEMENT

In future, planned to develop the multi-disease prediction using the improvised deep learning concept. Here, the different datasets pertain to "Diabetes, Hepatitis, lung cancer, liver tumor, heart disease, Parkinson's disease, and Alzheimer's disease", from the benchmark UCI repository is gathered for conducting the experiment. The proposed model involves three phases (a) Data normalization (b) Weighted normalized feature extraction, and (c) prediction. Initially, the dataset is normalized in order to make the attribute's range at a certain level. Further, weighted feature extraction is performed, in which a weight function is multiplied with each attribute value for making large scale deviation. Here, the weight function is optimized using the combination of two meta-heuristic algorithms termed as Jaya Algorithm-based Multi-Verse Optimization algorithm (JA-MVO). The optimally extracted features are subjected to the hybrid deep learning algorithms like "Deep Belief Network (DBN) and Recurrent Neural Network (RNN)". As a modification to hybrid deep learning architecture, the weight of both DBN and RNN is optimized using the same hybrid optimization algorithm.

59

LOCATING MISSING PEOPLE USING AN OPTIMIZED FACE RECOGNITION ALGORITHM

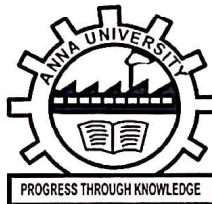## A PROJECT REPORT

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MASTER OF ENGINEERING

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COMPUTER SCIENCE AND ENGINEERING

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OCTOBER 2023

LOCATING MISSING PEOPLE USING AN OPTIMIZED FACE RECOGNITION ALGORITHM

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INTERNAL EXAMINER

EXTERNAL EXAMINER

ABSTRACT

Object discovery is one of the most important and challenging problems in computer computing, seeks to obtain the properties of objects from many categories previously described in natural images. In particular, image classification, aims to see the semantic categories of objects in each image. Object discovery not only identifies and recognizes object categories, but also predicts the location of each item with a mandatory box. Semantic separation aims to predict intelligent pixel separation to assign a specific category label to each pixel, thus providing a richer and more comprehensive understanding of the image. In-depth learning strategies have emerged as a powerful strategy for reading presentations directly from the data and have led to significant success in the field of general acquisition. Given this period of rapid evolution, the aim of this project is to provide a comprehensive analysis of the latest achievements in this field brought about by in-depth learning strategies.

10. CONCLUSION

Generic object detection is an important and challenging problem in computer vision and has received considerable attention. Thanks to remarkable developments in deep learning techniques, the field of object detection has dramatically evolved. As a comprehensive survey on deep learning for generic object detection, this paper has highlighted the recent achievements, provided a structural taxonomy for methods according to their roles in detection, summarized existing popular datasets and evaluation criteria, and discussed performance for the most representative methods. It gives a comprehensive survey of recent advances in deep learning techniques for object detection tasks.

FUTURE ENHANCEMENT

In the future, we will extend our work to investigate the optimal functions for different movie genres. Another goal of future work is to exploit more character relationships, e.g., the sequential statistics for the speakers, to build affinity graphs and improve the robustness.

The newly developed system, in its present form, is eminently suited to the existing needs. But in order to meet the future needs, which can become progressively more complex the efficiency of the system can be improved by making some simple modifications in the programs.

ELECTRONIC HEALTH RECORD SHARING MODEL BASED ON BLOCKCHAIN WITH CHECKABLE STATE

A PHASE II REPORT

Submitted by

SURIYA DHARSHNI.G (912021405010)

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ANNA UNIVERSITY, CHENNAI

October 2023

ELECTRONIC HEALTH RECORD SHARING MODEL BASED ON BLOCKCHAIN WITH CHECKABLE STATE
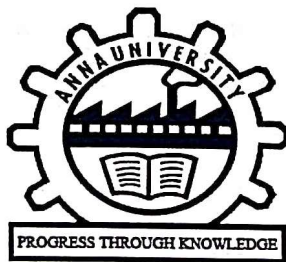
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October 2023

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Submitted for the Project Viva Voice held on: ......9/10/23........

INTERNAL EXAMINER

EXTERNAL EXAMINER

ABSTRACT

Medical data privacy and data protection are crucial issues during medical services. Data security or secure storage of medical data is always a major concern for the majority of the population. An effective and efficient healthcare system requires a technology platform to communicate securely and seamlessly. Blockchain has been emerging technology for a few years now. The key features of blockchain which attract most developers are its immutability, decentralization, transparency, distributed ledger. So, the use of Blockchain in HealthCare systems will make a drastic impact as it can be used to securely store personal medical data. This paper has designed a HealthCare system that securely manages personal medical data and creates interaction between Doctors, Patients, Insurance Companies, and Pharmacy shops or Medical shops. The paper further highlights a comparison between a traditional system and the proposed system, describing the scope of the system, areas of future work.

10. CONCLUSION

Healthcare system is one of the most complex systems with many interconnected entities. In healthcare, there are critical challenges for information exchange and dissemination. Doctors, service providers, and patients are required to have combined secured data exchange technologies. Digitalization of medical records would further create opportunities for analyzing medical trends and evaluation of the quality of care, reducing insurance frauds and false information. The proposed system would also help in faster admission for patients, and patients would no longer require carrying hard copies of previous medical reports. The patient will no longer require carrying hard copies of prescriptions at medical stores or pharmaceutical shops.

FUTURE ENHANCEMENT

The proposed system tries to integrate all types of medical related work which happens in day-to-day life. Beyond that there are some more advanced levels of process that can be included in the system. These additional features will enrich the system and increase the market potential also. Some of the features are inclusion of supply chain methods for tracing the drugs flow and delivery. This will enable the government body to keep track of medicines and drugs from point of production to the farthest end point i.e., till it reaches the patient. Adding to this, expiry date of product(medicines) can be easily tracked and malpractices regarding the same can be avoided at large scale.

AN IOT BASED ANTITHEFT SECURITY SYSTEM WITH VIDEO MONITORING FACILITY

PHASE II REPORT

Submitted by

A.THANGAMEENA(912021405011)

In partial fulfillment for the award of the degree

Of

MASTER OF ENGINEERING
In

COMPUTER SCIENCE AND ENGINEERING

PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE SIVAGANGAI

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

ANNA UNIVERSITY::CHENNAI 600 025

OCTOBER 2023

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OCTOBER 2023

ANNA UNIVERSITY, CHENNAI

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Certified that this project report **"An IOT based Antitheft Security System with Video Monitoring Facility"** is the bonafide work of **MRS.A.THANGAMEENA(912021405011)** who carried out the project work under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on earlier occasion on this or any other candidate.

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Submitted for the Project Viva-Voice held on 09.10.2023

INTERNAL EXAMINER

EXTERNAL EXAMINER

ABSTRACT

Video surveillance systems are becoming increasingly important for crime investigation and the number of cameras installed in public space is increasing. However, many cameras installed at fixed positions are required to observe a wide and complex area. In order to efficiently observe such a wide area at lower cost, mobile robots are an attractive option. Human action recognition can be performed by associating a few labeled examples from motion capture data. The results on human motion capture data and depth data demonstrate the effectiveness of the approach in automatically segmenting and recognizing motion sequences. Controlling home appliances remotely with mobile applications have started becoming quite popular due to the exponential rise in use of mobile devices. There have been so many applications that exploit the use of GSM/GPRS facility of the handset. Many automated systems has been developed which informs the owner in a remote location about any intrusion or attempt to intrude in the house. The development of an Android application which interprets the message a mobile device receives on possible intrusion and subsequently a reply (Short Message Service) SMS which triggers a message to our android application so that the user can aware about the situation. Using threshold value the detected pixel is identified. Hence the movement of the object is identified accurately. After motion detection it will send GCM alert to the android mobile application so that the user can call to persons who they are all previously registered with our mobile application for the emergency time.

CHAPTER 9

CONCLUSION AND FUTURE ENHANCEMENT

CONCLUSION

This project introduced an approach for an effective video surveillance in the current system; this overcomes the traditional Surveying where Human intervention is needed and has to watch keenly for keeping track of the entire system. But now with this project we have introduced a unique technique which is a Major advantage to the old system. This project also has a unique feature in which it sends GCM alert at once there is any sort of variation in the captured pixel. Also we are in intent to dedicate this project to many important Surveillance Areas so that Many Unwanted things can be prevented.

FUTURE ENHANCEMENT

Though this project has many added advantage, in future we like to upgrade this into the next level that is not only by just viewing the captured image, we can also view the entire clip of what happened and what has been captured. All this will be done just at the spontaneous moment, within seconds of the action been happened at the site.

FAULT TOLERANCE IN THE SCOPE OF CLOUD COMPUTING

A PROJECT REPORT

Submitted by

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of

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OCTOBER 2023

FAULT TOLERANCE IN THE SCOPE OF CLOUD COMPUTING

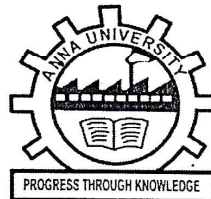### A PROJECT REPORT

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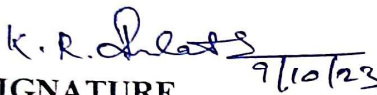
in

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Certified that is report titled "FAULT TOLERANCE IN THE SCOPE OF CLOUD COMPUTING" is the bonafide work of Ms. YAZHINI JK (912021405012) who carried out the work under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on earlier occasion on this or any other candidate.

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INTERNAL EXAMINER

EXTERNAL EXAMINER

ABSTRACT

- Cloud computing offers multiple benefits and features for enterprises to develop their cloud platform according to their business models and customer needs.

- Cloud computing supports multiple service models such as Infrastructure as a Service (IaaS), Application as a Service (AaaS).

- These services and Platform as a Service (PaaS) can be deployed as public, private, hybrid, and community clouds, with strategies that evolved over the past decade in order to generate new revenue streams.

- We organize state-of-the-art research efforts addressing cloud computing fault-tolerance based on reactive and proactive approaches used to ensure cloud computing fault-tolerance.

- To safeguard the consistency between resources in a different cluster, a copy or replicas of the various task are stored. In the event of a crash, the identical replicas take over and therefore guarantee fault-tolerance.

10. CONCLUSION

The security issue showed that the cloud server can easily generate a valid signature of any message when it received the data owner's data, and then the cloud server can generate the proof for any challenge produced by the verifier, which can pass the remote integrity. It performs that cloud computing salient features, advantages, components, business/service deployment models, types of cloud, and cloud implementation using distributed, centralized, and decentralized architecture to establish an understanding of cloud computing topics and related concepts comprehensively.

FUTURE ENHANCEMENT

1. Redundancy: Redundancy involves replicating data, applications, and infrastructure to ensure that there is no single point of failure. This approach increases fault-tolerance by providing backup resources that can take over in the event of a failure.

2. Load balancing: Load balancing involves distributing workloads across multiple servers to prevent any single server from becoming overloaded. This approach enhances fault-tolerance by ensuring that the workload is distributed evenly, and if one server fails, other servers can take over without disruption.

3. Disaster recovery planning: Disaster recovery planning involves creating a plan to recover from catastrophic events such as natural disasters, cyber-attacks, or hardware failures. This approach enhances fault-tolerance by providing a roadmap for restoring critical services in the event of a disaster.

4. Proactive monitoring: Proactive monitoring involves monitoring the infrastructure and applications in real-time to detect and respond to potential failures before they occur. This approach enhances fault-tolerance by identifying and addressing issues before they cause a service interruption.

5. Auto-scaling: Auto-scaling involves automatically adding or removing resources to match changes in demand. This approach enhances fault-tolerance by ensuring that resources are available when needed and reducing costs when they are not.

ESN BASED CROP RECOMMENDATION AND AGRICULTURE FIELD MONITORING SYSTEM

PHASE 2 REPORT

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ESN BASED CROP RECOMMENDATION AND AGRICULTURE FIELD MONITORING SYSTEM

PHASE 2 REPORT

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Certified that this report title"ESN BASED CROP RECOMMENDATION AND AGRICULTURE FIELD MONITORING SYSTEM"is the bonafide work of **Ms.M.YOGALAKSHMI (912021405013)** who carried out the work under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

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INTERNAL EXAMINER

9/10/2

EXTERNAL EXAMINER

(iii)

ABSTRACT

Data mining is the practice of examining and deriving purposeful information from the data. Data mining finds its application in various fields like finance, retail, medicine, agriculture etc. Data mining in agriculture is used for analyzing the various biotic and abiotic factors. Agriculture in India plays a predominant role in economy and employment. The common problem existing among the Indian farmers are they don't choose the right crop based on their soil requirements. Due to this they face a serious setback in productivity. This problem of the farmers has been addressed through precision agriculture. Precision agriculture is a modern farming technique that uses research data of soil characteristics, soil types, crop yield data collection and suggests the farmers the right crop based on their site-specific parameters. This reduces the wrong choice on a crop and increase in productivity. In this work, this problem is solved by proposing a recommendation system through an deep learning model with echo state network to recommend a crop for the site specific parameters with high accuracy and efficiency.

CHAPTER 7

CONCLUSION

The application of agriculture networking technology is need of the modern agricultural development, but also an important symbol of the future level of agricultural development; it will be the future direction of agricultural development. After building the agricultural crop recommendation system hardware and analyzing and researching the network hierarchy features, functionality and the corresponding software architecture of precision agriculture, actually applying the intelligence to the highly effective and safe agricultural production has a significant impact on ensuring the efficient use of resources as well as ensuring the efficiency and stability of the agricultural production.