ACADEMIC YEAR (2021-2022)							
	J.K.K.MUNIRAJAH COLLEGE OF TECHNOLOGY T.N.Palayam(po),Gobi(tk)-638506, Erode(dt).						Metric No 1.3.2
S.No	Name of the course	course code	programme offering	Experiential learning			Number of students
				project work	field work	internship	
(2021-2022) Regulation-2017							
1	Project Work	CS8811	COMPUTER SCIENCE AND ENGINEERING	✓			21
2	Software Engineering	CS8494	COMPUTER SCIENCE AND ENGINEERING	✓			4
3	Computer Networks	CS8591	COMPUTER SCIENCE AND ENGINEERING	✓			7
4	Object Oriented Analysis and Design	CS8592	COMPUTER SCIENCE AND ENGINEERING	✓			2
5	Artificial Intelligence	CS8691	COMPUTER SCIENCE AND ENGINEERING	✓			12
6	Mobile Computing	CS8601	COMPUTER SCIENCE AND ENGINEERING	✓			4
7	Cryptography and Network Security	CS8792	COMPUTER SCIENCE AND ENGINEERING	✓			4
8	Cloud Computing	CS8791	COMPUTER SCIENCE AND ENGINEERING	✓			6

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Approved by AICTE, New Delhi And Affiliated to Anna University, Chennai.

T.N. Palayam (Po), Gobi (Tk), Erode (Dt) – 638 506

COMPUTER SCIENCE AND ENGINEERING

2021-2022

S.NO	REG.NO	STUDENT NAME	PROJECT	INTERNSHIP	FIELD VISIT
1	731218104002	ANGAMMAL S	✓		
2	731218104004	BOOPATHI S	✓		
3	731218104006	GEETHA R	✓	✓	
4	731218104008	IYYAPPAN L	✓		
5	731218104010	JEEVABHARATHI M	✓		
6	731218104011	JOTHIGA S	✓	✓	
7	731218104014	MANIKANDAN T	✓	✓	
8	731218104015	NIRANJANA M	✓	✓	
9	731218104016	NISHA S	✓		
10	731218104017	RATHISH D	✓	✓	
11	731218104018	SARANYA M	✓		
12	731218104019	SIBIN DASS S	✓		
13	731218104020	SINDHU S	✓		
14	731218104021	SINDHUJA V	✓		
15	731218104023	SUBRAMANI N	✓		
16	731218104024	THAMARAISELVI R	✓		
17	731218104025	UMA D	✓	✓	
18	731218104026	VIJAYA KUMAR S	✓		

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19	731218104028	VINODH L	✓		
20	731218104301	KAVIYARASAN.M	✓		
21	731218104302	KIRUTHIKA.S	✓	✓	
22	731219104004	BALAKRISHNAN.V		✓	
23	731219104005	BHUVANESHWARI.M		✓	
24	731219104006	DHATCHANA MOORTHI.A.P		✓	
25	731219104007	ELAKKIYA.D		✓	
26	731219104010	INDHUMATHI.P		✓	
27	731219104011	MADHAN.M		✓	
28	731219104012	MAHESHWARI.M		✓	
29	731219104014	MOHANRAJ.S		✓	
30	731219104015	PAVITHRA.R		✓	
31	731219104016	PRATHAP.N		✓	
32	731219104017	PRAVIN.S		✓	
33	731219104018	PRIYA.S		✓	
34	731219104019	RAMYA.V		✓	
35	731219104021	SANTHA MOORTHI.R		✓	
36	731219104022	SENTHIL KUMAR.V		✓	
37	731219104023	SUBASH CHANDRAN.P		✓	
38	731219104024	SUDHA DHARANI.R		✓	
39	731219104025	SURIYA.R		✓	

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40	731219104026	SURIYA SARASWATHI.M		✓	
41	731219104027	TAMILSELVAN.A		✓	
42	731220104001	ABINAYA G		✓	
43	731220104003	BALU R		✓	
44	731220104005	DEEPAK.S		✓	
45	731220104006	DEEPIKA.S		✓	
46	731220104007	DHARANISELVI. M		✓	
47	731220104009	JAGATHESWARAN.P		✓	
48	731220104010	KARUNYAA.M		✓	
49	731220104011	KATHIRESAN.K		✓	
50	731220104012	KAVIN.M		✓	
51	731220104019	NIRMALRAJ.S		✓	
52	731220104021	RAMYA.S		✓	
53	731220104022	ROHITH.R		✓	
54	731220104023	ROSHMA I		✓	
55	731220104026	THENMOZHI.B		✓	
56	731220104029	VINISHA.T		✓	
57	731220104030	VINITHA.A		✓	
58	731220104031	VINOTHKUMAR.R		✓	

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COMPUTER SCIENCE AND ENGINEERING

S.No	Name of the Course that include experiential learning through Project Work/Internship/Field Visit
1	Project Work
2	Software Engineering
3	Computer Networks
4	Object Oriented Analysis and Design
5	Artificial Intelligence
6	Mobile Computing
7	Cryptography and Network Security
8	Cloud Computing

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PROJECT

CS8791	CLOUDCOMPUTING	L TP C3003

OBJECTIVES:

- To understand the concept of cloud computing.
- To appreciate the evolution of cloud from the existing technologies.
- To have knowledge on the various issues in cloud computing.
- To be familiar with the lead players in cloud.
- To appreciate the emergence of cloud as the next generation computing paradigm.

UNITI INTRODUCTION 9

Introduction to Cloud Computing — Definition of Cloud — Evolution of Cloud Computing —UnderlyingPrinciplesofParallelandDistributedComputing–CloudCharacteristics– ElasticityinCloud—On-demandProvisioning.

UNITII CLOUDENABLINGTECHNOLOGIES 10

Service Oriented Architecture – REST and Systems of Systems – Web Services – Publish-Subscribe Model – Basics of Virtualization – Types of Virtualization – Implementation Levels of Virtualization – Virtualization Structures – Tools and Mechanisms – Virtualization of CPU –Memory–I/ODevices–Virtualization Supportand Disaster Recovery.

UNITIII CLOUDARCHITECTURE,SERVICESANDSTORAGE 8

Layered Cloud Architecture Design – NIST Cloud Computing Reference Architecture – Public,Private and Hybrid Clouds - IaaS – PaaS – SaaS – Architectural Design Challenges – CloudStorage–Storage-as-a-Service–AdvantagesofCloudStorage–CloudStorageProviders– S3.

UNITIV RESOURCE MANAGEMENTAND SECURITYIN CLOUD 10

InterCloudResourceManagement–ResourceProvisioningandResourceProvisioningMethods – Global Exchange of Cloud Resources – Security Overview – Cloud Security Challenges – Software-as-a-Service Security – Security Governance – Virtual Machine Security – IAM –Security Standards.

UNITV CLOUDTECHNOLOGIESANDADVANCEMENTS 8

Hadoop– MapReduce – Virtual Box -- Google App Engine – Programming Environment for Google App Engine —– Open Stack — Federation in the Cloud — Four Levels of Federation –Federated Services and Applications–Future of Federation.

TOTAL:45PERIODS

OUTCOMES:

On Completion of the course, the students should be able to:

- Articulatethemainconcepts,keytechnologies,strengthsandlimitationsofcloudcomputing.
- Learn the key and enabling technologies that help in the development of cloud.
- Developtheabilitytounderstandandusethearchitectureofcomputeandstoragecloud,serviceandd eliverymodels.
- Explain the core issues of cloud computing such as resource management and security.
- Be able to install and use current cloud technologies.
- Evaluateandchoosetheappropriatetechnologies,algorithmsandapproachesforimplementationa nduseofcloud.

TEXTBOOKS:

1. KaiHwang,GeoffreyC.Fox,JackG.Dongarra,"DistributedandCloudComputing,FromParallel Processingto theInternetofThings", MorganKaufmannPublishers,2012.
2. Rittinghouse,JohnW.,andJamesF.Ransome,—CloudComputing:Implementation,Managementan dSecurity‖,CRCPress,2017.

REFERENCES:

1. RajkumarBuyya,ChristianVecchiola,S.ThamaraiSelvi,—MasteringCloudComputing‖,TataMcgra wHill,2013.
2. TobyVelte,AnthonyVelte,RobertElsenpeter,"CloudComputing-APracticalApproach‖,TataMcgrawHill,2009.
3. GeorgeReese,"CloudApplicationArchitectures:BuildingApplicationsandInfrastructureintheCloud :TransactionalSystemsfor EC2andBeyond(Theory inPractice)‖,O'Reilly,2009.

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CS8691	ARTIFICIALINTELLIGENCE	L	T	P	C
		3	0	0	3

OBJECTIVES:

- To understand the various characteristics of Intelligent agents
- To learn the different search strategies in AI
- To learn to represent knowledge in solving AI problems
- To understand the different ways of designing software agents
- To know about the various applications of AI.

UNITI INTRODUCTION 9

Introduction–Definition-FutureofArtificialIntelligence–CharacteristicsofIntelligentAgents–TypicalIntelligentAgents–ProblemSolvingApproachtoTypicalAIproblems.

UNITII PROBLEMSOLVINGMETHODS 9

Problem solving Methods - Search Strategies- Uninformed - Informed - Heuristics - Local SearchAlgorithmsandOptimizationProblems-SearchingwithPartialObservations-ConstraintSatisfactionProblems—ConstraintPropagation-BacktrackingSearch-GamePlaying-Optimal Decisions in Games–Alpha-Beta Pruning-Stochastic Games

UNITIII KNOWLEDGEREPRESENTATION 9

First Order Predicate Logic – Prolog Programming – Unification – Forward Chaining-Backward Chaining – Resolution – Knowledge Representation - Ontological Engineering-Categories and Objects – Events - Mental Events and Mental Objects - Reasoning Systems for Categories -Reasoning with Default Information

UNITIV SOFTWAREAGENTS 9

ArchitectureforIntelligentAgents–Agentcommunication–NegotiationandBargaining–ArgumentationamongAgents–TrustandReputationinMulti-agentsystems.

UNITV APPLICATIONS 9

AI applications – Language Models – Information Retrieval- Information Extraction – Natural Language Processing - Machine Translation – Speech Recognition – Robot – Hardware – Perception—Planning—Moving

TOTAL:45PERIODS

OUTCOMES:

Up on completion of the course, the students will be able to:

- Use appropriate search algorithms for any AI problem
- Represent a problem using first order and predicate logic
- Provide the apt agent strategy to solve a given problem
- Design software agents to solve a problem
- Design applications for NLP that use Artificial Intelligence.

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1 S.RussellandP.Norvig,"ArtificialIntelligence:AModernApproach‖,PrenticeHall,ThirdEdition,2009.

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2. NilsJ.Nilsson,—TheQuestforArtificialIntelligence‖,CambridgeUniversityPress,2009.
3. WilliamF.ClocksinandChristopherS.Mellish,‖ProgramminginProlog:UsingtheISOStandard‖,Fifth Edition,Springer,2003.
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STOCK MARKET PREDICTION USING MACHINE LEARNING

A PROJECT REPORT

Submitted by

S.ANGAMMAL **(731218104002)**

S.SINDHU **(731218104020)**

In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

COMPUTER SCIENCE AND ENGINEERING

J.K.K.MUNIRAJAH COLLEGE OF TECHNOLOGY

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ANNA UNIVERSITY::CHENNAI 600025

JUNE 2022

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ANNA UNIVERSITY::CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report on **"STOCK MARKET PREDICTION USING MACHINE LEARNING"** is the bonafide work of **"S.ANGAMMAL (731218104002), S.SINDHU (731218104020)"** who carried out the project work under my supervision.

SIGNATURE

Dr.N.SATHYABALAJI M.E.,M.I.S.T.E.Ph.D

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Associate Professor

Dept. of Computer Science and Engineering

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T.N.Palayam

SIGNATURE

Mrs.P.SASIREKA M.E.,

SUPERVISOR

Assistant Professor

Dept. of Computer Science and Engineering

J.K.K. Munirajah College of Technology

T.N.Palayam

Submitted for the Viva-Voce examination held on 22.06.2022 - FN

INTERNAL EXAMINER

EXTERNAL EXAMINER

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ABSTRACT

The prediction of share prices is the function of deciding the future price of a company stock or other commercial tool traded. Prediction of some movements allowed from some patterns can be found. People are always attracted to invest in share market and stock exchanges as they provide huge financial profits, which is also an important for finance research. Prediction of share price is very difficult issue it depends upon such huge numbers of factors such organization financial status and national policy and so on. Nowadays stock costs are influenced because of numerous reasons such as organization related news, political, socially efficient conditions and cataclysmic events. Many studies have been performed for the prediction of stock index value and daily direction of change in the stock index. Such huge numbers of models have been created for foreseeing the future stock costs yet everyone has their own weaknesses. This paper expects to study, develop and assess different techniques so as to foresee future stock trades. The experimental results states that different classification techniques can be successfully deploy for share price prediction.

CHAPTER 1

INTRODUCTION

Stock market prediction is the act of trying to determine the future value of a stock from social media. Social media offers a robust outlet for people thoughts and feelings Analysis of social media is strongly related to sentiment analysis. This is used to extract emotions and opinions from text Data mining methodologies like NLP, Random forest, Neural network is used for analyzing social network content and improves the average accuracy Recent analysis reveals the existence of attention-grabbing communication patterns among completely different participants of various social network platforms. These patterns are shown to be helpful in predicting product sales and stock costs . Compared to a social network, which may be thought of as representing connections among folks within the public, a company network connects solely staff in a very huge corporation. While participants of a social network will specific opinions on any problems with interest, members of a company communication network area unit expected to chiefly say company-specific business. If human communication patterns will be discovered within the social networks to predict product sales or stock performance, one might surprise if such patterns additionally exist among members in company communication network to permit constant to be done. In contrast to social networks, in a very company communication network, e-mails have long been used as a tool for inter organizational and inter organizational data exchange. Within the same means, a social network platform is ready to capture participants' behaviour and their opinions concerning varied problems and events. Thus, we tend to argue that a company communication network within the sort of Associate in Nursing e-mail scheme additionally contains perceptive data, like structure stability and hardiness, a couple of company's developments. We tend to believe our argument is in line with company communications, that suggests that "employee communications will mean the success or failure of any major

amendment program" ensuing from a merger, acquisition, new venture, new method improvement approach, or alternative management problems. In alternative words, worker communication will serve a crucial "business operate that drives performance and contributes to a company's financial success". Based on these broad company communication theories, we tend to anticipate that each company has its own communication approach with identifiable patterns. We tend to believe that these communication patterns will reflect however a company manages major company activities (such as mergers, acquisitions, new ventures, new method improvement approaches, going considerations, or bankruptcy) which will afterwards influence the company's performance within the exchange. Stock exchanges are the financial institutions which allow exchange of different types of goods between stock broker components. Stock market prediction is the method of determining the future value of a stock or other financial instrument traded on an exchange. A misconception is also associated with people that buying and selling of the stocks/shares in the market is an act of gambling. This misconception can be changed and bringing awareness among people for this. Over the past few years, 90 percent of the data in the world has been created as a result of the creation of 2.5 quintillion bytes of data on a daily basis. A very large amount of data is generated by financial market. It's very difficult for a trader to recognize a pattern and then devise an optimal strategy for making decisions. Predicting how the stock market will perform is one of the most difficult things to do. There are so many factors involved in the prediction physical factors vs physiological, rational and irrational behavior, etc. All these aspects combine to make share prices volatile and very difficult to predict with a high degree of accuracy. Machine Learning can be used as a game changer in predicting the values of stock prices. Machine learning techniques have the potential to unearth patterns and insights we didn't see before, and these can be used to make unerringly accurate predictions. The machine learning is growing at a phenomenal pace in today's world.

CHAPTER 10

CONCLUSION AND FUTURE WORK

CLUSION

The popularity of stock market trading is growing rapidly, which is uraging researchers to find out new methods for the prediction using new niques. The forecasting technique is not only helping the researchers but it also , investors and any person dealing with the stock market. In order to help ict the stock indices, a forecasting model with good accuracy is required. used forecasting technology using machine learning algorithms like R,SVM and LSTM, ARIMA for forecasting which helps analysts or any on interested in investing in the stock market by providing them a good wledge of the future situation of the netflix market.

TURE WORK

It has some limitations that open fascinating opportunities for future ysis. First, during this paper, tend to solely create use of the communication uency between completely different individuals within the e-mail munication network. Utilize text-mining algorithms to investigate e-mail ent and create our experimental results a lot of correct for predicting stock th movements. Second, during this paper, we tend to rework original rmation into separate information as none, weak, and strong. A future study consider modeling the communication level of none, weak, and robust with utilization of fuzzy sets. Last however not least, a future study will create use public out their comments like those on social network sites (e.g. Twitter and book) to predict a company's stock costs. during this direction, future work extend our algorithmic rule by together with text-mining methods for lyzing the content of comments on social network sites and determine the rms and relationships between corporate/consumer communication and panies' stock worth. Finally, tend to conclude that it's possible to use

mputation ways like algorithms and data-mining techniques to explore a rporation's communication patterns and utilize such patterns to predict a rporation's structure performance like stock performance. This project provides pringboard to each researchers and practitioners to any apply algorithms within areas of knowledge science, management, and finance like for the investigation the communication and structure performance. We glance forward to a lot of dies that repose on our projected algorithms and extend our findings from Enron general company analysis.

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CS8691	ARTIFICIALINTELLIGENCE	L	T	P	C
		3	0	0	3

OBJECTIVES:

- To understand the various characteristics of Intelligent agents
- To learn the different search strategies in AI
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AI applications – Language Models – Information Retrieval- Information Extraction – Natural Language Processing - Machine Translation – Speech Recognition – Robot – Hardware – Perception–Planning–Moving

TOTAL:45PERIODS

OUTCOMES:

Up on completion of the course, the students will be able to:

- Use appropriate search algorithms for any AI problem
- Represent a problem using first order and predicate logic
- Provide the apt agent strategy to solve a given problem
- Design software agents to solve a problem
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COVID-19 DETECTION AND CLASSIFICATION USING CT SCAN IMAGE IN DEEP LEARNING

A PROJECT REPORT

Submitted by

BOOPATHI S (731218104004)

IYYAPPAN L (731218104008)

KAVIYARASAN M (731218104301)

in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

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T.N.PALAYAM, GOBI-638 512

ANNA UNIVERSITY:CHENNAI 600 025

JUNE 2022

PRINCIPAL
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T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

ANNA UNIVERSITY:CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report on **"COVID-19 DETECTION AND CLASSIFICATION USING CT SCAN IMAGE IN DEEP LEARNING"** is the bonafide work of **"BOOPATHI S (731218104004), IYYAPPAN L (731218104008), KAVIYARASAN M (731218104301)"** who carried out the project work under my supervision.

SIGNATURE
Dr.N.SATHYABALAJI.M.E,M.I.S.T.E.,Ph.D.,
HEAD OF THE DEPARTMENT
Associate Professor
Dept.of Computer Science and Engineering
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SIGNATURE
Dr.N.SATHYABALAJI.M.E,M.I.S.T.E.,Ph.D.,
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T.N. Palayam

Submitted for the Viva-Voce examination held on 22-06-2022 FN

INTERNAL EXAMINER

EXTERNAL EXAMINER

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GOBI (Tk), ERODE (Dt).

ABSTRACT

In it Project it's implemented on classification method early detection of Detecting COVID-19 is crucial in reducing mortality. Magnetic resonance imaging (MRI) may be a viable imaging technique for Detecting COVID-19detection has been studied for computed tomography (CT) images. However, to the best of their knowledge, no detection methods have been carried out for the MR images. In That conception, a Detecting COVID-19 detection method based on deep learning is proposed for thoracic MR images. With parameter optimizing, spatial three-channel input construction, and deep learning, a faster R-convolution neural network (CNN) is designed to locate the Detecting COVID-19 region.

Keywords: COVID-19, Deep CNN, Ensemble Learning, Precision, CT images.

CHAPTER 1

INTRODUCTION

DIGITAL IMAGE PROCESSING

The identification of objects in an image would probably start with image processing techniques such as noise removal, followed by (low-level) feature extraction to locate lines, regions and possibly areas with certain textures.

The clever bit is to interpret collections of these shapes as single objects, e.g. cars on a road, boxes on a conveyor belt or cancerous cells on a microscope slide. One reason this is an AI problem is that an object can appear very different when viewed from different angles or under different lighting. Another problem is deciding what features belong to what object and which are background or shadows etc. The human visual system performs these tasks mostly unconsciously but a computer requires skilful programming and lots of processing power to approach human performance. Manipulating data in the form of an image through several possible techniques. An image is usually interpreted as a two-dimensional array of brightness values, and is most familiarly represented by such patterns as those of a photographic print, slide, television screen, or movie screen. An image can be processed optically or digitally with a computer.

To digitally process an image, it is first necessary to reduce the image to a series of numbers that can be manipulated by the computer. Each number representing the brightness value of the image at a particular location is called a picture element, or pixel. A typical digitized image may have 512 × 512 or roughly 250,000 pixels, there are three basic operations that can be performed on it in the computer. For a point operation, a pixel value in the output image depends on a single pixel value in the input image. For local

CHAPTER 7

CONCLUSION AND FUTURE WORK

CONCLUSION

The number of people infected with COVID-19 has risen rapidly. Machine vision techniques and artificial intelligence are critical in diagnosing and treating disease. The purpose of That conception was to propose a method for the "COVID-19" problem via a set of lung images that included three categories of pneumonia, COVID-19, and healthy.

A deep convolution neural network consisting of 11 layers was applied to extract the features. The binary differential met heuristic method was used to select relevant features and eliminate unrelated features. Lung X-ray images were classified using a CNN classifier based on these optimal features.

That Concept demonstrated that the accuracy indicator and the number of relevant extracted features outperformed previous methods using the same data. Based on a deep neural network and a met heuristic feature selection algorithm, the proposed model can be used in various other medical applications.

FUTURE WORK

We plan to apply our Inf- Net to other related tasks, such as polyps segmentation camouflaged animal detection.

It is expected that the proposed models might be useful for clinical applications to detect the COVID-19 cases using CT scan images.

CS8791	CLOUDCOMPUTING	L TP C3003

OBJECTIVES:

- To understand the concept of cloud computing.
- To appreciate the evolution of cloud from the existing technologies.
- To have knowledge on the various issues in cloud computing.
- To be familiar with the lead players in cloud.
- To appreciate the emergence of cloud as the next generation computing paradigm.

UNITI INTRODUCTION **9**

Introduction to Cloud Computing — Definition of Cloud — Evolution of Cloud Computing —UnderlyingPrinciplesofParallelandDistributedComputing–CloudCharacteristics– ElasticityinCloud—On-demandProvisioning.

UNITII CLOUDENABLINGTECHNOLOGIES **10**

Service Oriented Architecture – REST and Systems of Systems – Web Services – Publish-Subscribe Model – Basics of Virtualization – Types of Virtualization – Implementation Levels of Virtualization — Virtualization Structures — Tools and Mechanisms — Virtualization of CPU –Memory–I/ODevices–Virtualization Supportand Disaster Recovery.

UNITIII CLOUDARCHITECTURE,SERVICESANDSTORAGE **8**

Layered Cloud Architecture Design – NIST Cloud Computing Reference Architecture – Public,Private and Hybrid Clouds - laaS — PaaS — SaaS — Architectural Design Challenges — CloudStorage–Storage-as-a-Service–AdvantagesofCloudStorage–CloudStorageProviders– S3.

UNITIV RESOURCE MANAGEMENTAND SECURITYIN CLOUD **10**

InterCloudResourceManagement–ResourceProvisioningandResourceProvisioningMethods – Global Exchange of Cloud Resources – Security Overview – Cloud Security Challenges – Software-as-a-Service Security – Security Governance – Virtual Machine Security – IAM –Security Standards.

UNITV CLOUDTECHNOLOGIESANDADVANCEMENTS **8**

Hadoop– MapReduce – Virtual Box -- Google App Engine – Programming Environment for Google App Engine —— Open Stack — Federation in the Cloud — Four Levels of Federation —Federated Services and Applications–Future of Federation.

TOTAL:45PERIODS

OUTCOMES:

On Completion of the course, the students should be able to:

- Articulatethemainconcepts,keytechnologies,strengthsandlimitationsofcloudcomputing.
- Learn the key and enabling technologies that help in the development of cloud.
- Developtheabilitytounderstandandusethearchitectureofcomputeandstoragecloud,serviceandd eliverymodels.
- Explain the core issues of cloud computing such as resource management and security.
- Be able to install and use current cloud technologies.
- Evaluateandchoosetheappropriatetechnologies,algorithmsandapproachesforimplementationa nduseofcloud.

TEXTBOOKS:

1. KaiHwang,GeoffreyC.Fox,JackG.Dongarra,"DistributedandCloudComputing,FromParallel Processingto theInternetofThings", MorganKaufmannPublishers,2012.
2. Rittinghouse,JohnW.,andJamesF.Ransome,—CloudComputing:Implementation,Managementan dSecurity‖,CRCPress,2017.

REFERENCES:

1. RajkumarBuyya,ChristianVecchiola,S.ThamaraiSelvi,—MasteringCloudComputing‖,TataMcgra wHill,2013.
2. TobyVelte,AnthonyVelte,RobertElsenpeter,"CloudComputing-APracticalApproach‖,TataMcgrawHill,2009.
3. GeorgeReese,"CloudApplicationArchitectures:BuildingApplicationsandInfrastructureintheCloud :TransactionalSystemsfor EC2andBeyond(Theory inPractice)‖,O'Reilly,2009.

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CS8691	ARTIFICIALINTELLIGENCE	L	T	P	C
		3	0	0	3

OBJECTIVES:

- To understand the various characteristics of Intelligent agents
- To learn the different search strategies in AI
- To learn to represent knowledge in solving AI problems
- To understand the different ways of designing software agents
- To know about the various applications of AI.

UNITI INTRODUCTION 9

Introduction–Definition-FutureofArtificialIntelligence–CharacteristicsofIntelligentAgents–TypicalIntelligentAgents–ProblemSolvingApproachtoTypicalAIproblems.

UNITII PROBLEMSOLVINGMETHODS 9

Problem solving Methods - Search Strategies- Uninformed - Informed - Heuristics - Local SearchAlgorithmsandOptimizationProblems-SearchingwithPartialObservations-ConstraintSatisfactionProblems—ConstraintPropagation-BacktrackingSearch-GamePlaying-Optimal Decisions in Games–Alpha-Beta Pruning-Stochastic Games

UNITIII KNOWLEDGEREPRESENTATION 9

First Order Predicate Logic – Prolog Programming – Unification – Forward Chaining-Backward Chaining – Resolution – Knowledge Representation - Ontological Engineering-Categories and Objects – Events - Mental Events and Mental Objects - Reasoning Systems for Categories -Reasoning with Default Information

UNITIV SOFTWAREAGENTS 9

ArchitectureforIntelligentAgents–Agentcommunication–NegotiationandBargaining–ArgumentationamongAgents–TrustandReputationinMulti-agentsystems.

UNITV APPLICATIONS 9

AI applications – Language Models – Information Retrieval- Information Extraction – Natural Language Processing - Machine Translation – Speech Recognition – Robot – Hardware – Perception—Planning—Moving

TOTAL:45PERIODS

OUTCOMES:

Up on completion of the course, the students will be able to:

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- Use appropriate search algorithms for any AI problem
- Represent a problem using first order and predicate logic
- Provide the apt agent strategy to solve a given problem
- Design software agents to solve a problem
- Design applications for NLP that use Artificial Intelligence.

TEXTBOOKS:

1 S.RussellandP.Norvig,"ArtificialIntelligence:AModernApproach‖,PrenticeHall,ThirdEdition,2009.

2 I.Bratko,—Prolog:ProgrammingforArtificialIntelligence‖,Fourthedition,Addison-WesleyEducationalPublishersInc.,2011.

REFERENCES:

1. M.TimJones,—ArtificialIntelligence:ASystemsApproach(ComputerScience)‖,JonesandBartlettPublishers,Inc.;FirstEdition,2008
2. NilsJ.Nilsson,—TheQuestforArtificialIntelligence‖,CambridgeUniversityPress,2009.
3. WilliamF.ClocksinandChristopherS.Mellish,‖ProgramminginProlog:UsingtheISOStandard‖,Fifth Edition,Springer,2003.
4. GerhardWeiss,—MultiAgentSystems‖, SecondEdition,MITPress,2013.
5. DavidL.PooleandAlanK.Mackworth,—ArtificialIntelligence:FoundationsofComputationalAgents‖,CambridgeUniversityPress,2010.

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REAL TIME FACE DETECTION EMOTION RECOGNITION USING DEEP LEARNING

A PROJECT REPORT

Submitted by

R.GEETHA **(731218104006)**

S.JOTHIGA **(731218104011)**

D.UMA **(731218104025)**

in partial fulfilment for the award of the degree

of

BACHELOR OF ENGINEERING

in

COMPUTER SCIENCE AND ENGINEERING

J.K.K.MUNIRAJAH COLLEGE OF TECHNOLOGY

T.N.PALAYAM, GOBI-638 506

ANNA UNIVERSITY::CHENNAI 600 025

JUNE 2022

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GOBI (Tk), ERODE (Dt).

ANNA UNIVERSITY::CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report on **"REAL TIME FACE DETECTION EMOTION RECOGNITION USING DEEP LEARING"** is the bonafide work of **"R.GEETHA (731218104006), S.JOTHIGA (731218104011), D.UMA (731218104025)"** who carried out the project work under my supervision.

SIGNATURE

Dr.N.SATHYABALAJI M.E.,M.I.S.T.E.Ph.D

HEAD OF THE DEPARTMENT

Associate Professor

Dept.of Computer Science and Engineering

K.K.Munirajah College of Technology

T.N.Palayam

SIGNATURE

Mrs.M C.SAVITHRI M.E.,

SUPERVISOR

Assistant Professor

Dept.of Computer Science and Engineering

J.K.K.Munirajah College of Technology

T.N.Palayam

Submitted for the Viva-Voce examination held on 22-6-2022 & FN

INTERNAL EXAMINER

EXTERNAL EXAMINER

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ABSTRACT

It presents speech emotion recognition from speech signal based on features analysis and NN-classifier. Automatic Face Emotion Recognition (FER) plays an important role in HCI systems for measuring people's emotions and has dominated psychology by linking expressions to group of basic emotions (i.e., anger, disgust, fear, happiness, sadness, and surprise). The recognition system involves Face emotion detection, features extraction and selection and finally classification.

However the facial features are captured in real time and processed using haar cascade detection.These features are useful to distinguish the maximum number of samples accurately and the NN classifier based on discriminate analysis is used to classify the several different expressions. The simulated results will be shown that the filter based feature extraction with used classifier gives much better accuracy with lesser algorithmic complexity than other Face emotion expression recognition approaches.

This can be helpful to make informed decisions be it regarding identification of intent, promotion of offers or security related threats. Recognizing emotions from images or video is a trivial task for human eye, but proves to be very challenging for machines and requires many image processing techniques for feature extraction.

It will easily detect the face and recognise the human expression.To recognition is based on the stored image data of the different group of persons. Input images are of any type can be used for recognition,

1. Still images.
2. Video frames or video stills.
3. Video

CHAPTER 1

INTRODUCTION

With the advanced of modern technology our desires went high and it binds no bounds. In the present area huge research work is going on in the field of digital image and image processing. The way of progression has been exponential and it is ever increasing. Image Processing is a vast area of research in the present day world and its applications are very widespread. The field of signal processing where both the input and output signals are images. One of the most important applications of Image processing is Facial expression recognition.

Our emotion is revealed by the expressions in our face. Facial Expressions plays an important role in interpersonal communication. Facial expression is a non verbal scientific gesture which gets expressed in our face as per our emotions. The key ingredient of this approach is to infer spatio temporal attention part by leveraging complementary multi-modal information.

The networks consist of four sub networks; spatial encoder networks, temporal decoder networks, attention inference networks, and emotion recognition networks. Automatic recognition of facial expression plays an important role in artificial intelligence and robotics and thus it is a need of the generation. Some application related to this includes Personal identification and Access control, Videophone and Teleconferencing, Forensic application, Human-Computer Interaction, Automated Surveillance, Cosmetology and so on Human emotion detection is implemented in many areas requiring additional security or information about the person.

It can be seen as a second step to face detection where we may be required to set up a second layer of security, where along with the face, the emotion is also detected. Human emotions can be classified as: fear, disgust, anger, surprise, sad, happy, and neutral. These emotions are very subtle. Facial muscle contortions are very minimal and detecting these differences can be very challenging as even a small difference

results in different expressions Also, expressions of different or even the same people might vary for the same emotion, as emotions are hugely context dependent .

While it can focus on only those areas of the face which display a maximum of emotions like around the mouth and eyes, how to extract these gestures and categorize them is still an important question. Neural networks and Deep learning have been used for these tasks and have obtained good results.The deep learning algorithms have proven to be very useful in pattern recognition and classification. The most important aspects for any deep learning algorithm are the features.

It can see how the features are extracted and modified for algorithms like Support Vector Machines .It will compare algorithms and the feature extraction techniques from different papers. The human emotion dataset can be a very good example to study the robustness and nature of classification algorithms and how they perform for different types of dataset. Usually before extraction of features for emotion detection, face detection algorithms are applied on the image or the captured frame. It can generalize the emotion detection steps as follows:

1) Dataset preprocessing

2) Face detection

3) Feature extraction

4) Classification based on the features

In this work, we focus on the feature extraction technique and emotion detection based on the extracted features. Section 2 focuses on some important features related to the face.

CHAPTER 10

CONCLUSION AND FUTURE SCOPE

The aim of the work is to face recognition and face emotion by using deep learning technique.we proposed real time video surveillance, what human face expresses it in front of camera and they were recognising the face. It shows the high performance of classifier and feature extraction method that enhances the efficiency of system and improved the accuracy of facial emotion recognition. In this, seven universal emotions from different set of static images is analysed. In future we have increase the accuracy rate based on facial expression.

FUTURE ENHANCEMENT

The future goal of this work has been to design a deep neural network for facial expression regonition.We have seen how to implement a Convolutional Neural Network caple of predicting emotion and facial expressions.the further testing with datasets containing images from various other angles like side view, bottom & top view.It will lead to extend this model that can recognize human facial expression from any angle in any lighting condition and background. In future we have increase the accuracy rate based on facial expression.

Gmail

Internship
1message

TUE 08 MAR 2022 at 2.30pm

From:HODCSE<hodcse@jkkmct.edu.in>
Date: TUE 08 MAR 2022 at 2.30pm
Subject:Internship -reg
To:VCIDEX<ranjitha21@gmail.com>

Dear **Sir,**

I am requesting to be joining your **VCI DEX**.The requirements are exactly what I have prepared for and hoped to do. I feel confident that I can make a significant contribution to your organization while at the same time learning from your staff.

Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe your outstanding staff.

Refer the following students:**(GEETHA.R,JOTHIGA.S,UMA.D)**

Sincerely,

Final Year CSE Students,
J K K Munirajah College of Technology,
T.N.Palayam,Erode-638506,Tamilnadu.

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JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

Gmail

Internship
1message

WED 09 MAR 2022 at 3.30pm

From: VCIDEX<ranjitha21@gmail.com>

Date: WED 09 MAR 2022 at 3.30pm

Subject:Internship-reg

To: HODCSE<hodcse@jkkmct.edu.in>

Dear **Sir,**

I am writing to confirm my acceptance of your internship offer of 16.03.2022 to 30.04.2022 and to tell you how to be joining my **VCI DEX**. The requirements are exactly what I have prepared for and hoped to do.I feel confident that I can make a significant contribution to your organization while at the same time learning from my staff.

As we discussed, I will report at 10.00 a.m. on **MARCH 13,2022** and will be ready to take on my first assignment as an intern from my company. Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe my outstanding staff.

Refer the following students:(**GEETHA.R,JOTHIGA.S,UMA.D)**

Sincerely,

HRManager,
VCI DEX,
Chennai.

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T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

VCIDEX
Bring IT to Mass

Certificate
of Internship

This is to certify that Mr.JOTHIGA.S Final year B.E., Computer Science and Engineering of JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, Erode, has attended Internship training in our organization from March 16.03.2022 to April 30.04.2022. During this Internship training, he has learned the overview concepts of REAL TIME FACE DETECTION EMOTION RECOGNITION USING DEEP LEARNING.

Date : 30.04.2022

Authorised Signature

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JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.

VCIDEX
Bring IT to Mass

Certificate
of Internship

This is to Certify that Ms.GEETHA.R Final year B.E., Computer Science and Engineering of JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, Erode, has attended Internship training in our organization from March 16.03.2022 to April 30.04.2022. During this Internship training, he has learned the overview concepts of REAL TIME FACE DETECTION EMOTION RECOGNITION USING DEEP LEARNING.

Date : 30.04.2022

Authorised Signature

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OF TECHNOLOGY

CS8591	COMPUTERNETWORKS	L	T	P	C
		3	0	0	3

OBJECTIVES:

- To understand the protocol layering and physical level communication.
- To analyze the performance of a network.
- To understand the various components required to build different networks.
- To learn the functions of network layer and the various routing protocols.
- To familiarize the functions and protocols of the Transport layer.

UNIT I INTRODUCTION AND PHYSICAL LAYER 9

Networks – Network Types – Protocol Layering – TCP/IP Protocol suite – OSI Model –Physical Layer: Performance – Transmission media – Switching – Circuit-switched Networks—Packet Switching.

UNIT II DATA-LINK LAYER & MEDIA ACCESS 9

Introduction–Link-Layer Addressing –DLC Services–Data-Link Layer Protocols –HDLC –PPP-MediaAccessControl-WiredLANs:Ethernet-WirelessLANs–Introduction–IEEE802.11,Bluetooth–ConnectingDevices.

UNIT III NETWORK LAYER 9

NetworkLayerServices–Packetswitching–Performance–IPV4Addresses–Forwardingof IP Packets - Network Layer Protocols: IP, ICMP v4 – Unicast Routing Algorithms – Protocols–MulticastingBasics–IPV6Addressing–IPV6Protocol.

UNITIV TRANSPORTLAYER 9

Introduction–TransportLayerProtocols–Services–PortNumbers–UserDatagramProtocol–TransmissionControlProtocol–SCTP.

UNITV APPLICATIONLAYER 9

WWW and HTTP–FTP–Email–Telnet–SSH–DNS–SNMP.

TOTAL: 45 PERIODS

OUTCOMES:

On Completion of the course, the students should be able to:

- Understand the basic layers and its functions in computer networks.
- Evaluate the performance of a network.
- Understand the basics of how data flows from one node to another.
- Analyze and design routing algorithms.
- Design protocols for various functions in the network.
- Understand the working of various application layer protocols

TEXTBOOK:

1. Behrouz A. Forouzan, Data Communications and Networking, Fifth Edition TMH,2013.

REFERENCES

1. Larry L. Peterson, Bruce S. Davie, Computer Networks: A Systems Approach, Fifth Edition, Morgan Kaufmann Publishers Inc.,2012.
2. William Stallings, Data and Computer Communications, Tenth Edition, PearsonEducation,2013.
3. NaderF.Mir,ComputerandCommunicationNetworks,SecondEdition,Prentice Hall,2014.
4. Ying-Dar Lin, Ren-Hung Hwang and Fred Baker, Computer Networks: An OpenSourceApproach,McGrawHillPublisher,2011.
5. James F. Kurose, Keith W. Ross, Computer Networking, A Top-Down ApproachFeaturingthe Internet, SixthEdition,PearsonEducation,2013.

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CS8494	SOFTWARE ENGINEERING	L	T	P	C
		3	0	0	3

OBJECTIVES:

- To understand the phases in a software project
- Tounderstandfundamentalconceptsofrequirementsengineeringand AnalysisModeling.
- To understand the various software design methodologies
- To learn various testing and maintenance measures

UNITI SOFTWAREPROCESSANDAGILEDEVELOPMENT **9**

Introduction to Software Engineering, Software Process, Perspective and Specialized Process Models–Introduction to Agility-Agile process-Extreme programming-XP Process.

UNITII REQUIREMENTSANALYSISAND SPECIFICATION **9**

Software Requirements: Functional and Non-Functional, User requirements, System requirements, SoftwareRequirementsDocumentRequirementEngineeringProcess:FeasibilityStudies,Requirements elicitationandanalysis,requirementsvalidation,requirementsmanagement-Classical analysis:Structured system Analysis, Petri Nets-Data Dictionary.

UNITIII SOFTWARE DESIGN **9**

Design process — Design Concepts-Design Model– Design Heuristic — Architectural Design -Architectural styles, Architectural Design, Architectural Mapping using Data Flow- User Interface Design: Interface analysis, Interface Design –Component level Design: Designing Class based components, traditional Components.

UNITIV TESTINGANDMAINTENANCE **9**

Software testing fundamentals-Internal and external views of Testing-white box testing - basis path testing-control structure testing-black box testing- Regression Testing — Unit Testing — Integration Testing— Validation Testing— System Testing And Debugging–Software Implementation Techniques: Coding practices-Refactoring-Maintenance and Reengineering-BPRmodel-Reengineeringprocessmodel-ReverseandForwardEngineering.

UNITV PROJECTMANAGEMENT **9**

Software Project Management: Estimation – LOC, FP Based Estimation, Make/Buy Decision COCOMO I & II Model – Project Scheduling – Scheduling, Earned Value Analysis Planning –Project Plan, Planning Process, RFP Risk Management – Identification, Projection - Risk Management-Risk Identification-RMMM Plan-CASETOOLS

TOTAL:45PERIODS

OUTCOMES:

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On Completion of the course, the students should be able to:

- Identify the key activities in managing a software project.
- Compare different process models.
- Concepts of requirements engineering and Analysis Modeling.
- Apply systematic procedure for software design and deployment.
- Compare and contrast the various testing and maintenance.
- Manage project schedule, estimate project cost and effort required.

TEXTBOOKS:

1. RogerS.Pressman, —Software Engineering– APractitioner"s Approachl,SeventhEdition,McGraw-HillInternationalEdition,2010.
2. IanSommerville,—SoftwareEngineeringl,9thEdition,PearsonEducationAsia,2011.

REFERENCES:

1. RajibMall,—FundamentalsofSoftwareEngineeringl,ThirdEdition,PHILearningPrivate Limited,2009.
2. PankajJalote,—SoftwareEngineering,APreciseApproachl,WileyIndia,2010.
3. KelkarS.A.,—SoftwareEngineeringl,PrenticeHallofIndiaPvtLtd,2007.
4. StephenR.Schach,—SoftwareEngineeringl,TataMcGraw-HillPublishingCompanyLimited,2007.
5. http://nptel.ac.in/.

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FABRIC FAULT DETECTION USING DIGITAL IMAGE PROCESSING

A PROJECT REPORT

Submitted by

JEEVABHARATHI.M **(731218104010)**

SARANYA.M **(731218104018)**

THAMARAISELVI.R **(731218104024)**

in partial fulfillment for the award of the degree

of

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in

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JUNE - 2022

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ANNA UNIVERSITY:CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report on **"FABRIC FAULT DETECTION USING DIGITAL IMAGE PROCESSING"** is the bonafide work of **"JEEVABHARATHI.M (731218104010), SARANYA.M (731218104018), THAMARAISELVI.R (731218104024)"** who carried out the project work under my supervision.

SIGNATURE

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HEAD OF THE DEPARTMENT

Associate Professor

Dept.of Computer Science and Engineering

J.K.K.Munirajah College of Technology

T.N.Palayam

SIGNATURE

Mrs.P.SASIREKA M.E.,

SUPERVISOR

Assistant Professor

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J.K.K.Munirajah College of Technology

T.N.Palayam

Submitted for the Viva-Voce examination held on 22.06.2022 (FN)

INTERNAL EXAMINER

EXTERNAL EXAMINER

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ABSTRACT

Automatic fabric fault detection. Fabric fault detection is very popular topic of automation moreover quality control is one of the important features in textile industry. The performance of the projected idea is evaluated by using different techniques of patterned fabric images with different types of common fabric defects. Moreover detection methods were also evaluated in real time using a model automation specification system. This research paper will be useful for both researchers and practitioners in the field of image processing and computer vision to understand the uniqueness of the different defect detection methods. The recognition receives a digital fabric image from the image acquisition device and transforms it to a binary image using the restoration and threshold methods. This project presents a technique that decreases physical excertion. This project provides is automatic fabric fault detection. Fabric fault detection is very popular topic of automation moreover quality control is one of the important features in textile industry. The performance of the projected idea is evaluated by using different techniques of patterned fabric images with different types of common fabric defects. Moreover detection methods were also evaluated in real time using a model automation specification system. This research paper will be useful for both researchers and practitioners in the field of image processing and computer vision to understand the uniqueness of the different defect detection methods. The recognition receives a digital fabric image from the image acquisition device and transforms it to a binary image using the restoration and threshold methods. This project presents a technique that decreases physical excertion.

CHAPTER 1

OBJECTIVE

The main objective is to identify the fabric fault detection using deep learning technique.

1.1 DOMAIN OVERVIEW

Deep neural networks are now the state-of-the-art machine learning models across a variety of areas, from image analysis to natural language processing, and widely deployed in academia and industry.

These developments have a huge potential for medical imaging technology, medical data analysis, medical diagnostics and healthcare in general, slowly being realized.We provide a short overview of recent advances and some associated challenges in machine learning applied to medical image processing and image analysis.Long before deep learning was used, traditional machine learning methods were mainly used. Such as Decision Trees, SVM, Naive Bayes Classifier and Logistic Regression.

These algorithms are also called flat algorithms. Flat here means that these algorithms cannot normally be applied directly to the raw data (such as .csv, images, text, etc.). We need a preprocessing step called Feature Extraction.

The result of Feature Extraction is a representation of the given raw data that can now be used by these classic machine learning algorithms to perform a task. For example, the classification of the data into several categories or classes.Feature Extraction is usually quite complex and requires detailed knowledge of the problem domain. This preprocessing layer must be adapted, tested and refined over several iterations for optimal results.

CHAPTER 8

CONCLUSION AND FUTURE WORK

CONCLUSION

In this research,varying light conditions were tested for defect tification. Results showed that using a light beam of similar colour nsity to that of the original material enabled more accurate defect tification compared to using a white light. Furthermore, an algorithm bining Thresholding and restoration operations were applied for the ure extraction of the fabric defects. Results clearly indicated that the rithm successfully extracted the defects in the fabric. Lastly, results hlighted use of UV lighting as more effective when detecting oil defects n other lighting.

FUTURE ENHANCEMENT WORK

In future we increased the performance of this process and able to get re accuracy.An approach combined with the maximum interclass variance thod is proposed with the global associated value and the background ociated value are extracted as the two features. The yolo object detection ssifier is used to train and test the samples. Experiments results show that method can detect the images with high accuracy. In addition, the method extracting visual saliency map features described in this paper is not great ected by the different detection objects. Therefore, the proposed approach s strong adaptability and practicability.

CS8591	COMPUTERNETWORKS	L	T	P	C
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OBJECTIVES:

- To understand the protocol layering and physical level communication.
- To analyze the performance of a network.
- To understand the various components required to build different networks.
- To learn the functions of network layer and the various routing protocols.
- To familiarize the functions and protocols of the Transport layer.

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UNIT II DATA-LINK LAYER & MEDIA ACCESS 9

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UNITV APPLICATIONLAYER 9

WWW and HTTP–FTP–Email–Telnet–SSH–DNS–SNMP.

TOTAL: 45 PERIODS

OUTCOMES:

On Completion of the course, the students should be able to:

- Understand the basic layers and its functions in computer networks.
- Evaluate the performance of a network.
- Understand the basics of how data flows from one node to another.
- Analyze and design routing algorithms.
- Design protocols for various functions in the network.
- Understand the working of various application layer protocols

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3. NaderF.Mir,ComputerandCommunicationNetworks,SecondEdition,Prentice Hall,2014.
4. Ying-Dar Lin, Ren-Hung Hwang and Fred Baker, Computer Networks: An OpenSourceApproach,McGrawHillPublisher,2011.
5. James F. Kurose, Keith W. Ross, Computer Networking, A Top-Down ApproachFeaturingthe Internet, SixthEdition,PearsonEducation,2013.

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

CS8792	CRYPTOGRAPHYANDNETWORKSECURITY	L	T	P	C
		3	0	0	3

OBJECTIVES:

- To understand Cryptography Theories, Algorithms and Systems.
- To understand necessary Approaches and Techniques to build protection mechanisms in order to secure computer networks.

UNITI INTRODUCTION 9

Securitytrends-Legal,EthicalandProfessionalAspectsofSecurity,NeedforSecurityatMultiple levels, Security Policies - Model of network security – Security attacks, services andmechanisms—OSIsecurityarchitecture—Classicalencryptiontechniques:substitution techniques, transposition techniques, steganography- Foundations of modern cryptography:perfectsecurity–informationtheory–productcryptosystem–cryptanalysis.

UNITII SYMMETRICKEYCRYPTOGRAPHY 9

MATHEMATICS OF SYMMETRIC KEY CRYPTOGRAPHY: Algebraic structures - Modulararithmetic-Euclid"s algorithm- Congruence and matrices -Groups, Rings, Fields-Finite fields-SYMMETRICKEYCIPHERS:SDES–Block cipher Principle of DES–Strength of DES – Differential and linear cryptanalysis - Block cipher design principles – Block ciphermode of operation – Evaluation criteria for AES – Advanced Encryption Standard - RC4 –Key distribution.

UNITIII PUBLICKEYCRYPTOGRAPHY 9

MATHEMATICSOFASYMMETRICKEYCRYPTOGRAPHY:Primes–PrimalityTesting–Factorization – Euler's totient function, Fermat's and Euler's Theorem - Chinese Remainder Theorem— Exponentiation and Alogarithm-ASYMMETRIC KEY CIPHERS:RSA cryptosystem – Key distribution – Key management – Diffie Hellman key exchange -ElGamalcryptosystem–Ellipticcurvearithmetic-Ellipticcurvecryptography.

UNITIV MESSAGEAUTHENTICATIONANDINTEGRITY 9

Authentication requirement – Authentication function – MAC – Hash function – Security ofhashfunctionandMAC–SHA–Digitalsignatureandauthenticationprotocols–DSS-EntityAuthentication: Biometrics, Passwords, Challenge Response protocols-Authenticationapplications-Kerberos,X.509

UNITV SECURITYPRACTICEANDSYSTEMSECURITY 9

ElectronicMailsecurity—PGP,S/MIME—IPsecurity—WebSecurity-

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SYSTEMSECURITY:Intruders–Maliciousssoftware–viruses–Firewalls.

TOTAL 45 PERIODS

OUTCOMES:

At the end of the course, the student should be able to:

- Understandthefundamentalsofnetworkssecurity,securityarchitecture,threatsandvulnerabilities
- Applythedifferentcryptographicoperationsofsymmetriccryptographicalgorithms
- Apply the different cryptographic operations of public key cryptography
- ApplythevariousAuthenticationschemestosimulatedifferentapplications.
- Understand various Security practices and System security standards

TEXTBOOK:

1. WilliamStallings,CryptographyandNetworkSecurity:PrinciplesandPractice,PHI3rdEditio n,2006.

REFERENCES:

1. C K Shyamala, N Harini and Dr. T R Padmanabhan: Cryptography and Network Security,Wiley IndiaPvt.Ltd
2. BehrouzA.Foruzan,CryptographyandNetworkSecurity,TataMcGrawHill2007.
3. CharlieKaufman,RadiaPerlman,andMikeSpeciner,NetworkSecurity:PRIVATECommun icationinaPUBLICWorld,PrenticeHall,ISBN0-13-046019-2

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JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

IOT BASED VECHILE EMISSION MONITORING SYSTEM USING NODEMCU

A PROJECT REPORT

Submitted by

T.MANIKANDAN (731218104014)

D.RATHISH (731218104017)

in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

COMPUTER SCIENCE AND ENGINEERING

J.K.K.MUNIRAJAH COLLEGE OF TECHNOLOGY

T.N.PALAYAM, GOBI-638 506

ANNA UNIVERSITY::CHENNAI 600 025

JUNE 2022

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

ANNA UNIVERSITY::CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report on **"IOT BASED EMISSION MONITORING SYSTEM IN VEHICLE USING NODEMCU"** is the bonafide work of **"T.MANIKANDAN (731218104014), D.RATHISH (731218104017)"** who carried out the project work under my supervision.

SIGNATURE

Dr. N.SATHYABALAJI M.E.,M.I.S.T.E.,Ph.D.,

HEAD OF THE DEPARTMENT

Associate Professor

Dept. of Computer Science and Engineering

J.K.K.Munirajah college of Technology

T.N Palayam

SIGNATURE

Mr. E.ANANTH M.E.,

SUPERVISOR

Assistant Professor

Dept. of Computer Science and Engineering

J.K.K.Munirajah college of Technology

T.N Palayam

Submitted for the Viva-Voce examination held on 22-06-2022 | FN

INTERNAL EXAMINER

EXTERNAL EXAMINER

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

ABSTRACT

An increase in automobile vehicle ends up in a rise in air pollution since automobiles area unit the main source of environmental pollution. The smoke emitted from the vehicle consists of gases like nitrogen oxides (NO), carbon monoxide gas (CO), and hydrocarbon (HC).Just about one-half of the nitrogen oxide gases, carbon monoxide gas and fourth of hydrocarbon gases in the environment area unit emitted from automobile vehicles, which ends up in warming. Due to poor vehicle maintenance and ignition defect. The gases emitted from the exhaust may increase. So as to scale back environmental pollution and to extend vehicle life, so use this method. Once the rate of gases emitted from the vehicle exceeds the starting stage limit set by the government this system can alert the user through liquid crystal display. Using IOT, the emission level is additionally displayed and holds on within the info of a vehicle owner. The whole system is controlled by Node MCU microcontroller.

CHAPTER 1

INTRODUCTION

Environmental pollution in India turns out to be a serious issue in the 21st century. The main source of pollution in India is due to automobile vehicles. Government of India made many regulations to control environmental pollution caused due to vehicle emission, but most of them turn to be unsuccessful. The government of India instituted a standard called Bharat stage emission standard (BSES) to regulate air pollution from motor vehicles. BS- 4 standards are following in India since April 2010. To speed up the green initiative, the government made an order to move from BS-4 to BS-6 in 2020. The Indian pollution control board has made FC (Fitness certificate) and PUC (Pollution under control certificate) is compulsory for commercial and public vehicles to control air pollution. Carbon monoxide, hydrocarbon, and nitrogen oxides are the gases emitted from the exhaust.

The CO in the atmosphere reduces the capability of blood in carrying oxygen; hydrocarbon in the atmosphere affects heart, brain, kidney and bone marrow. NO affects the lung and causes a respiratory problem. In the era of urbanization due to the rapid increase in an automobile vehicle, it is difficult to inspect all the vehicles. It requires a lot of man force to inspect all those vehicles. In order to monitor all the vehicles easily to develop a system called IoT based emission monitoring system, through which can able to monitor all the vehicles easily. The IOT plays a vital role in this process, the sensors placed at the exhaust monitors the level of different gases, with the help of IOT the value is updated to the cloud. This makes each the vehicle owner and transport workplace to watch the vehicle simply.

CHAPTER 7

CONCLUSION AND FUTURE ENHANCEMENT

CONCLUSION

The environmental pollution caused due to the emission of gases like carbon monoxide, hydrocarbon, and nitrogen oxide emitted from vehicle exhaust need to be reduced in order to save the environment. The proposed system provides the best solution to monitor the gases emitted from the vehicle exhaust to increase the life of the vehicle and to reduce environmental pollution. The proposed system is low cost and easy to maintain. In future GPScan be added to send the details to the regional transport office and to calculate the number of gases emitted from vehicles in a particular region.

FUTURE ENHANCEMENT

The Indian pollution control board has made FC (Fitness certificate) and UC (Pollution under control certificate) is compulsory for commercial and public vehicles to control air pollution. Carbon monoxide, hydrocarbon, and nitrogen oxides are the gases emitted from the exhaust. The CO in the atmosphere reduces the capability of blood in carrying oxygen; hydrocarbon in the atmosphere affects heart, brain, kidney and bone marrow. NO affects the lung and causes a respiratory problem.

Gmail

Internship
1message

TUE 08 MAR 2022 at1.30pm

From: HODCSE<hodcse@jkkmct.edu.in>
Date: TUE 08 MAR 2022 at 1.30pm
Subject:Internship -reg
To:PANTECH<rithiksam22@pantech.com>

Dear **Sir,**

I am requesting to be joining your **PAN TECH**.The requirements are exactly what I have prepared for and hoped to do. I feel confident that I can make a significant contribution to your organization while at the same time learning from your staff.

Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe your outstanding staff.

Refer the following students:**(MANIKANDAN.T,RATHISH.D)**

Sincerely,

Final Year CSE Students,
J K KMunirajah College of Technology,
T.N.Palayam,Erode-638506,Tamilnadu.

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

Gmail

Internship
1message

WED 09 MAR 2022 at 3.30pm

From: PANTECH<rithiksam22@pantech.com>
Date: WED 09 MAR 2022 at 3.30pm
Subject:Internship-reg
To: HODCSE<hodcse@jkkmct.edu.in>

Dear **Sir,**

I am writing to confirm my acceptance of your internship offer of 16.03.2022 to 30.04.2022 and to tell you how to be joining my **PAN TECH**. The requirements are exactly what I have prepared for and hoped to do.I feel confident that I can make a significant contribution to your organization while at the same time learning from my staff.

As we discussed, I will report at 8:00 a.m. on **FEBRUARY 25,2022** and will be ready to take on my first assignment as an intern from my company. Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe my outstanding staff.

Refer the following students:**(MANIKANDAN.T,RATHISH.D)**

Sincerely,

HRManager,
PAN TECH SOLUTIONS PRIVATE LIMITED,
Coimbatore.

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

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Technology Beyond The Dreams

Certificate of Internship

This is to certify that Mr.MANIKANDAN.T Final year B.E., Computer Science and Engineering of JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, Erode,has attended Internship training in our organization from March 16.03.2022 to April 30.04.2022.

During this Internship training, he has learned the overview concepts of IOT BASED EMISSION MONITORING SYSTEM IN VEHICLE USING NODEMCU.

Date : 30.04.2022

Authorised Signature

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.

PANTECH SOLUTIONS®

Technology Beyond The Dreams

Certificate of Internship

This is to certify that Mr.RATHISH.D Final year B.E., Computer Science and Engineering of JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, Erode,has attended Internship training in our organization from March 16.03.2022 to April 30.04.2022.

During this Internship training, he has learned the overview concepts of IOT BASED EMISSION MONITORING SYSTEM IN VEHICLE USING NODEMCU.

Date : 30.04.2022

Authorised Signature

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.

CS8691	ARTIFICIALINTELLIGENCE	L	T	P	C
		3	0	0	3

OBJECTIVES:

- To understand the various characteristics of Intelligent agents
- To learn the different search strategies in AI
- To learn to represent knowledge in solving AI problems
- To understand the different ways of designing software agents
- To know about the various applications of AI.

UNITI INTRODUCTION **9**

Introduction–Definition-FutureofArtificialIntelligence–CharacteristicsofIntelligentAgents–TypicalIntelligentAgents–ProblemSolvingApproachtoTypicalAIproblems.

UNITII PROBLEMSOLVINGMETHODS **9**

Problem solving Methods - Search Strategies- Uninformed - Informed - Heuristics - Local SearchAlgorithmsandOptimizationProblems-SearchingwithPartialObservations-ConstraintSatisfactionProblems—ConstraintPropagation-BacktrackingSearch-GamePlaying-Optimal Decisions in Games–Alpha-Beta Pruning-Stochastic Games

UNITIII KNOWLEDGEREPRESENTATION **9**

First Order Predicate Logic – Prolog Programming – Unification – Forward Chaining-Backward Chaining – Resolution – Knowledge Representation - Ontological Engineering-Categories and Objects – Events - Mental Events and Mental Objects - Reasoning Systems for Categories -Reasoning with Default Information

UNITIV SOFTWAREAGENTS **9**

ArchitectureforIntelligentAgents–Agentcommunication–NegotiationandBargaining–ArgumentationamongAgents–TrustandReputationinMulti-agentsystems.

UNITV APPLICATIONS **9**

AI applications – Language Models – Information Retrieval- Information Extraction – Natural Language Processing - Machine Translation – Speech Recognition – Robot – Hardware – Perception—Planning—Moving

TOTAL:45PERIODS

OUTCOMES:

Up on completion of the course, the students will be able to:

- Use appropriate search algorithms for any AI problem
- Represent a problem using first order and predicate logic
- Provide the apt agent strategy to solve a given problem
- Design software agents to solve a problem
- Design applications for NLP that use Artificial Intelligence.

TEXTBOOKS:

1 S.RussellandP.Norvig,"ArtificialIntelligence:AModernApproach‖,PrenticeHall,ThirdEdition,2009.

2 I.Bratko,—Prolog:ProgrammingforArtificialIntelligence‖,Fourthedition,Addison-WesleyEducationalPublishersInc.,2011.

REFERENCES:

1. M.TimJones,—ArtificialIntelligence:ASystemsApproach(ComputerScience)‖,JonesandBartlettPublishers,Inc.;FirstEdition,2008
2. NilsJ.Nilsson,—TheQuestforArtificialIntelligence‖,CambridgeUniversityPress,2009.
3. WilliamF.ClocksinandChristopherS.Mellish,‖ProgramminginProlog:UsingtheISOStandard‖,Fifth Edition,Springer,2003.
4. GerhardWeiss,—MultiAgentSystems‖, SecondEdition,MITPress,2013.
5. DavidL.PooleandAlanK.Mackworth,—ArtificialIntelligence:FoundationsofComputationalAgents‖,CambridgeUniversityPress,2010.

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GOBI (Tk), ERODE (Dt).

DEEP LEARNING APPROACH FOR COUNTING THE PRESENCE OF THE PEOPLE IN REAL TIME USING OPENCV

A PROJECT REPORT

Submitted by

M.NIRANJANA **(731218104015)**
S.KIRUTHIKA **(731218104302)**

in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

COMPUTER SCIENCE AND ENGINEERING

J.K.K.MUNIRAJAH COLLEGE OF TECHNOLOGY

T.N.PALAYAM, GOBI-638 506

ANNA UNIVERSITY::CHENNAI 600 025

JUNE 2022

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

ANNA UNIVERSITY:CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report on **"DEEP LEARNING APPROACH FOR COUNTING THE PRESENCE OF THE PEOPLE IN REAL TIME USING OPENCV"** is the bonafide work of **"M.NIRANJANA (731218104015), S.KIRUTHIKA (731218104302)"** who carried out the project work under my supervision.

SIGNATURE

Dr.N.SATHYA BALAJI M.E.,M.I.S.T.E.,Ph.D.,
HEAD OF THE DEPARTMENT
Associate Professor
Dept. of Computer Science and Engineering
J.K.K.Munirajah College of Technology
T.N.Palayam

SIGNATURE

Mrs.P.SASIREKA M.E.,
SUPERVISOR
Assistant Professor
Dept. of Computer Science and Engineering
J.K.K.Munirajah College of Technology
T.N.Palayam

Submitted for the Viva-Voce examination held on 22-06-2022 / FN

INTERNAL EXAMINER

EXTERNAL EXAMINER

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.

ABSTRACT

Crowd counting is very important in many tasks such as video surveillance, traffic monitoring, public security, and urban planning, so it is a very important part of the intelligent transportation system. However, achieving an accurate crowd counting and generating a precise density map are still challenging tasks due to the occlusion, perspective distortion, complex backgrounds, and varying scales. In addition, most of the existing methods focus only on the accuracy of crowd counting without considering the correctness of a density distribution; namely, there are many false negatives and false positives in a generated density map. To address this issue, we propose a novel encoder-decoder Convolution Neural Network (CNN) that fuses the feature maps in both encoding and decoding sub-networks to generate a more reasonable density map and estimate the number of people more accurately. Furthermore, we introduce a new evaluation method named the Patch Absolute Error (PAE) which is more appropriate to measure the accuracy of a density map. The extensive experiments on several existing public crowd counting datasets demonstrate that our approach achieves better performance than the current state-of-the-art methods. Lastly, considering the cross-scene crowd counting in practice, we evaluate our model on some cross-scene datasets. The results show our method has a good performance in cross-scene datasets.

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GOBI (Tk), ERODE (Dt).

CHAPTER 1

INTRODUCTION

It is applied to the objects of the person. Not just person can distinguish any kind of pictures. This procedure will be applied to recognize the article for the utilizations of wide scope of businesses, picture recovery and so on calculation applies a neural system to a whole picture. The system isolates the picture into a S x S framework and concocts bouncing boxes, which are boxes drawn around pictures and anticipated probabilities for each of these Areas.

The technique used to concoct these probabilities is calculated relapse. The bouncing boxes are weighted by the related probabilities. For class expectation, free strategic classifiers are utilized. Right now, will exhibit how to actualize the YOLO calculation with a pre prepared model. To begin with need to introduce Dark Net. It is a neural system structure that is open source. What's more, by utilizing mass location that can distinguish the picture by the square shape box. Utilizing this procedure can distinguish questions no problem at all.

1.1. DOMAIN OVERVIEW

Deep neural networks are now the state of the art machine learning models across a variety of areas,from image analysis to natural language processing, and widely deployed in academia and industry.

These developments have a huge potential for medical imaging technology, medical data analysis, medical diagnostics and healthcare in general, slowly being realized. It provide a short overview of recent advances and some associated challenges in machine learning applied to medical image processing and image analysis.

Long before deep learning was used, traditional machine learning methods were mainly used. Such as Decision Trees, SVM, Naïve Bayes Classifier and Logistic Regression.

CHAPTER 9

CONCLUSION AND FUTURE WORK

9.1. CONCLUSION

It detect the object detection based on the blob detection and darknet. This can be used in real-time applications which require object detection for pre processing in their pipeline. An important scope would be to train the system on a video sequence for usage in tracking applications. Addition of a temporally consistent network would enable smooth detection and more optimal than per frame detection.

9.2. FUTUREWORK

The performance of the object detection requirement in image processing for the more number of real time applications. By using applications we can detect any kind of object. This is the best performance. For the future purpose we can take different type of extraction process techniques. This techniques is used at malls, theatres, roads, airports, park, companies etc. Optical flow is used for the next generation and can develop new algorithms for the classification process. To using this can detect more number of objects with assigning of different colours and name. These are used at the malls, restaurants and other application.

Gmail

Internship
1message

TUE 08 MAR 2022 at 2.30pm

From: HODCSE<hodcse@jkkmct.edu.in>
Date: TUE 08 MAR 2022 at 2.30pm

Subject:Internship -reg
To:VCIDEX<ranjitha21@gmail.com>

Dear Sir,

I am requesting to be joining your **VCI DEX**.The requirements are exactly what I have prepared for and hoped to do. I feel confident that I can make a significant contribution to your organization while at the same time learning from your staff.

Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe your outstanding staff.

Refer the following students:**(NIRANJANA.M,KIRUTHIKA.S)**

Sincerely,

Final Year CSE Students,
J K KMunirajah College of Technology,
T.N.Palayam,Erode-638506,Tamilnadu.

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

Gmail

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Date: WED 09 MAR 2022 at 3.30pm
Subject:Internship-reg
To: HODCSE<hodcse@jkkmct.edu.in>

Dear **Sir,**

I am writing to confirm my acceptance of your internship offer of 16.03.2022 to 30.04.2022 and to tell you how to be joining my **VCI DEX**. The requirements are exactly what I have prepared for and hoped to do.I feel confident that I can make a significant contribution to your organization while at the same time learning from my staff.

As we discussed, I will report at 8:00 a.m. on **MARCH 13,2022** and will be ready to take on my first assignment as an intern from my company. Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe my outstanding staff.

Refer the following students:**(NIRANJANA.M,KIRUTHIKA.S)**

Sincerely,

HRManager,
VCI DEX,
Chennai.

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

VCIDEX
Bring IT to Mass

Certificate
of Internship

This is to certify that Ms.KIRUTHIKA.S Final year B.E., Computer Science and Engineering of JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, Erode, has attended Internship training in our organization from March 16.03.2022 to April 30.04.2022. During this Internship training, he has learned the overview concepts of DEEP LEARNING APPOROACH FOR COUNTING THE PRESENCE OF THE PROFLE IN REAL TIME USING OPEN CV.

Date : 30.04.2022

Authorised Signature

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.

VCIDEX
Bring IT to Mass

Certificate
of Internship

This is to certify that Mr.NIRANJANA.T Final year B.E., Computer Science and Engineering of JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, Erode, has attended Internship training in our organization from March 16.03.2022 to April 30.04.2022. During this Internship training, he has learned the overview concepts of DEEP LEARNING APPOROACH FOR COUNTING THE PRESENCE OF THE PROFLE IN REAL TIME USING OPEN CV.

Date : 30.04.2022

Authorised Signature

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY

CS8494	SOFTWARE ENGINEERING	L	T	P	C
		3	0	0	3

OBJECTIVES:

- To understand the phases in a software project
- Tounderstandfundamentalconceptsofrequirementsengineeringand AnalysisModeling.
- To understand the various software design methodologies
- To learn various testing and maintenance measures

UNITI SOFTWAREPROCESSANDAGILEDEVELOPMENT 9

Introduction to Software Engineering, Software Process, Perspective and Specialized Process Models–Introduction to Agility-Agile process-Extreme programming-XP Process.

UNITII REQUIREMENTSANALYSISAND SPECIFICATION 9

Software Requirements: Functional and Non-Functional, User requirements, System requirements, SoftwareRequirementsDocumentRequirementEngineeringProcess:FeasibilityStudies,Requirements elicitationandanalysis,requirementsvalidation,requirementsmanagement-Classical analysis:Structured system Analysis, Petri Nets-Data Dictionary.

UNITIII SOFTWARE DESIGN 9

Design process — Design Concepts-Design Model– Design Heuristic — Architectural Design -Architectural styles, Architectural Design, Architectural Mapping using Data Flow- User Interface Design: Interface analysis, Interface Design –Component level Design: Designing Class based components, traditional Components.

UNITIV TESTINGANDMAINTENANCE 9

Software testing fundamentals-Internal and external views of Testing-white box testing - basis path testing-control structure testing-black box testing- Regression Testing — Unit Testing — Integration Testing— Validation Testing— System Testing And Debugging–Software Implementation Techniques: Coding practices-Refactoring-Maintenance and Reengineering-BPRmodel-Reengineeringprocessmodel-ReverseandForwardEngineering.

9

UNITV PROJECTMANAGEMENT

Software Project Management: Estimation – LOC, FP Based Estimation, Make/Buy Decision COCOMO I & II Model – Project Scheduling – Scheduling, Earned Value Analysis Planning –Project Plan, Planning Process, RFP Risk Management – Identification, Projection - Risk Management-Risk Identification-RMMM Plan-CASETOOLS

TOTAL:45PERIODS

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.

OUTCOMES:

On Completion of the course, the students should be able to:

- Identify the key activities in managing a software project.
- Compare different process models.
- Concepts of requirements engineering and Analysis Modeling.
- Apply systematic procedure for software design and deployment.
- Compare and contrast the various testing and maintenance.
- Manage project schedule, estimate project cost and effort required.

TEXTBOOKS:

1. RogerS.Pressman, —Software Engineering– APractitioner"s Approachl,SeventhEdition,McGraw-HillInternationalEdition,2010.
2. IanSommerville,—SoftwareEngineeringl,9thEdition,PearsonEducationAsia,2011.

REFERENCES:

1. RajibMall,—FundamentalsofSoftwareEngineeringl,ThirdEdition,PHILearningPrivate Limited,2009.
2. PankajJalote,—SoftwareEngineering,APreciseApproachl,WileyIndia,2010.
3. KelkarS.A.,—SoftwareEngineeringl,PrenticeHallofIndiaPvtLtd,2007.
4. StephenR.Schach,—SoftwareEngineeringl,TataMcGraw-HillPublishingCompanyLimited,2007.
5. http://nptel.ac.in/.

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

CS8691	ARTIFICIALINTELLIGENCE	L	T	P	C
		3	0	0	3

OBJECTIVES:

- To understand the various characteristics of Intelligent agents
- To learn the different search strategies in AI
- To learn to represent knowledge in solving AI problems
- To understand the different ways of designing software agents
- To know about the various applications of AI.

UNITI INTRODUCTION 9

Introduction–Definition-FutureofArtificialIntelligence–CharacteristicsofIntelligentAgents–TypicalIntelligentAgents–ProblemSolvingApproachtoTypicalAIproblems.

UNITII PROBLEMSOLVINGMETHODS 9

Problem solving Methods - Search Strategies- Uninformed - Informed - Heuristics - Local SearchAlgorithmsandOptimizationProblems-SearchingwithPartialObservations-ConstraintSatisfactionProblems—ConstraintPropagation-BacktrackingSearch-GamePlaying-Optimal Decisions in Games–Alpha-Beta Pruning-Stochastic Games

UNITIII KNOWLEDGEREPRESENTATION 9

First Order Predicate Logic – Prolog Programming – Unification – Forward Chaining-Backward Chaining – Resolution – Knowledge Representation - Ontological Engineering-Categories and Objects – Events - Mental Events and Mental Objects - Reasoning Systems for Categories -Reasoning with Default Information

UNITIV SOFTWAREAGENTS 9

ArchitectureforIntelligentAgents–Agentcommunication–NegotiationandBargaining–ArgumentationamongAgents–TrustandReputationinMulti-agentsystems.

UNITV APPLICATIONS 9

AI applications – Language Models – Information Retrieval- Information Extraction – Natural Language Processing - Machine Translation – Speech Recognition – Robot – Hardware – Perception—Planning—Moving

TOTAL:45PERIODS

OUTCOMES:

Up on completion of the course, the students will be able to:

- Use appropriate search algorithms for any AI problem
- Represent a problem using first order and predicate logic
- Provide the apt agent strategy to solve a given problem
- Design software agents to solve a problem
- Design applications for NLP that use Artificial Intelligence.

TEXTBOOKS:

1 S.RussellandP.Norvig,"ArtificialIntelligence:AModernApproach‖,PrenticeHall,ThirdEdition,2009.

2 I.Bratko,—Prolog:ProgrammingforArtificialIntelligence‖,Fourthedition,Addison-WesleyEducationalPublishersInc.,2011.

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1. M.TimJones,—ArtificialIntelligence:ASystemsApproach(ComputerScience)‖,JonesandBartlettPublishers,Inc.;FirstEdition,2008
2. NilsJ.Nilsson,—TheQuestforArtificialIntelligence‖,CambridgeUniversityPress,2009.
3. WilliamF.ClocksinandChristopherS.Mellish,‖ProgramminginProlog:UsingtheISOStandard‖,Fifth Edition,Springer,2003.
4. GerhardWeiss,—MultiAgentSystems‖, SecondEdition,MITPress,2013.
5. DavidL.PooleandAlanK.Mackworth,—ArtificialIntelligence:FoundationsofComputationalAgents‖,CambridgeUniversityPress,2010.

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BREAST CANCER DETECTION USING DEEPLEARNING TECHNIQUE

A PROJECT REPORT

Submitted by

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In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

COMPUTER SCIENCE AND ENGINEERING

J.K.K.MUNIRAJAH COLLEGE OF TECHNOLOGY

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Certified that this project report on **"BREAST CANCER DETECTION USING DEEPLEARNING TECHNIQUE"** is the bonafide work of **"S.NISHA (731218104016), V.SINDHUJA (731218104021)"** who carried out the project work under my supervision.

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INTERNAL EXAMINER

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ABSTRACT

The project proposes an automatic support system for stage classification using probabilistic neural network based on the detection of cancer region through biclustering method for medical application. stages. The threshold will be determined by biclustering an image based on row and column separation. The artificial neural network will be used to classify the stage of image that is abnormal or normal. The manual analysis of this samples are time consuming, inaccurate and requires intensive trained person to avoid diagnostic errors. Diagnosis system for early detection of cancer from mammographic which will improves the chances of survival for the patient. Dual tree complex wavelet transform is used for extracting texture features and it decomposed the image into four levels for getting the edge details in horizontal and vertical direction. Robust local binary pattern is effectively used here to extract texture features and probabilistic neural network with radial basis function will be employed to implement an automated breast cancer classification.

The performance of the CNN classifier with DTCWT–RLBP will be evaluated in terms of training performance and classification accuracies. Traditional breast cancer image classification methods require manual extraction of features from medical images, which not only require professional medical knowledge. Therefore, the project proposes a computer-based feature fusion Convolutional neural network breast cancer image classification and detection method. The project pre-trains two convolutional neural networks with different structures, and then uses the convolutional neural network to automatically extract the characteristics of features.

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CHAPTER 1
INTRODUCTION

The aim of the project is to detect breast cancer by using deep learning technique and image processing. The breast cancer is an most common type of cancer that occurs one in every eight Women in the world .It will easily recognize with the help of MRI scan image.The GLCM feature extraction and discrete wavelet transform, these are the comes under image processing and deep learning. and then classify into two abnormal and normal .If the person is affected in cancer it will be pop out. Traditional breast cancer image classification methods require manual extraction of features from medical images, which not only require professional medical knowledge. Therefore, the project proposes a computer-based feature fusion Convolutional neural network breast cancer image classification and detection method.

The project pre-trains two convolutional neural networks with different structures, and then uses the convolutional neural network to automatically extract the characteristics of features.Breast tumor has two most common types: benign and malignant where the benign lesion is not cancerous, it is some kind of abnormalities in the cell and they are unable to become a cause of breast cancer and malignant is cancerous lesions. Malignant cells spread at a very fast rate by start divisions swiftly because both cells have irregular appearance and structure; it is a very difficult task to manually analyze the microscopic image. Early detection of breast cancer can lead to recovery where the accuracy in the classification of breast cancer is of great significance. Several types of research have been organized on the implementation of machine learning for the detection and classification of breast cancer using different methods or a combination of several algorithms to increase the precision.

CHAPTER 9

CONCLUSION

In this model is presented for the classification of breast cancer using istopathology images. The proposed model learns the features automatically by reating equal size patches of images. Pre-training is achieved in an unsupervised ashion and fine-tuning in a supervised fashion. After learning the features, the atch matching model is used to create a probability estimation matrix. The results how that the deep learning method improved classification accuracy in breast ancer cases. According to our results, it is observed that the patch-based model erformed better than the models that work using whole images for feature xtraction. This will reduce the computational cost and also provides high accuracy the binary classification problem. For future work, our model could perform etter and could provide better accuracy if more hardware resources are available ke GPU, for using a large number of patches as input. Also, this study is a binary lassification study, as in this work we only classify between the cancer regions om the background regions

UTURE ENHANCEMENT

The results show that the deep learning method improved classification curacy in breast cancer cases. According to our results, it is observed that the tch-based model performed better than the models that work using whole images r feature extraction. This will reduce the computational cost and also provides gh accuracy in the binary classification problem. For future work, our model uld perform better and could provide better accuracy if more hardware resources e available like GPU, for using a large number of patches as input. Also, this dy is a binary classification study, as in this work we only classify between the ncer regions from the background regions. In future, it can work on the assification between different types of cancers using this model.

CS8591	COMPUTERNETWORKS	L	T	P	C
		3	0	0	3

OBJECTIVES:

- To understand the protocol layering and physical level communication.
- To analyze the performance of a network.
- To understand the various components required to build different networks.
- To learn the functions of network layer and the various routing protocols.
- To familiarize the functions and protocols of the Transport layer.

UNIT I INTRODUCTION AND PHYSICAL LAYER 9

Networks — Network Types — Protocol Layering — TCP/IP Protocol suite — OSI Model —Physical Layer: Performance – Transmission media – Switching – Circuit-switched Networks—Packet Switching.

UNIT II DATA-LINK LAYER & MEDIA ACCESS 9

Introduction–Link-Layer Addressing –DLC Services–Data-Link Layer Protocols –HDLC –PPP-MediaAccessControl-WiredLANs:Ethernet-WirelessLANs–Introduction–IEEE802.11,Bluetooth–ConnectingDevices.

UNIT III NETWORK LAYER 9

NetworkLayerServices–Packetswitching–Performance–IPV4Addresses–Forwardingof IP Packets - Network Layer Protocols: IP, ICMP v4 – Unicast Routing Algorithms – Protocols–MulticastingBasics–IPV6Addressing–IPV6Protocol.

UNITIV TRANSPORTLAYER 9

Introduction–TransportLayerProtocols–Services–PortNumbers–UserDatagramProtocol–TransmissionControlProtocol–SCTP.

UNITV APPLICATIONLAYER 9

WWW and HTTP–FTP–Email–Telnet–SSH–DNS–SNMP.

TOTAL: 45 PERIODS

OUTCOMES:

On Completion of the course, the students should be able to:

- Understand the basic layers and its functions in computer networks.
- Evaluate the performance of a network.
- Understand the basics of how data flows from one node to another.
- Analyze and design routing algorithms.
- Design protocols for various functions in the network.
- Understand the working of various application layer protocols

TEXTBOOK:

1. Behrouz A. Forouzan, Data Communications and Networking, Fifth Edition TMH,2013.

REFERENCES

1. Larry L. Peterson, Bruce S. Davie, Computer Networks: A Systems Approach, Fifth Edition, Morgan Kaufmann Publishers Inc.,2012.
2. William Stallings, Data and Computer Communications, Tenth Edition, PearsonEducation,2013.
3. NaderF.Mir,ComputerandCommunicationNetworks,SecondEdition,Prentice Hall,2014.
4. Ying-Dar Lin, Ren-Hung Hwang and Fred Baker, Computer Networks: An OpenSourceApproach,McGrawHillPublisher,2011.
5. James F. Kurose, Keith W. Ross, Computer Networking, A Top-Down ApproachFeaturingthe Internet, SixthEdition,PearsonEducation,2013.

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CS8792	CRYPTOGRAPHYANDNETWORKSECURITY	L	T	P	C
		3	0	0	3

OBJECTIVES:

- To understand Cryptography Theories, Algorithms and Systems.
- To understand necessary Approaches and Techniques to build protection mechanisms in order to secure computer networks.

UNITI INTRODUCTION 9

Securitytrends-Legal,EthicalandProfessionalAspectsofSecurity,NeedforSecurityatMultiple levels, Security Policies - Model of network security – Security attacks, services andmechanisms–OSIsecurityarchitecture–Classicalencryptiontechniques:substitution techniques, transposition techniques, steganography- Foundations of modern cryptography:perfectsecurity–informationtheory–productcryptosystem–cryptanalysis.

UNITII SYMMETRICKEYCRYPTOGRAPHY 9

MATHEMATICS OF SYMMETRIC KEY CRYPTOGRAPHY: Algebraic structures - Modulararithmetic-Euclid"s algorithm- Congruence and matrices -Groups, Rings, Fields-Finite fields-SYMMETRICKEYCIPHERS:SDES–Block cipher Principle of DES–Strength of DES – Differential and linear cryptanalysis - Block cipher design principles – Block ciphermode of operation – Evaluation criteria for AES – Advanced Encryption Standard - RC4 –Key distribution.

UNITIII PUBLICKEYCRYPTOGRAPHY 9

MATHEMATICSOFASYMMETRICKEYCRYPTOGRAPHY:Primes–PrimalityTesting–Factorization – Euler's totient function, Fermat's and Euler's Theorem - Chinese Remainder Theorem— Exponentiation and Alogarithm-ASYMMETRIC KEY CIPHERS:RSA cryptosystem — Key distribution — Key management — Diffie Hellman key exchange -ElGamalcryptosystem–Ellipticcurvearithmetic-Ellipticcurvecryptography.

UNITIV MESSAGEAUTHENTICATIONANDINTEGRITY 9

Authentication requirement – Authentication function – MAC – Hash function – Security ofhashfunctionandMAC–SHA–Digitalsignatureandauthenticationprotocols–DSS-EntityAuthentication: Biometrics, Passwords, Challenge Response protocols-Authenticationapplications-Kerberos,X.509

UNITV SECURITYPRACTICEANDSYSTEMSECURITY 9

ElectronicMailsecurity—PGP,S/MIME—IPsecurity—WebSecurity-

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SYSTEMSECURITY:Intruders–Maliciousssoftware –viruses–Firewalls.

TOTAL 45 PERIODS

OUTCOMES:

At the end of the course, the student should be able to:

- Understandthefundamentalsofnetworkssecurity,securityarchitecture,threatsandvulnerabilities
- Applythedifferentcryptographicoperationsofsymmetriccryptographicalgorithms
- Apply the different cryptographic operations of public key cryptography
- ApplythevariousAuthenticationschemestosimulatedifferentapplications.
- Understand various Security practices and System security standards

TEXTBOOK:

1. WilliamStallings,CryptographyandNetworkSecurity:PrinciplesandPractice,PHI3rdEditio n,2006.

REFERENCES:

1. C K Shyamala, N Harini and Dr. T R Padmanabhan: Cryptography and Network Security,Wiley IndiaPvt.Ltd
2. BehrouzA.Foruzan,CryptographyandNetworkSecurity,TataMcGrawHill2007.
3. CharlieKaufman,RadiaPerlman,andMikeSpeciner,NetworkSecurity:PRIVATECommun icationinaPUBLICWorld,PrenticeHall,ISBN0-13-046019-2

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A SMART ATM SECURITY SYSTEM USING RASPBERRY PI

A PROJECT REPORT

Submitted by

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In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

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Certified that this project report on **"A SMART ATM SECURITY SYSTEM USING RASPBERRY PI"** is the bonafide work of **"S.SIBINDASS(731218104019), L.VINODH (731218104028)"** who carried out the project work under my supervision.

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ABSTRACT

Automated teller machines (ATMs) are well known devices typically used by individuals to carry out a personal and business financial transactions or banking functions. Nowadays by simply knowing the PIN number cash gets with drawled by unknown person. So to have secured transaction under account holders knowledge, That is used RF readers for authentication,Having one database which contains RF ID of individual person with their photograph. If one shows the RF tag to the RF reader camera gets triggered and capture the image of the card holder and it starts checking with database whether ID and face is matching or not. If account holder is trying to use their ATM system identifies that face is matching with its database so it will directly allow users to withdrawal cash from ATM. Automated Teller Machines (ATMs) security is the field of study that aims at solutions that provide multiple points of protection against physical and electronic theft from ATMs and protecting their installations. From anti-skimming defend systems to silent indicate systems, integrated ATM video surveillance cameras and ATM monitoring options, security specialists are ready to help the people get more out of the ATM security and ATM loss prevention systems. It provides real-time monitoring and control without the need for human intervention. It suggests new system architecture for positioning and monitoring applications with wider coverage and higher communication efficiency. Raspberry Pi. It offers a robust networking solution with wide range of application areas over internet. The Web server can be run on an embedded system having limited resources to serve embedded web page to a web browser.

CHAPTER 1

INTRODUCTION

Automatic Teller Machine (ATM) is an electronic machine which is used for accessing a bank account from anywhere without the help of bank staff. The user can perform several banking activities like cash withdrawal, money transfer with the help of ATM. It is observed that the number of crimes related to ATM is increased hence there is a necessity to provide enhances security to ATM machine. Previous technologies provide security to transactions for identification of authorized user. But this is limited for secure transactions with ATM machine. Currently, ATM security is given to the transactions only. The RFID technology is also used which makes the system secure than only RFID technology.

1.1 DOMAIN OVERVIEW

1.1.1 OVERVIEW OF EMBEDDED SYSTEMS:

An embedded system is a special-purpose computer system designed to perform one or a few dedicated functions, often with real-time computing constraints. It is usually embedded as part of a complete device including hardware and mechanical parts. In contrast, a general-purpose computer, such as a personal computer, can do many different tasks depending on programming. Embedded systems have become very important today as they control many of the common devices used.

Since the embedded system is dedicated to specific tasks, design engineers can optimize it, reducing the size and cost of the product, or increasing the reliability and performance. Some embedded systems are mass-produced, benefiting from economies of scale.

In general, "embedded system" is not an exactly defined term, as many systems have some element of programmability. For example, Handheld computers share some elements with embedded systems. such as the operating systems and microprocessors.

CHAPTER 7

7.1 CONCLUSION

This system makes high security with intelligence to permit the ATM users only if they are making transaction under the knowledge of the account holder. It is also possible to install this system in every banking sector to make any account related processes under account holder's knowledge.

7.2 FUTURE ENHANCEMENT

Nowadays, most of the ATM has been attacked by the robberies. In a real-time monitoring system for ATM security based on accelerometer sensor, camera module, and fingerprint module is proposed. The proposed work concludes with the following points: a secure way of accessing an ATM by authorized persons using face recognition module. Eliminates the drawback of previous system like manual controlling camera modules and doors the system is cost effective as compare to existing manual technique. The real time video of the ATM centre can be monitored through web server which make ATM better safe from thefts.

CS8494	SOFTWARE ENGINEERING	L	T	P	C
		3	0	0	3

OBJECTIVES:

- To understand thc phascs in a software project
- Tounderstandfundamentalconceptsofrequirementsengineeringand AnalysisModeling.
- To understand the various software design methodologies
- To learn various testing and maintenance measures

UNITI SOFTWAREPROCESSANDAGILEDEVELOPMENT **9**

Introduction to Software Engineering, Software Process, Perspective and Specialized Process Models–Introduction to Agility-Agile process-Extreme programming-XP Process.

UNITII REQUIREMENTSANALYSISAND SPECIFICATION **9**

Software Requirements: Functional and Non-Functional, User requirements, System requirements, SoftwareRequirementsDocumentRequirementEngineeringProcess:FeasibilityStudies,Requirements elicitationandanalysis,requirementsvalidation,requirementsmanagement-Classical analysis:Structured system Analysis, Petri Nets-Data Dictionary.

UNITIII SOFTWARE DESIGN **9**

Design process — Design Concepts-Design Model– Design Heuristic — Architectural Design -Architectural styles, Architectural Design, Architectural Mapping using Data Flow- User Interface Design: Interface analysis, Interface Design –Component level Design: Designing Class based components, traditional Components.

UNITIV TESTINGANDMAINTENANCE **9**

Software testing fundamentals-Internal and external views of Testing-white box testing - basis path testing-control structure testing-black box testing- Regression Testing — Unit Testing — Integration Testing— Validation Testing— System Testing And Debugging–Software Implementation Techniques: Coding practices-Refactoring-Maintenance and Reengineering-BPRmodel-Reengineeringprocessmodel-ReverseandForwardEngineering.

UNITV PROJECTMANAGEMENT **9**

Software Project Management: Estimation – LOC, FP Based Estimation, Make/Buy Decision COCOMO I & II Model – Project Scheduling – Scheduling, Earned Value Analysis Planning –Project Plan, Planning Process, RFP Risk Management – Identification, Projection - Risk Management-Risk Identification-RMMM Plan-CASETOOLS

TOTAL:45PERIODS

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OUTCOMES:

On Completion of the course, the students should be able to:

- Identify the key activities in managing a software project.
- Compare different process models.
- Concepts of requirements engineering and Analysis Modeling.
- Apply systematic procedure for software design and deployment.
- Compare and contrast the various testing and maintenance.
- Manage project schedule, estimate project cost and effort required.

TEXTBOOKS:

1. RogerS.Pressman, —Software Engineering– APractitioner"s Approachl,SeventhEdition,McGraw-HillInternationalEdition,2010.
2. IanSommerville,—SoftwareEngineeringl,9thEdition,PearsonEducationAsia,2011.

REFERENCES:

1. RajibMall,—FundamentalsofSoftwareEngineeringl,ThirdEdition,PHILearningPrivate Limited,2009.
2. PankajJalote,—SoftwareEngineering,APreciseApproachl,WileyIndia,2010.
3. KelkarS.A.,—SoftwareEngineeringl,PrenticeHallofIndiaPvtLtd,2007.
4. StephenR.Schach,—SoftwareEngineeringl,TataMcGraw-HillPublishingCompanyLimited,2007.
5. http://nptel.ac.in/.

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OBJECTIVES:

- To understand the fundamentals of object modeling
- To understand and differentiate Unified Process from other approaches.
- To design with static UML diagrams.
- To design with the UML dynamic and implementation diagrams.
- To improve the software design with design patterns.
- To test the software against its requirements specification

UNITI UNIFIEDPROCESSAND USE CASEDIAGRAMS 9

IntroductiontoOOADwithOOBasics-UnifiedProcess–UMLdiagrams–UseCase–Casestudy –theNextGenPOSsystem,Inception-UsecaseModelling–RelatingUsecases– include,extendandgeneralization–WhentouseUse-cases

UNITII STATIC UML DIAGRAMS 9

Class Diagram— Elaboration – Domain Model – Finding conceptual classes and description classes – Associations – Attributes – Domain model refinement – Finding conceptual classHierarchies–AggregationandComposition-Relationshipbetweensequencediagramsandusecases—WhentouseClassDiagrams

UNITIII DYNAMICAND IMPLEMENTATIONUML DIAGRAMS 9

Dynamic Diagrams – UML interaction diagrams - System sequence diagram – Collaboration diagram – When to use Communication Diagrams - State machine diagram and Modelling– WhentouseStateDiagrams-Activitydiagram–Whentouseactivitydiagrams

Implementation Diagrams - UML package diagram- When to use package diagrams - ComponentandDeploymentDiagrams–WhentouseComponentandDeploymentdiagrams

UNITIV DESIGN PATTERNS 9

GRASP: Designing objects with responsibilities – Creator – Information expert – Low Coupling –High Cohesion—Controller **Design Patterns – creational** – factory method – **structural** – Bridge – Adapter – **behavioural** –Strategy–observer–Applying GoF design patterns–Mapping design to code

UNITV TESTING 9

Object Oriented Methodologies – Software Quality Assurance – Impact of object orientation

on Testing–Develop Test Cases and Test Plans

TOTAL:45PERIODS

OUTCOMES:

At the end of the course, the students will be able to:

- Expresss of tware design with UML diagrams
- Design software applications using OO concepts.
- Identify various scenarios based on software requirements
- TransformUMLbasedsoftwaredesignintopatternbaseddesignusingdesignpatterns
- Understand the various testing methodologies for OO software

TEXTBOOKS:

1. CraigLarman,—ApplyingUMLandPatterns:AnIntroductiontoObject-OrientedAnalysisandDesignandIterativeDevelopmentl,ThirdEdition,PearsonEducation,2005.
2. AliBahrami-Object Oriented Systems Development -McGrawHillInternationalEdition-1999

REFERENCES:

1. ErichGamma,andRichardHelm,RalphJohnson,JohnVlissides,—Designpatterns:ElementsofReusableObject-OrientedSoftwarel,Addison-Wesley,1995.
2. MartinFowler,—UMLDistilled:ABriefGuidetotheStandardObjectModelingLanguagel,Thirdedition,Addison Wesley,2003.

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HUMAN ACTION RECOGNITION AND ANNOTATION USING BOOSTED EXEMPLAR LEARNING&ADABOOST

A PROJECT REPORT

Submitted by

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in partial fulfillment for the award of the degree

of

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in

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rtified that this project report on **"HUMAN ACTION RECOGNITION AND ANNOTATION USING BOOSTED EXEMPLER LEARNING & ADABOOST"** is the bonafide work of **"SUBRAMANI N (731218104023), VIJAYAKUMAR S 731218104026)"**, who carried out the project work under my supervision.

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Submitted for the Viva-Voce examination held on 22-6-2022 FN

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EXTERNAL EXAMINER

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ABSTRACT

Given a video sequence, the task of action recognition is to identify the most similar action among the action sequences learned by the system. Such human action recognition is based on evidence gathered from videos. It has wide application including surveillance, video indexing, biometrics, telehealth, and human-computer interaction. Vision-based human action recognition is affected by several challenges due to view changes, occlusion, and variation in execution rate, anthropometry, camera motion, and background clutter. In this survey, us provide an overview of the existing methods based on their ability to handle these challenges as usll as how these methods can be generalized and their ability to detect abnormal actions. Such systematic classification will help researchers to identify the suitable methods available to address each of the challenges faced and their limitations. In addition, they also identify the publicly available datasets and the challenges posed by them. From this survey, us draw conclusions regarding how well a challenge has been solved, and theirs identify potential research areas that require further work.

Keywords: Human Action Recognition, Computer Vision, Behavior Analysis, Convolutional Neural Networks,

CHAPTER 1

INTRODUTION

The objective of this system is to recognise and annotate the human action in an unconstrained environment, where the images contain a huge range of variability.

SCOPE OF PROJECT:

The main contributions of this system therefore are

- Data Analysis
- Dataset Pre-processing
- Training the Model
- Testing of Dataset

1.1 DOMAIN OVERVIEW:

Deep neural networks are now the state-of-the-art machine learning models across a variety of areas, from image analysis to natural language processing, and widely deployed in academia and industry.

These developments have a huge potential for medical imaging technology, medical data analysis, medical diagnostics and healthcare in general, slowly being realized. us provide a short overview of recent advances and some associated challenges in machine learning applied to medical image processing and image analysis.

Long before deep learning was used, traditional machine learning methods were mainly used. Such as Decision Trees, SVM, Naïve Bays Classifier and Logistic Regression. These algorithms are also called flat algorithms. Flat here means that these algorithms cannot normally be applied directly to the raw data (such as, csv, images, text, etc.). Us need a pre-processing step called Feature Extraction.

CHAPTER 7

CONCLUSION AND FUTURE WORK

CONCLUSION

The video is converted into sequence of input frames. From the input mes the background is subtracted using multi-frame averaging method. The)G and LBP features are obtained and then fused together. From the fused me the centroids are obtained using k-means algorithm. SVM is used for ssification. Each action is trained using SVM. The new data is tested on the oposed model. An evaluation of proposed work is performed on various data ts and also an action is recognized from the new input data. Then the oposed system is compared with key frame and without key frame. The oposed system is also verified using different supervised algorithm. The rformance of the system is evaluated using the confusion matrix and nsitivity which is formulated with True Positive Rate. The True Positive rate epicts the number of instances of a particular activity classified correctly out of ie total number of instances of that specific activity. The confusion matrix elps the user in better understanding of the accuracy of the classifier. The esults show that the proposed system classifies the activity correctly and btained the accuracy of 90%. In this proposed work human action recognition s done using patio temporal feature.

UTURE ENHANCEMENT

The future work can be extended to other feature descriptor to reduce the alse positive rate, so that the system can handle more complex videos and to mprove the performance.. It also aim to improve the adaptive learning of the nodel, thus making it a more enhanced version of this base model.

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Gmail

HODCSE <hodcse@jkkmct.edu.in>

Inplant Training

1message

MON 25 APR 2022 at 11.20am

From: HODCSE <hodcse@jkkmct.edu.in>

Date: MON 25 APR 2022 at 11.30am

Subject : Inplant Training -reg

To: HR< hrqtreetechnologies.com>

Dear Sir,

I am requesting you to give permission for In plant Training to 20 students of 3rd B.E- Computer Scince and Engineering in your company from 09.05.2022 to 14.05.2022. I give assurance to the students to make a significant contribution to your organization. They look forward to working with you and your fine team. So kindly give the permission to complete their in plant training in your company as successful manner.

Refer the following students :(**BALAKRISHNAN.V, BHUVANESHWARI.M, DHATCHANA MOORTHI.A.P, INDHUMATHI.P, MADHAN.M, MAHESHWARI.M, MOHANRAJ.S, PAVITHRA.R, PRATHAP.N, PRAVIN.S, PRIYA.S, RAMYA.V, SANTHA MOORTHI.R, SENTHIL KUMAR.V, SUBASH CHANDRAN.P, SUDHA DHARANI.R, SURIYA.R, SURIYA SARASWATHI.M, TAMILSELVAN.A, VENNILA.C.)**

Sincerely,

Head of the Department,

J K K Munirajah College of Technology,

T.N.Palayam,Erode-638506,Tamilnadu.

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

Gmail

HR<hrqtreetechnologies.com>

Inplant Training

1message

MON 24 APR 2022 at 11.30am

From: HR<hrqtreetechnologies.com>

Date: MON 24 APR 2022 at 11.30am

Subject: Inplant Training -reg

To: HODCSE <hodcse@jkkmct.edu.in>

Dear Sir/Madam,

Noted and Accepted your Request.

This is to inform your department third year B.E Computer Science and Engineering students **BALAKRISHNAN.V,BHUVANESHWARI.M, DHATCHANA MOORTHI.A.P, INDHUMATHI.P, MADHAN.M, MAHESHWARI.M, MOHANRAJ.S, PAVITHRA.R, PRATHAP.N, PRAVIN.S, PRIYA.S, RAMYA.V, SANTHA MOORTHI.R, SENTHIL KUMAR.V, SUBASH CHANDRAN.P, SUDHA DHARANI.R, SURIYA.R, SURIYA SARASWATHI.M, TAMILSELVAN.A, VENNILA.C** granted permission for their internship from 09.05.2022 to 14.05.2022in our company. So kindly make necessary arrangementsfor the same and also inform to your students must come with proper dress code and college ID card.

Sincerely,HR,

Qtree Technologies.

Coimbatore.

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

QTREE TECHNOLOGIES

No 22, First Floor ,Ram Nagar ,Coimbatore -641009

CERTIFICATE OF INPLANT TRAINING

This is to certify that Mr/Ms BALAKRISHNAN.V ..... Third year Computer Science And Engineering from JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, T.N.PALAYAM has Satisfactorily completed his Inplant Training on Mobile Application Developement during the period of 09.05.2022 to 14.05.2022 under our Guidance.

DATE :14.05.2022

PROJECT MANAGER

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

QTREE TECHNOLOGIES

No 22, First Floor ,Ram Nagar ,Coimbatore -641009

CERTIFICATE OF INPLANT TRAINING

This is to certify that Mr/Ms BHUVANESHWARI.M ..... Third year Computer Science And Engineering from JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, T.N.PALAYAM has Satisfactorily completed his Inplant Training on Mobile Application Developement during the period of 09.05.2022 to 14.05.2022 under our Guidance.

DATE :14.05.2022

PROJECT MANAGER

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.

QTREE TECHNOLOGIES

No 22, First Floor ,Ram Nagar ,Coimbatore -641009

CERTIFICATE OF INPLANT TRAINING

This is to certify that Mr/Ms ..... DHATCHANA MOORTHI.A.P ..... Third year Computer Science And Engineering from JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, T.N.PALAYAM has Satisfactorily completed his Inplant Training on Mobile Application Developement during the period of 09.05.2022 to 14.05.2022 under our Guidance.

DATE :14.05.2022

PROJECT MANAGER

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JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

QTREE TECHNOLOGIES

No 22, First Floor ,Ram Nagar ,Coimbatore -641009

CERTIFICATE OF INPLANT TRAINING

This is to certify that Mr/Ms ..... INDHUMATHI.P ..... Third year Computer Science And Engineering from JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, T.N.PALAYAM has Satisfactorily completed his Inplant Training on Mobile Application Developement during the period of 09.05.2022 to 14.05.2022 under our Guidance.

DATE :14.05.2022

PROJECT MANAGER

PRINCIPAL
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T.N. PALAYAM (Po)-638 506.
GOBI (TK), ERODE (Dt).

QTREE TECHNOLOGIES

No 22, First Floor ,Ram Nagar ,Coimbatore -641009

CERTIFICATE OF INPLANT TRAINING

This is to certify that Mr/Ms ..... MADHAN.M ..... Third year Computer Science And Engineering from JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, T.N.PALAYAM has Satisfactorily completed his Inplant Training on Mobile Application Developement during the period of 09.05.2022 to 14.05.2022 under our Guidance.

DATE :14.05.2022

PROJECT MANAGER

PRINCIPAL
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T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

QTREE TECHNOLOGIES

No 22, First Floor ,Ram Nagar ,Coimbatore -641009

CERTIFICATE OF INPLANT TRAINING

This is to certify that Mr/Ms ..... MAHESHWARI.M ..... Third year Computer Science And Engineering from JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, T.N.PALAYAM has Satisfactorily completed his Inplant Training on Mobile Application Developement during the period of 09.05.2022 to 14.05.2022 under our Guidance.

DATE :14.05.2022

PROJECT MANAGER

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GOBI (Tk), ERODE (Dt).

QTREE TECHNOLOGIES

No 22, First Floor ,Ram Nagar ,Coimbatore -641009

CERTIFICATE OF INPLANT TRAINING

This is to certify that Mr/Ms ..... MOHANRAJ.S ..... Third year Computer Science And Engineering from JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, T.N.PALAYAM has Satisfactorily completed his Inplant Training on Mobile Application Developement during the period of 09.05.2022 to 14.05.2022 under our Guidance.

DATE :14.05.2022

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T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

QTREE TECHNOLOGIES

No 22, First Floor ,Ram Nagar ,Coimbatore -641009

CERTIFICATE OF INPLANT TRAINING

This is to certify that Mr/Ms ..... PAVITHRA.R ..... Third year Computer Science And Engineering from JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, T.N.PALAYAM has Satisfactorily completed his Inplant Training on Mobile Application Developement during the period of 09.05.2022 to 14.05.2022 under our Guidance.

DATE :14.05.2022

PROJECT MANAGER

PRINCIPAL
JKK MUNIRAJAH COLLE
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T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

QTREE TECHNOLOGIES

No 22, First Floor ,Ram Nagar ,Coimbatore -641009

CERTIFICATE OF INPLANT TRAINING

This is to certify that Mr/Ms ..... PRATHAP.N ..... Third year Computer Science And Engineering from JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, T.N.PALAYAM has Satisfactorily completed his Inplant Training on Mobile Application Developement during the period of 09.05.2022 to 14.05.2022 under our Guidance.

DATE :14.05.2022

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QTREE TECHNOLOGIES

No 22, First Floor ,Ram Nagar ,Coimbatore -641009

CERTIFICATE OF INPLANT TRAINING

This is to certify that Mr/Ms ..... PRAVIN.S ..... Third year Computer Science And Engineering from JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, T.N.PALAYAM has Satisfactorily completed his Inplant Training on Mobile Application Developement during the period of 09.05.2022 to 14.05.2022 under our Guidance.

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GOBI (Tk), ERODE (Dt).

QTREE TECHNOLOGIES

No 22, First Floor ,Ram Nagar ,Coimbatore -641009

CERTIFICATE OF INPLANT TRAINING

This is to certify that Mr/Ms ..... PRIYA.S ..... Third year Computer Science And Engineering from JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, T.N.PALAYAM has Satisfactorily completed his Inplant Training on Mobile Application Developement during the period of 09.05.2022 to 14.05.2022 under our Guidance.

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T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

QTREE TECHNOLOGIES

No 22, First Floor ,Ram Nagar ,Coimbatore -641009

CERTIFICATE OF INPLANT TRAINING

This is to certify that Mr/Ms ..... RAMYA.V ..... Third year Computer Science And Engineering from JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, T.N.PALAYAM has Satisfactorily completed his Inplant Training on Mobile Application Developement during the period of 09.05.2022 to 14.05.2022 under our Guidance.

DATE :14.05.2022

PROJECT MANAGER

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T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

QTREE TECHNOLOGIES

No 22, First Floor ,Ram Nagar ,Coimbatore -641009

CERTIFICATE OF INPLANT TRAINING

This is to certify that Mr/Ms ..... SANTHA MOORTHI.R ..... Third year Computer Science And Engineering from JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, T.N.PALAYAM has Satisfactorily completed his Inplant Training on Mobile Application Developement during the period of 09.05.2022 to 14.05.2022 under our Guidance.

DATE :14.05.2022

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T.N. PALAYAM (Po)-638 506.

QTREE TECHNOLOGIES

No 22, First Floor ,Ram Nagar ,Coimbatore -641009

CERTIFICATE OF INPLANT TRAINING

This is to certify that Mr/Ms ..... SENTHIL KUMAR.V ..... Third year Computer Science And Engineering from JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, T.N.PALAYAM has Satisfactorily completed his Inplant Training on Mobile Application Developement during the period of 09.05.2022 to 14.05.2022 under our Guidance.

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T.N. PALAYAM (Po)-638 506.

QTREE TECHNOLOGIES

No 22, First Floor ,Ram Nagar ,Coimbatore -641009

CERTIFICATE OF INPLANT TRAINING

This is to certify that Mr/Ms ..... SUBASH CHANDRAN.P ..... Third year Computer Science And Engineering from JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, T.N.PALAYAM has Satisfactorily completed his Inplant Training on Mobile Application Developement during the period of 09.05.2022 to 14.05.2022 under our Guidance.

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GOBI (Tk), ERODE (Dt).

QTREE TECHNOLOGIES

No 22, First Floor ,Ram Nagar ,Coimbatore -641009

CERTIFICATE OF INPLANT TRAINING

This is to certify that Mr/Ms ..... SUDHA DHARANI.R ..... Third year Computer Science And Engineering from JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, T.N.PALAYAM has Satisfactorily completed his Inplant Training on Mobile Application Developement during the period of 09.05.2022 to 14.05.2022 under our Guidance.

DATE :14.05.2022

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GOBI (Tk), ERODE (Dt).

QTREE TECHNOLOGIES

No 22, First Floor ,Ram Nagar ,Coimbatore -641009

CERTIFICATE OF INPLANT TRAINING

This is to certify that Mr/Ms ..... SURIYA.R ..... Third year Computer Science And Engineering from JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, T.N.PALAYAM has Satisfactorily completed his Inplant Training on Mobile Application Developement during the period of 09.05.2022 to 14.05.2022 under our Guidance.

DATE :14.05.2022

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GOBI (Tk), ERODE (Dt).

QTREE TECHNOLOGIES

No 22, First Floor ,Ram Nagar ,Coimbatore -641009

CERTIFICATE OF INPLANT TRAINING

This is to certify that Mr/Ms ..... SURIYA SARASWATHI.M ..... Third year Computer Science And Engineering from JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, T.N.PALAYAM has Satisfactorily completed his Inplant Training on Mobile Application Developement during the period of 09.05.2022 to 14.05.2022 under our Guidance.

DATE :14.05.2022

PROJECT MANAGER

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.

QTREE TECHNOLOGIES

No 22, First Floor ,Ram Nagar ,Coimbatore -641009

CERTIFICATE OF INPLANT TRAINING

This is to certify that Mr/Ms ..... TAMILSELVAN.A ..... Third year Computer Science And Engineering from JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, T.N.PALAYAM has Satisfactorily completed his Inplant Training on Mobile Application Developement during the period of 09.05.2022 to 14.05.2022 under our Guidance.

DATE :14.05.2022

PROJECT MANAGER

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.

QTREE TECHNOLOGIES

No 22, First Floor ,Ram Nagar ,Coimbatore -641009

CERTIFICATE OF INPLANT TRAINING

This is to certify that Mr/Ms ..... VENNILA.C ..... Third year Computer Science And Engineering from JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, T.N.PALAYAM has Satisfactorily completed his Inplant Training on Mobile Application Developement during the period of 09.05.2022 to 14.05.2022 under our Guidance.

DATE :14.05.2022

PROJECT MANAGER

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

Gmail

Internship

1message

TUE 15 Feb 2022 at 2.00pm

From: HODCSE<hodcse@jkkmct.edu.in>

Date: TUE 15 Feb 2022 at 2.00pm

Subject: Internship -reg

To:BRAINERYSPOT<kiruthika@braineryspot.com>

Dear Sir,

I am requesting to be joining your **BRAINERY SPOT TECH**.The requirements are exactly what I have prepared for and hoped todo. I feel confident thatI can make a significant contribution to your organization while at the same time learning from your staff.

Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe your outstanding staff.

Refer the following students:**(G.ABINAYA, K.KATHIRESAN,R.VINOTHKUMAR)**

Sincerely,

2 nd Year CSE Students,

J K K Munirajah College of Technology,

T.N.Palayam,Erode-638506,Tamilnadu.

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

Gmail

Internship

1message

WED 16 Feb2022 at 3.30pm

From:BRAINERYSPOT<kiruthika@braineryspot.com>

Date: WED 16 Feb2022 at 3.30pm

Subject:Internship-reg

To: HODCSE<hodcse@jkkmct.edu.in>

Dear **Sir,**

I am writing to confirm my acceptance of your internship offer of 21.02.2022 to 25.02.2022 and to tell you how to be joining my **BRAINERY SPOT TECH.** The requirements are exactly what I have prepared for and hoped to do.I feel confident that I can make a significant contribution to your organization while at the same time learning from my staff.

As we discussed, I will report at 8:00 a.m. on FEBRUARY 21.02.2022 and will be ready to take on my first assignment as an intern from my company. Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe my outstanding staff.

Refer the following students:**(G.ABINAYA, K.KATHIRESAN ,R.VINOTHKUMAR)**

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

Sincerely,

HRManager,

Brainery Spot Tech,

Coimbatore.

BRAINERY SPOT TECHNOLOGY
LEARNING | DEVELOPMENT | PLACEMENT

Date : 25.02.2022

INTERNSHIP CERTIFICATE

This is to inform that **Ms.ABINAYA G**, 2nd year B.E., Computer Science and Engineering student of **JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, (ANNA UNIVERSITY)**, T.N.PALAYAM, has attended Internship in our our Organization from Feb 21.02.2022 to Feb 25.02.2022.

During this Internship training, She has learned the overview concepts of **WEB DEVELOPMENT.**

Thanking You.

For BRAINERY SPOT TECHNOLOGY

Authorised Signatory

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

BRAINERY SPOT TECHNOLOGY
LEARNING | DEVELOPMENT | PLACEMENT

Date : 25.02.2022

INTERNSHIP CERTIFICATE

This is to inform that **Mr.KATHIRESAN K**, 2nd year B.E., Computer Science and Engineering student of **JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, (ANNA UNIVERSITY)**, T.N.PALAYAM, has attended Internship in our our Organization from Feb 21.02.2022 to Feb 25.02.2022.

During this Internship training, he has learned the overview concepts of **PYTHON WITH MACHINE LEARNING.**

Thanking You.

For BRAINERY SPOT TECHNOLOGY

Authorised Signatory

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

BRAINERY SPOT TECHNOLOGY
LEARNING | DEVELOPMENT | PLACEMENT

Date : 25.02.2022

INTERNSHIP CERTIFICATE

This is to inform that **Mr.VINOTHKUMAR R**, 2nd year B.E., Computer Science and Engineering student of **JKK MUNIRAJAH COLLEGE OF TECHNOLOGY, (ANNA UNIVERSITY)**, T.N.PALAYAM, has attended Internship in our our Organization from Feb 21.02.2022 to Feb 25.02.2022.

During this Internship training, he has learned the overview concepts of **WEB DEVELOPMENT.**

Thanking You.

For BRAINERY SPOT TECHNOLOGY

Authorised Signatory

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (TK), ERODE (Dt).

Gmail

Internship
1 message

TUE 15 Feb 2022 at 2.00pm

From: HODCSE<hodcse@jkkmct.edu.in>
Date: TUE 15 Feb 2022 at 2.00pm
Subject:Internship -reg
To: DURGATECH<nishapandey@durgatech.com>

Dear **sir,**

I am requesting to be joining your **DURGA TECH**.The requirements are exactly what I have prepared for and hoped todo. I feel confident that I can make a significant contribution to your organization while at the same time learning from your staff.

Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe your outstanding staff.

Refer the following students:

(R.BALU,S.DEEPAK,S.DEEPIKA,P.JAGATHESWARAN,M.KARUNYAA,M.KAVIN, S.NIRMALRAJ,S.RAMYA,R.ROHITH,I.ROSHMA,B.THENMOZHI,T.VINISHA,A.VINITHA)

Sincerely,

2 ndYear CSE Students,
J K KMunirajah College of Technology,
T.N.Palayam,Erode-638506,Tamilnadu.

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (TK), ERODE (Dt).

Gmail

Internship
1message

WED 16 Feb2022 at 3.30pm

From: DURGATECH<nishapandey@durgatech.com>
Date: WED 16 Feb2022 at 3.30pm
Subject:Internship-reg
To: HODCSE<hodcse@jkkmct.edu.in>

Dear **sir,**

I am writing to confirm my acceptance of your internship offer of 21.02.2022 to 25.02.2022 and to tell you how to be joining my **DURGA TECH**. The requirements are exactly what I have prepared for and hoped to do.I feel confident that I can make a significant contribution to your organization while at the same time learning from my staff.

As we discussed, I will report at 8:00 a.m. on FEBRUARY 21.02.2022 and will be ready to take on my first assignment as an intern from my company. Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe my outstanding staff.

Refer the following students

(R.BALU,S.DEEPAK,S.DEEPIKA,P.JAGATHESWARAN,M.KARUNYAA,M.KAVIN, S.NIRMALRAJ,S.RAMYA,R.ROHITH,I.ROSHMA,B.THENMOZHI,T.VINISHA,A.VINITHA)

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

Sincerely,

HR Manager,
Durga Tech,
Erode.

Since 2009

Date : 25.02.2022

Durga Tech

Research & Development

This is to certify that R. Balu Reg.No: 731220104003 in BE(CSE) II year student of JKKMunirajah College of Technology, Gobi has completed the Internship/~~In-plant~~ Training under the Web Development in Durga Tech from 21.2.22 to 25.2.22

During this Internship/~~In-plant~~ Training R. Balu found to be highly sincere, committed, hard working, progressive and professional towards ~~her~~/his work and is capable of discharging ~~her~~/his duties in a similar capacity and ~~her~~/his conduct was found to be good during ~~her~~/his period of Internship/~~In-plant~~ Training.

We wish R. Balu success in ~~her~~/his future endeavors in ~~her~~/his career.

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

Thanking You

Regards

For Durga Tech

www.durgatech.org
info.durgatech@gmail.com

109, MR Complex, Nehru Street, Ram Nagar,
Gandhipuram, Coimbatore - 641009.
Ph : 99449 16107

Since 2009

Date : 25.02.2022

Durga Tech

Research & Development

This is to certify that S. Deepika Reg.No: 731220104006 in BE(CSE) II year student of JKK Munirajah College of Technology, Gobi has completed the Internship/~~In-plant~~ Training under the Web Development in **Durga Tech** from 21.2.22 to 25.2.22

During this Internship/~~In-plant~~ Training S. Deepika found to be **highly sincere, committed, hard working, progressive and professional** towards her/~~his~~ work and is capable of discharging her/~~his~~ duties in a similar capacity and her/~~his~~ conduct was found to be good during her/~~his~~ period of Internship/~~In-plant~~ Training.

We wish S. Deepika success in her/~~his~~ future endeavors in her/~~his~~ career.

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506,
GOBI (Tk), ERODE (Dt).

Thanking You

Regards
For Durga Tech
99449 16107

www.durgatech.org
info.durgatech@gmail.com

109, MR Complex, Nehru Street, Ram Nagar,
Gandhipuram, Coimbatore - 641009.
Ph : 99449 16107

Since 2009

Date : 25.02.2022

Durga Tech

Research & Development

This is to certify that P. Jagatheswaran Reg.No: 731220104009 in BE(CSE) II year student of JKK Munirajah College of Technology, Gobi has completed the Internship/~~In-plant~~ Training under the Web Development in Durga Tech from 21.2.222 to 25.2.22

During this Internship/~~In-plant~~ Training P. Jagatheswaran found to be highly sincere, committed, hard working, progressive and professional towards ~~her~~/his work and is capable of discharging ~~her~~/his duties in a similar capacity and ~~her~~/his conduct was found to be good during ~~her~~/his period of Internship/~~In-plant~~ Training.

We wish P. Jagatheswaran success in ~~her~~/his future endeavors in ~~her~~/his career.

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (TK), ERODE (Dt).

Thanking You

Regards

For Durga Tech

www.durgatech.org
info.durgatech@gmail.com

109, MR Complex, Nehru Street, Ram Nagar,
Gandhipuram, Coimbatore - 641009.
Ph : 99449 16107

Since 2009

Date : 25.02.2022

Durga Tech

Research & Development

This is to certify that M. Karunyaa Reg.No: 131220104010 in BE (CSE) II year student of JKK Munirajah College of Technology, Gobi has completed the Internship/~~In-plant~~ Training under the Web Development in Durga Tech from 21.2.22 to 25.5.22

During this Internship/~~In-plant~~ Training M. Karunyaa found to be highly sincere, committed, hard working, progressive and professional towards her/~~his~~ work and is capable of discharging her/~~his~~ duties in a similar capacity and her/~~his~~ conduct was found to be good during her/~~his~~ period of Internship/~~In-plant~~ Training.

We wish M. Karunyaa success in her/~~his~~ future endeavors in her/~~his~~ career.

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Date : 25.02.2022

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This is to certify that M. Kavin Reg.No: 731220104012 in BE (CSE) II year student of JKK Munirajah College of Technology, Gobi has completed the Internship/In-plant Training under the Web Development in Durga Tech from 21.2.22 to 25.2.22

During this Internship/~~In-plant~~ Training M. Kavin found to be highly sincere, committed, hard working, progressive and professional towards ~~her~~/his work and is capable of discharging ~~her~~/his duties in a similar capacity and ~~her~~/his conduct was found to be good during ~~her~~/his period of Internship/~~In-plant~~ Training.

We wish M. Kavin success in ~~her~~/his future endeavors in ~~her~~/his career.

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This is to certify that S. Nirmalraj Reg.No: 731220104019 in BE(CSE) II year student of JKK Munirajah College of Technology, Gobi has completed the Internship/~~In-plant~~ Training under the Web Development in Durga Tech from 21.2.22 to 25.2.22

During this Internship/~~In-plant~~ Training S. Nirmalraj found to be highly sincere, committed, hard working, progressive and professional towards ~~her~~/his work and is capable of discharging ~~her~~/his duties in a similar capacity and ~~her~~/his conduct was found to be good during ~~her~~/his period of Internship/~~In-plant~~ Training.

We wish S. Nirmalraj success in ~~her~~/his future endeavors in ~~her~~/his career.

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Since 2009

Date : 25.02.2022

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Research & Development

This is to certify that S. Ramya Reg.No: 731220104021 in BE(CSE) II year student of JKKMunirajah College of Technology, Gobi has completed the Internship/~~In-plant~~ Training under the Web Development in **Durga Tech** from 21.2.22 to 25.2.22

During this Internship/~~In-plant~~ Training S. Ramya found to be highly sincere, committed, hard working, progressive and professional towards her/~~his~~ work and is capable of discharging her/~~his~~ duties in a similar capacity and her/~~his~~ conduct was found to be good during her/~~his~~ period of Internship/~~In-plant~~ Training.

We wish S. Ramya success in her/~~his~~ future endeavors in her/~~his~~ career.

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For Durga Tech

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Ph : 99449 16107

Since 2009

Date : 25.02.2022

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This is to certify that R. Rohith Reg:No: 731220104022 in BE(CSE) II year student of JKK Munirajah College of Technology, Gobi has completed the Internship/~~In-plant~~ Training under the Web Development in Durga Tech from 21.2.22 to 25.2.22

During this Internship/~~In-plant~~ Training R. Rohith found to be highly sincere, committed, hard working, progressive and professional towards ~~her~~/his work and is capable of discharging ~~her~~/his duties in a similar capacity and ~~her~~/his conduct was found to be good during ~~her~~/his period of Internship/~~In-plant~~ Training.

We wish R. Rohith success in ~~her~~/his future endeavors in ~~her~~/his career.

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Date : 25.02.2022

This is to certify that I. Roshma Reg.No: 731220104023 in BE (CSE) II year student of JKK Munirajah College of Technology, Gobi has completed the Internship/~~In-plant~~ Training under the Web Development in **Durga Tech from 21.2.22 to 25.2.22**

During this Internship/~~In-plant~~ Training I. Roshma found to be highly sincere, committed, hard working, progressive and professional towards her/~~his~~ work and is capable of discharging her/~~his~~ duties in a similar capacity and her/~~his~~ conduct was found to be good during her/~~his~~ period of Internship/~~In-plant~~ Training.

We wish I. Roshma success in her/~~his~~ future endeavors in her/~~his~~ career.

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Date : 25.02.2022

This is to certify that B. Thenmozhi Reg.No: 731220104026 in BE(CSE) II year student of JKK Munirajah College of Technology, Gobi has completed the Internship/~~In-plant~~ Training under the Web Development in Durga Tech from 21.2.22 to 25.2.22

During this Internship/~~In-plant~~ Training B. Thenmozhi found to be highly sincere, committed, hard working, progressive and professional towards her/~~his~~ work and is capable of discharging her/~~his~~ duties in a similar capacity and her/~~his~~ conduct was found to be good during her/~~his~~ period of Internship/~~In-plant~~ Training.

We wish B. Thenmozhi success in her/~~his~~ future endeavors in her/~~his~~ career.

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Date : 25.02.2022

This is to certify that T. Vinisha Reg.No: 731220104029 in BE (CSE) II year student of JKK Munirajah College of Technology, Gobi has completed the Internship/~~In-plant~~ Training under the Web Development in Durga Tech from 21.2.22 to 25.2.22

During this Internship/~~In-plant~~ Training T. Vinisha found to be highly sincere, committed, hard working, progressive and professional towards her/~~his~~ work and is capable of discharging her/~~his~~ duties in a similar capacity and her/~~his~~ conduct was found to be good during her/~~his~~ period of Internship/~~In-plant~~ Training.

We wish T. Vinisha success in her/~~his~~ future endeavors in her/~~his~~ career.

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Ph : 99449 16107

Since 2009

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Research & Development

Date : 25.02.2022

This is to certify that A. Vinitha Reg.No: 731220104030 in BE(CSE) II year student of JKKMunirajah College of Technology, Gobi has completed the Internship/~~In-plant~~ Training under the Web Development in Durga Tech from 21.2.22 to 25.2.22

During this Internship/~~In-plant~~ Training A. Vinitha found to be highly sincere, committed, hard working, progressive and professional towards her/~~his~~ work and is capable of discharging her/~~his~~ duties in a similar capacity and her/~~his~~ conduct was found to be good during her/~~his~~ period of Internship/~~In-plant~~ Training.

We wish A. Vinitha success in her/~~his~~ future endeavors in her/~~his~~ career.

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Ph : 99449 16107

Gmail

Internship
1 message

From: HODCSE<hodcse@jkkmct.edu.in>
Date: TUE 15 Feb 2022 at 2.00pm
Subject:Internship -reg
To: LITZTECH<karthik21@litztech.com>

TUE 15 Feb 2022 at 2.00pm

Dear **Sir,**

I am requesting to be joining your **LITZ TECH.** The requirements are exactly what I have prepared for and hoped to do. I feel confident that I can make a significant contribution to your organization while at the same time learning from your staff.

Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe your outstanding staff.

Refer the following student **M.DHARANISELVI, MAGESH.S SIVALINGAM.K, SUNDARAGANESAN.K, VIGNESH.M, DHAMODARAN.G**

Sincerely,

2 ndYear CSE Student,
J K K Munirajah College of Technology,
T.N.Palayam,Erode-638506,Tamilnadu.

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

Gmail

Internship
1message

WED 16 Feb2022 at 3.30pm

From: LITZTECH<karthik21@litztech.com>
Date: WED 16 Feb2022 at 3.30pm
Subject:Internship-reg
To: HODCSE<hodcse@jkkmct.edu.in>

Dear **Sir,**

I am writing to confirm my acceptance of your internship offer of 21.02.2022 to 25.02.2022 and to tell you how to be joining my **LITZ TECH**. The requirements are exactly what I have prepared for and hoped to do.I feel confident that I can make a significant contribution to your organization while at the same time learning from my staff.

As we discussed, I will report at 8:00 a.m. on FEBRUARY 21.02.2022 and will be ready to take on my first assignment as an intern from my company. Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe my outstanding staff.

Refer the student **M.DHARANISELVI, MAGESH.S SIVALINGAM.K, SUNDARAGANESAN.K, VIGNESH.M, DHAMODARAN.G M.DHARANISELVI**

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

Sincerely,

HRManager,
Litz Tech,
Coimbatore.

LITZ TECH

Certificate of Training and Instruction

This is to certify that **DHARANI SELVI M (731220104007)** a student Of **"J.K.K.MUNIRAJAH COLLEGE OF TECHNOLOGY"** has successfully completed her **INTERNSHIP PROGRAM** in **ANDROID APP DEVELOPMENT** at our Concern from 21.02.2022 to 25.02.2022

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LITZ TECH INDIA PVT LTD

Authorized Signatory

No 4, Arangasamy Nagar, Sitra, Civil Aerodrome(po),Coimbatore - 641014

www.litztech.in i coimbatore@liztech.in i Tei : 0422 4382930

LITZ TECH

Certificate of Training and Instruction

This is to certify that **MAGESH S (731220104015)** a student

Of **"J.K.K.MUNIRAJAH COLLEGE OF TECHNOLOGY"**

has successfully completed her

INTERNSHIP PROGRAM in **ANDROID APP DEVELOPMENT**

at our Concern from 21.02.2022 to 25.02.2022

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www.litztech.in i coimbatore@liztech.in i Tei : 0422 4382930

LITZ TECH

Certificate of Training and Instruction

This is to certify that **SUNDARAGANESAN K (731220104025)** a student

Of **"J.K.K.MUNIRAJAH COLLEGE OF TECHNOLOGY"**

has successfully completed her

INTERNSHIP PROGRAM in **ANDROID APP DEVELOPMENT**

at our Concern from 21.02.2022 to 25.02.2022

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www.litztech.in i coimbatore@liztech.in i Tei : 0422 4382930

LITZ TECH

Certificate of Training and Instruction

This is to certify that **SIVALINGAM K (731220104024)** a student

Of **"J.K.K.MUNIRAJAH COLLEGE OF TECHNOLOGY"**

has successfully completed her

INTERNSHIP PROGRAM in **ANDROID APP DEVELOPMENT**

at our Concern from 21.02.2022 to 25.02.2022

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LITZ TECH

Certificate of Training and Instruction

This is to certify that **VIGNESH M (731220104028)** a student

Of **"J.K.K.MUNIRAJAH COLLEGE OF TECHNOLOGY"**

has successfully completed her

INTERNSHIP PROGRAM in **ANDROID APP DEVELOPMENT**

at our Concern from 21.02.2022 to 25.02.2022

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LITZ TECH

Certificate of Training and Instruction

This is to certify that **DHAMODARAN G (731220104302)** a student

Of **"J.K.K.MUNIRAJAH COLLEGE OF TECHNOLOGY"**

has successfully completed her

INTERNSHIP PROGRAM in **ANDROID APP DEVELOPMENT**

at our Concern from 21.02.2022 to 25.02.2022

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