



Shrilya Educational Trust (R), Bheemasamudra

## GM INSTITUTE OF TECHNOLOGY

P. B. ROAD, DAVANGERE - 577 006. KARNATAKA, INDIA

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



### Project Batch 2021-22

Team ID	USN	Name	Guide Name	Title
CS202122-B01	4GM17CS011	GAGAN P SHYAGALE	Shankar Shastri	LORA Based Accident Detection and Alert System
	4GM18CS029	MALLIKARJUN G B		
	4GM18CS060	VIJAYKUMAR B R		
	4GM18CS064	YASHAS R		
CS202122-B02	4GM18CS019	GAGANA M S	Santoshkumar M	COVID-19 Detection Using CNN
	4GM18CS050	SHRIGANDHA M H		
	4GM18CS059	VASANTH KUMAR C		
	4GM18CS067	VISHWAS MN		
CS202122-B03	4GM18CS027	KRUSHI D	Murugesh Jambagi	LEAF Disease Detector
	4GM18CS032	MONIKA ROKHADE		
	4GM18CS037	PRANAV R J		
	4GM19CS401	B R RAGHAV		
CS202122-B04	4GM18CS011	BINDU KO	Niranjanmurthy C	HEART Disease Identification and Prediction
	4GM18CS013	CHANDRAKALA J		
	4GM18CS015	DEEPA G BALAREDDY		
	4GM18CS054	SPOORTI M S		
CS202122-B05	4GM18CS057	SUMAYYA	Kotreshi S N	Decentralized Voting System Using Blockchain Technology
	4GM18CS021	K M POOJA		
	4GM18CS006	ANUDEEP G S		
	4GM18CS020	HRITHIK M K		
CS202122-B06	4GM17CS036	SNEHA N	Kotreshi S N	Automatic Melanoma Detection Using Deep Learning
	4GM18CS028	MAITHILI S DESHPANDE		
	4GM18CS036	NISARGA K C		
	4GM19CS404	SHREEJA N S		
CS202122-B07	4GM18CS004	AKSHATHA A M	Maruthi S T	Detection And Classification of PNEUMONIA Disease Using AI
	4GM18CS018	DIVYA R		
	4GM18CS055	SUDHA K N		
	4GM19CS405	SOHAIL ALI P R		
CS202122-B08	4GM18CS061	VINAY K B	Sandeepa G S	Automated Health Monitoring System for Physically Challenged and Aged People
	4GM18CS024	KAVYA G		
	4GM18CS016	DHANASHREE R PATIL		
	4GM18CS035	NEHARAANI D R		

Team ID	USN	Name	Guide Name	Title
CS202122-B09	4GM18CS058	VAISHNAVI P B	Dr. Sanjay Pande M B & Sneha G N	Automated Water Meter System for Smart City using IOT
	4GM18CS017	DISHA MORE		
	4GM18CS003	AISHWARYA H S		
	4GM18CS005	AKSHATHA T R		
CS202122-B10	4GM18CS008	ASHA S	Sandhya R S	Sentiment Analysis on Product Based Reviews
	4GM18CS023	KAVANA S G		
	4GM18CS039	PRIYANKA C S		
	4GM18CS046	SAHITYA H A		
CS202122-B11	4GM18CS038	PREETHAM S	Shankar Shastri	Implementation Of TEXT MINING Operations
	4GM18CS042	RITVIK G D		
	4GM18CS043	RUDRESH M N		
	4GM18CS047	SANTHOSH M R		
CS202122-B12	4GM18CS007	ANUSHA M	Dr. Sanjay Pande M B & Meghana G H	PCA On PARKINSON'S DATASET
	4GM18CS040	PRIYANKA M B		
	4GM18CS052	SINDHU K J		
	4GM18CS048	SHARVANI M P		
CS202122-B13	4GM18CS001	AAMIR MAQBOOL	Dr. Sanjay Pande M B & Chaitra K G	PROGNOSTICATE The Plant Disease Using Deep Learning
	4GM18CS022	KASI ANNAPURNA S		
	4GM18CS062	VINUTHA H P		
	4GM19CS402	HEMANTHA SAKRE R		
CS202122-B14)	4GM18CS025	KAVYA M	Kavyashree P N	Content Based Retinal Image Retrieval Using Lifting Wavelet Transform For Classification of Retinal Fundus Images
	4GM18CS031	MEGHA S		
	4GM18CS066	VIJAYALAKSHMI N B		
	4GM18CS033	NANDITHA C		
CS202122-B15	4GM17CS008	AVIKSHA SONALI	Aruna Kumar B T	GMIT APP
	4GM18CS030	MANASA AC		
	4GM18CS014	ADARSH REDDY C		
	4GM18CS045	SAGAR R		

Team ID	USN	Name	Guide Name	Title
CS202122-B16	4GM18CS010	BHAVANA STHAVARMATH	Santoshkumar M	MEDICAL MITRA
	4GM18CS049	SHEETAL R H		
	4GM18CS051	SIMRAN MOMIN S A		
	4GM18CS053	SPOORTHI K		
CS202122-B17	4GM18CS034	NARESH J	Dr. Sanjay Pande M B	Smoke Detection Using Image Processing
	4GM18CS041	RASHMI P KHAMITHKAR		
	4GM18CS056	SUHAS N S		
	4GM18CS065	SUCHITRA HIREGOWDA		

HOD



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



### Project Work : 2020-21 (17CSP85)

Team ID	USN	Name	Title of Project	Guide Name
CS202021-B01	4GM17CS025	RASHMI M C	Robot based patient monitoring system	Kotreshi S N
	4GM16CS003	ANUSHA M H		
	4GM17CS003	AMULYA C J		
	4GM16CS037	REVATHI K R		
CS202021-B02	4GM17CS005	ANUSHA E M	IoT based BoTS for vertical Agriculture	Dr. Mouneshachari S
	4GM17CS040	T SHRUTHI		
	4GM17CS042	UMA S G		
	4GM18CS401	BHAVYA S		
CS202021-B03	4GM17CS018	NIRMALA ANANTH HEGDE	Estimating area of 2D ROI image using Image Processing	Dr. Sanjay Pande M B
	4GM17CS009	BHOOMIKA BHAT		
	4GM17CS010	BHUSHAN R NAIK		
	4GM17CS034	SHARATH M S		
CS202021-B04	4GM17CS039	SWAPNA M SOGI	Pothole Detection	Santoshkumar M
	4GM17CS041	TEJASWINI B U		
	4GM17CS026	REKHA H R		
	4GM17CS031	SAHANA G N		
CS202021-B05	4GM17CS028	ROHAN K H	SSIM Metric for Image Quality Assessment with Salient as Based Features	Aruna Kumar B T
	4GM17CS007	APURVA P PATIL		
	4GM17CS038	SUSHMA M		
	4GM17CS015	KEERTI H P		



Team ID	USN	Name	Title of Project	Guide Name
CS202021-B06	4GM17CS013	KARTHIK M HADAGALI	Face mask detection and thermal scanner for Covid-Case	Sandeepa G S
	4GM18CS404	PRADEEP KUMAR B.S		
	4GM17CS027	RITHIKA REDDY V.B		
	4GM17CS023	PRIYANKA M.N		
CS202021-B07	4GM17CS022	PRERANA L S	Crop Monitoring using IoT and Cloud	Niranjanmurthy C
	4GM17CS017	NIKSHITHA S		
	4GM17CS021	PRAKRUTHI PANDE		
	4GM17CS033	SAMATHA A		
CS202021-B08	4GM17CS035	SHRIJAN M HIREMATH	Smart Cap - Wearable Visual guidance system for visually impaired people	Shivanna K
	4GM17CS030	S H NAGESH		
	4GM17CS024	PRUTHWIK BS		
	4GM17CS016	NAMRATA G HAMSAGAR		
CS202021-B09	4GM16CS053	SUMAIYA FATIMA	Campus connect -Digital Notice board	Maruthi S T
	4GM17CS019	POOJA WALISHETTAR		
	4GM17CS001	AKASH M		
	4GM18CS403	MANJANAGOUDA MP		
CS202021-B10	4GM17CS029	ROOPA KJ	Android App for Healthcare Management	Dr. Sanjay Pande M B
	4GM17CS032	SALEENA A B		
	4GM17CS043	USHA KS		
	4GM16CS033	POOJA MR		
CS202021-B11	4GM17CS006	APOORVA M R	Image based diagnosis of Covid-19	Rudresh N C
	4GM17CS014	KAVANA D K		
	4GM17CS044	VINAYAK H K		
	4GM17CS404	RANJITHA K R		






Team ID	USN	Name	Title of Project	Guide Name
CS202021-B12	4GM17CS004	ANANDACHARI MM	Hello GMIT- Search Engine optimization to enable audio ecosystem for localization of Alexa	Dr. Mouneshachari S
	4GM18CS405	VIDYA SAGAR K O		
	4GM17CS020	PRAJWAL MP		
CS202021-B13	4GM18CS400	AKSHATA C K	Cloud based web application vehicle toll payment using NFC	Sushma S G
	4GM18CS402	MADHURI B		
	4GM17CS037	SNEHA P		

PROJECT COORDINATOR

HOD








**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

Title: “CAMPUS ASSISTANT”		Project Code: CS201920-B01		
<b>Abstract:</b>				
<p>Today’s technology has provided number of modes for Information retrieval and gathering. The way of its presentation should be effective and convenient so that it can reach and meet audience expectations about the product / service. There are several methods available for anyone to present the information to reach target audience namely Face book, Twitter, TV, YouTube videos, Whats-app Messages, Websites and so on. Today’s technology has provided number of opportunities for the developers to rethink and build solutions through new / modern way of approaches. In that context, the proposed project is using the existing technological approach that is speech processing module from Javascript and produces a solution to the campus related activities. This project is trying to present campus related information through speech thereby acts as Campus Assistant.</p>				
<b>Conclusion:</b>				
<p>The project work taken up under the heading “Campus Assistant” has made an attempt to develop speech based solution for better information presentation. Speech processing is one the crucial agenda in software development paradigms. Several software packages are readily available just by adopting plug and play paradigm. But the performance of the system is greatest challenge in speech processing applications. In order to improve the performance of the system, it is implemented using JavaScript language because JavaScript is a client side scripting language. The same application can be extended by including Internet of Things concept for better accessibility of the service.</p>				
Guide	Team Members			
				
<b>Dr. Mouneshachari S</b>	ADARSH N BIDARI	BHARATH H M	SUHAS PANDEY S T	VENKATESH J
Associate Professor	4GM16CS001	4GM16CS006	4GM16CS051	4GM16CS061








**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

<b>Title:</b> Garbage Monitoring System Based on IoT		<b>Project Code:</b> CS201920-B02			
<b>Abstract:</b>					
<p>Nowadays certain actions are taken to improve the level of cleanliness in the country. People are getting more active in doing all the things possible to clean their surroundings. Various movements are also started by the government to increase cleanliness. We will try to build a system which will notify the corporations to empty the dustbin on time. In this system, we will put a sensor on top of the garbage bin which will detect the total level of garbage inside it according to the total size of the bin. When the garbage will reach the maximum level, a notification will be sent to the corporation's office, then the employees can take further actions to empty the bin. This system will help in cleaning the city in a better way. By using this system people do not have to check all the systems manually but they will get a notification when the bin will get filled.</p>					
<b>Conclusion:</b>					
<p>In this venture, an incorporated arrangement of Wi-Fi modem, IoT, Ultrasonic Sensor is presented for effective and financial trash accumulation. The created framework gives improved database to trash collection time and squander sum at every area. We scrutinize the positioning as of now accessible for the usage of IoT. By actualizing this venture we will dodge over streaming of trash from the holder in local place which is already either stacked physically or with the assistance of loaders in conventional trucks. It can naturally screen the trash level and send the data to gathering truck. The innovations which are utilized in the proposed framework are sufficient to guarantee the down to earth and ideal for strong trash gathering procedure observing and the board for green condition.</p>					
<b>Guide</b>		<b>Team Members</b>			
					
<b>Mr. Shivanna K</b>		NANDINI R K	POOJA G M	USHA R S	GOURI P R
Assistant Professor		4GM16CS022	4GM16CS032	4GM16CS058	4GM17CS402



**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

<b>Title:</b> Automatic Number Plate Recognition System.		<b>Project Code:</b> CS201920-B03		
<b>Abstract:</b>				
<p>Automatic number plate recognition (ANPR) is an image processing technology which uses number (license) plate to identify the Vehicle. The objective is to design an efficient automatic authorized vehicle identification system by using the vehicle number plate. The developed system obtains the image of the vehicle from the video input. Vehicle number plate is extracted using the image segmentation in an image. Optical character recognition is used for character recognition. The resulting data is then used to compare with the records on a database so as to come up with the specific information. The system is implemented and simulated in Mat lab.</p>				
<b>Conclusion:</b>				
<p>The system is successful in recognizing the number plate of vehicles also the timings of vehicle's entry is recorded and stored into a text document. This helps to resolve the error rate which occur in manual checking. ANPR solution has been tested on static snapshots and digital videos of vehicles, which has been divided into several sets according to difficulty, sets of blurry and skewed snapshots give worse recognition rates than a set of snapshots which has been captured clearly. The proposed system uses correlation and background separation techniques which when tested on odd images of vehicles at different viewing angles and environmental conditions gave an accuracy of 60-70%.</p>				
<b>Guide</b>	<b>Team Members</b>			
				
<b>Mr. Maruthi S T</b>	BINDU K M	DIVYA I	GAURI NIJAGUNA SHIVAYOGI	MEGHA V
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**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**Title:** An IoT Based Women Safety Device

**Project Code:** CS201920-B04

**Abstract:**

IoT which stands for internet of things is the current trend being adopted in various fields for the best results, it is a platform where various functional elements (or things) inter connected in a network, which communicates with each other for a particular task, here the various things include sensors, development boards, actuators etc.

The proposed project “IOT Based Women safety device” is an unique plan to provide a IoT driven solution to the women safety, the device automatically detects situation of the women in danger using heartbeat and tilt sensors, usually when a women is in dangerous situation her heart beats varies suddenly than usual time, this parameter helps us to take a decision, along with this tilt sensor which helps to find the position of the women mean weather she is standing or has fallen down could be found, wemay end up with wrong conclusions when decisions are taken using tilt sensor, that limitation could be dealt with improved sensors and methodology.

In the proposed system the elements such as Heartbeat and Tilt sensors, ESP32 development board, jumper wires, bread board, buzzer, LED’s are used, to program the board Arduino IDE is used. Details of the events are recorded at the remote server which information like time of event, location etc. which is accessible to Police authorities to take actions.

**Conclusion:**

The proposed project “IOT Based Women safety device” is an unique plan to provide a IoT driven solution to the women safety, the device automatically detects situation of the women in danger using heartbeat and tilt sensors, usually when a women is in dangerous situation her heart beats varies suddenly than usual time, this parameter helps us to take a decision, along with this tilt sensor which helps to find the position of the women mean weather she is standing or has fallen down could be found, we may end up with wrong conclusions when decisions are taken using tilt sensor, that limitation could be dealt with improved sensors and methodology.

**Guide**

**Team Members**



**Mr. Kotreshi S N**

ASWINI N H

MEGHA B

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Assistant Professor

4GM14CS009

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**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

Title: Detection of Diabetic Retinopathy using Image Processing		Project Code: <i>CS201920-B05</i>		
<b>Abstract:</b>				
<p>Here we address the detection of Hemorrhages and micro aneurysms in color fundus images. In pre-Processing we separate red, green, blue color channel from the retinal images. The green channel will pass to the further process. The green color plane was used in the analysis since it shows the best contrast between the vessels and the background retina. Then we extract the GLCM(Gray Level Co-Occurrence Matrix) feature. In the GLCMs, several statistics information are derived using the different formulas. These statistics provide information about the texture of an image. Such as Energy, Entropy, Dissimilarity, Contrast, Inverse difference, correlation Homogeneity, Auto correlation, Cluster Shade Cluster Prominence, Maximum probability, Sum of Squares will be calculated for texture image. After feature Extraction, we provide this feature to classifier. Finally it will predict about the retinal whether it is hemorrhages or micro aneurysms. After predicting the about the retinal image we will localize the affected place. For segmenting the localized place we will use adaptive thresholding segmentation.</p>				
<b>Conclusion:</b>				
<p>Automated grading has the potential to make the diabetic retinopathy screening services more efficient. While the grading of disease / no disease can be performed using micro aneurysm detection and image-quality assessment, automated recognition of other types of lesions may be beneficial. This study investigated whether the addition of automated exudate and hemorrhage identification would enhance the detection of observed / referable diabetic retinopathy. Automated exudate and hemorrhage detection enhanced diagnosis of observed / referable retinopathy. In our system, in the color fundus pictures, we detect the hemorrhages and micro aneurysms. Finally in the retinal images we detect the abnormality. Our method gives the best result as compared with previous method.</p>				
Guide	Team Members			
				
<b>Mr. Niranjan Murthy C</b>	ANUSHA S	SACHIN M R	SHREEGANESHA G J	SUJAY K J
Assistant Professor	4GM16CS004	4GM16CS039	4GM16CS046	4GM16CS052





## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

**Title:** Automated Attendance Management System Using Face Recognition

Project Code: **CS201920-B06**

### **Abstract:**

The current educational system makes use of pen and paper or even some institution has adopted fingerprint biometric for attendance marking but it has many drawbacks which causes inaccuracy and inefficiency in taking and marking the attendance hence we can develop and use automated attendance management system to solve the above problem.

The purpose behind this project was to develop attendance monitoring system truly based on face recognition and face detection which can be adopted by educational system to upgrade the current attendance system with more efficiency and effectiveness. This would automatically resolve the drawbacks caused by the current system along with which most of its task will be done automatically. Face reorganization would be the main technology used to develop this system. To identify the unique person, the best thing would be the face of that person. As every person has a unique face hence the possibility of being duplicate face is very low.

Database would be created to store the images of faces and to give them to recognizer algorithm for their reorganization.

When the attendance is being taken from the live class the faces of students from the live class image would be compared with the previously created database of face to identify the students face. When an individual is being recognized the attendance of that individual will be automatically marked and saved into the database with all necessary information. Finally, every individual will get their attendance status via broadcasted e-mail.

### **Conclusion:**

Until the whole idea evolves, there are several loopholes in the mechanism of taking part using the old system that created a lot of problems for most organizations. Thus the, the facial recognition technology incorporated in the attendance management program will not only guarantee correct attendance and remove the shortcomings in the previous framework as well. Through leveraging machines to solve the defects, it is not only feasible to conserve money but also to eliminate human interference in the whole cycle through managing all the complicated activity on the system. The only downside of this approach is to have sufficient space in to store all the faces into the database storage. Luckily there is such a micro SD life that can compensate for the volume of the data. The face database is effectively developed into this project.






Besides that, the device which recognizes the face also works well.



The attendance monitoring system with the designation k-Nearest Neighbor (k-NN), focused on multiple facial identification. From the experimental findings, the classification process using a k-nearest neighbor (k-NN) method, k-Nearest Neighbor face recognition provided the highest 95.56 per cent accuracy on k=5.

- Automated attendance system has been established to reduce the errors that arose in manual attendance taking system.
- This method is better, more robust and saves time.
- Attendance of the student are marked using the recognized face of every discrete student along with the staff and the data is stored in database.
- Students and teacher's attendance is immediately identified by identifying their face in the database.
- Messages are sent daily via e-mail about the attendance status of students and teachers.

In the end, the program not only addresses issues that remain in the old paradigm but also provides the customer with ease in obtaining the gathered knowledge that refined the presence of technology to assist the needs of humans.

Guide	Team Members			
				
<b>Mr. Kotreshi S N</b>	BHANUPRAKASH S	DEEPAK K O	DIVYA G B	OSWAL MEHUL JITENDRA
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**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**






<b>Title:</b> Smart Agriculture	<b>Project Code:</b> CS201920-B07
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**Abstract:**

Agriculture is the backbone of Indian economy. About half of the total population of our country has chosen agriculture as their chief occupation. The states like Maharashtra, Punjab, and Kerala, Assam are highly involved in agriculture. It all started due to the impact of, “Green Revolution” by means of which farmers came to know about the various techniques involved in farming and the advantages in it. As centuries passed, certain modern techniques were invented in agriculture due to the progress in science. These modern techniques included the use of tractors for ploughing the field, production of pesticides, invention of tube-wells etc. Since water is the main necessity in this scenario, techniques were discovered which would help in watering the field easily, consume less water and reduce human efforts. These discoveries improved the standard of living of farmers. Agro-Technology is the process of applying the technology innovation occurring in daily life and applying that to the agriculture sector which improves the efficiency of the crop produced and also to develop a better Mechanical machine to help the agriculture field which reduces the amount and time of work spent on one crop. This project deals with the use of automation and robotics in the field of agriculture. The proposed robot automatically carries out soil digging, seed planting and covering of soil after planting a seed in a sequence. The proposed seed planting robot is also provided with the option of watering after planting the seed.






**Conclusion:**

The project “Smart Agriculture” is based on a robotic system that helps to sow the seeds, detect the edge of the track and water the plants. This project helps the farmers by making their task simple and easy and also helps in the advancement of agriculture. Agriculture can be taken up as an occupation as it assists in making the tasks effective and automatic. The developed prototype is easy to handle. There can be increase in the production by implementing this advanced technique in agricultural tasks. The system will cultivate the crops in specific rows and columns at regular intervals. By using Arduino Microcontroller and the connections with the various sensors, the complete system can be controlled. Thus, this system is user friendly and also helps in the economic growth of the farmers.

<b>Guide</b>	<b>Team Members</b>			
				
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**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

<b>Title:</b> An Andriod-Based Alaram Message And Healthcare Management System		Project Code: <b>CS201920-B08</b>		
<b>Abstract:</b>				
<p>The emergency alarm message and healthcare management system, which is mainly installed in an android-based phone that is most conveniently used and carried. Our system is suitable for most of the people. This is done with the help of the GPS and GSM network, the system can make sure the exact location of the users when they are in need and put the alarm on. It can also manage the health record of the user who has logged in. This user can take online medical test to send their physical condition and then doctor will send prescription to the user's phone. Also the family member or close friends can track the medical treatment of the concerned person using GPS and Google Maps.</p>				
<b>Conclusion:</b>				
<p>In this project, we present an android-based Alarm message and Healthcare Management System, which is practically installed on android-based Phones. The system gives alarm message help at anywhere and anytime, and also remind users for medicines according to the doctor's prescription, and can provide the function of seeing a doctor to the user. These not only provide the senior people and the chronic patients the more convenience and safety, but also provide most of people.</p>				
<b>Guide</b>	<b>Team Members</b>			
				
<b>Mr. Arun Kumar B T</b>	KIRAN NAIK S	SANDHYA V M	SOUMYASHREE A P	VANKA SUHARIKA
AssistantProfessor	4GM14CS024	4GM16CS042	4GM16CS050	4GM16CS059



**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

<b>Title:</b> Machine Learning Approach for Human Gait Recognition System		Project Code: <b>CS201920-B09</b>		
<b>Abstract:</b>				
<p>The walking pattern of a person is unique and is called as Gait and difficult to replicate by others. So this can be a good automated identification system for any application where person identification is needed, security systems or surveillance. Person to person, walking pattern differences mainly depend on the footstep and body movement. This project provides a new human identification system based on the walking pattern of a person. The main aim of this project is to provide possible solution of walking pattern recognition system using the computer vision technique with an acceptable accuracy rate.</p>				
<b>Conclusion:</b>				
<p>In this project, person recognition through gait features as been implemented. Input dataset or videos are created and considered for the project. LBP technique has been used to extract human gait features. Features like walking speed, distance between two steps and local binary pattern are considered. To ensure high classification accuracy, accurate limb modeling is vital. On the datasets k-NN classifier is used for identification.</p>				
<b>Guide</b>	<b>Team Members</b>			
				
<b>Mr. Shivanna K</b>	NIKHITHA.N	AISHWARYA K	NISHMITHA S S	RUKMANI G R
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## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

**Title:** AGRO – KART

**Project Code:** CS201920-B10

### **Abstract:**

Agriculture is the field which plays an important role in improving our countries economy. Agriculture is the one which gave birth to civilization. Agriculture contributes to more than 26% of the gross domestic product. Hence, we can say that agriculture can be backbone of all business in our country.

In this project an attempt is made to make use of web and internet technology to develop a useful product. The project entitled AGRO-KART is aimed to develop a hybrid application which helps farmers to sell their agriculture produce over online and also allows to be in touch with experts to get answers to their queries.






In the existing system peoples have to visit the markets and get them to know the prices of product but in this application, they can know the rate of each product. And in most of the cases the mediators make the money by purchasing goods from a farmer at low prices and they can sell to another for profitable amount hence these type of problem can be avoided using this application, In this farmer can directly interact with the consumers to sell their products and definitely they will get better price and the communication between the farmer and consumers made easier in this application.

### **Conclusion:**

In this project an attempt is made to make use web and internet technology to develop a useful android application and website.

In the existing system peoples have to visit the markets and get them to know the prices of product but in this application, they can know the rate of each product. And in most of the cases the mediators make the money by purchasing goods from a farmer at low prices and they can sell to another for profitable amount hence these type of problem can be avoided using this application in this farmer can directly interact with the consumers to sell their products and definitely they will get better price and the communication between the farmer and consumers made easier in this application. The product is developed using php and MySQL, it is tested by hosting locally in apache web server for different test cases.

This product finds application in organization such as APMC, where farmers can sell their crops to the market through an android application or website.

Guide	Team Members			
				
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**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

<b>Title:</b> Smart Wind Mill Monitoring Using IoT	<b>Project Code:</b> CS201920-B11
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**Abstract:**

Our project shows considerations of making use of wireless sensor networks for scrutinize circumstances within wind farms, taking into consideration the distinct of applications. In these scenarios, which can be meant to quilt numerous ground or even function in problematic radio environments with powerful attenuation, the straightforward and direct conversation among supply and vacation spot isn't normally viable, because of the space limit. To overcome these tips, we propose a system which continuously monitors the parameters of the windmill system and transmits those data's to the cloud using IOT. This system eliminates the Range constrain for passing these parameters to the monitoring system.

**Conclusion:**

The windmill voltages continuously monitored and its voltage is continuously updated to the server. The level sensor is a digital sensor which detects the oil level inside the oil storage tank. The Oil condition sensor is an analogy sensor which shows the oil condition. The condition of the oil is also transmitted to the server. The data transmitted are seen in the virtual terminal.

Thus the system turns out to be an efficient windmill monitoring system, as it provides an instant data about the parameters of the system using IOT. As the instant data is provided, we can detect any abnormality in the system at the initial stages.

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## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

**Title:** Feature Extraction of Pattern in Palate Images using Image Processing

Project Code: **CS201920-B12**

### **Abstract:**






The technology advancement has provided new opportunities to figure in several disciplines of science. Within the present project, the matter of an identifying a personal is taken-up. The identity of a private is required for several issues. Thus, the method of identifying a personal has been an open-end problem for all the fraternities. Within the present work one such problem of identification of individual has been taken. Palatal rugae are irregular, uneven ridges of the tissue layer extending laterally from the incisive papilla and therefore the position of palatal rugae in the Rima confers them with balance even if uncovered to excessive temperatures or trauma. Their resistance to trauma and their obvious precise look has cautioned there is a device for forensic identification. Further, a picture processing tool has been utilized in this work to make and distinguish between different samples. The method of knowledge samples has been taken together with Dental experts.

### **Conclusion:**

The technology advancement has evolved for providing new opportunities to work in different disciplines of science. In the present project, we have taken up one such area of medical science. In precise the process of identifying an individual has been an open-end problem for all the fraternities. The problem of an identifying an individual is important for many reasons since the identity of an individual is related to many issues. In the present project work, we have palatal rugae which is a unique identity of an individual present in an upper jaw of mouth. The work has been done under the supervision of dental expert to understand the dental issues related to Palatal Rugae. The process of sample collection has been done by the dentist (Dr. Rakesh Pande M B, Maruthi Multi-Speciality Dental Care). A total of 200 samples were collected for the process. Out of 200 samples the best 21 samples were selected for computational algorithmic process. As presented in the methodology chapter, the samples were from the age groups of 18 to 25. The pre-processing stages (Image processing) were implemented for identifying shapes present in palatal rugae. In figure 4.4, the selection of one such sample has been used to work as a case study. The Matlab has been used as a tool for shape recognition. The Histogram Equalization concept presented the Intensity of the pixel present in the palate. Further, the Median Filtering process was taken up to reduce the noise and preserve the edges of the shapes as presented in figure 4.8 and 4.9 respectively. In continuation the crop function was used to select the region of interest and Otsu's method was used to binarize the image. In the



next stage, the total area in which the shapes are present was computed to obtain the region of interest. The algorithmic for computing has been presented in fig 4.1.4. Further, the samples were compared to identify the matching/distinct property between all the samples. This was performed by using python language. The entire process of converting a cropped image to binary image is presented in figure 6.3. Similarly, the computation of area is presented in figure 6.4. The overall calculated area for all the 21 samples is presented in figure 6.6. This clearly indicates that the overall area of each sample (human Identification) is distinct and clearly separable. This also indicates the uniqueness of every individual. The outcome of all the 21 samples can be grouped based on age, gender which depends on the shapes present in the area.

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**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**





<b>Title:</b> Mango Leaf Deficiency Detection Using Image Processing and Machine Learning	Project Code: <b>CS201920-B13</b>
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**Abstract:**

Mango known to a national fruit of India, its leaves are exorbitantly affected by various nutrient deficiencies like nitrogen, iron, potassium and copper. These nutrients can change the natural color of mango leaves. Such leaves are considered to be deficient. The main purpose of this work is to detect various nutrient deficiencies of mango leaves. Initially a data set is created by extracting the different features of mango leaves using digital image processing. The extracted features include the RGB values and the texture of the leaves. This dataset is then used in the un supervised machine learning model like clustering to cluster the various deficiencies which will help in further detection.






**Conclusion:**

Based on feature extraction technique using image processing and automates the detection of deficiency using clustering. Not only lead to an early detection of deficiency but also help the farmers to take the counter measures to minimize the risk of unhealthy growth of plants. The work can be extended to identify all the nutrient deficiencies not only in mango but many other agricultural crops. Thus, the proposed work can be used to increase the yield of mango cultivation and grab the attention of all agricultural researchers to take this project to its full potential.

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**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

<b>Title:</b> A Computational Algorithm to Understand the Role of Distance Measure in Clustering		<b>Project Code:</b> CS201920-B14		
<b>Abstract:</b>				
<p>In image analysis, the distance transform measures the distance of each object point from the nearest boundary and is an important tool in computer vision, image processing and pattern recognition. In the distance transform, binary image specifies the distance from each pixel to the nearest non-zero pixel.</p>				
<b>Conclusion:</b>				
<p>In this project we extracting the given image from the sub images. The image of the palates is consists of 8 to 10 sub images of different patterns which will be recognized. The same process was implemented in the present work, In this present work we are trying to discriminate every sub objects (pattern).The relationship and understanding among different distance measures is helpful in choosing a proper measure for a particular application. To understand the various characteristics in discriminating or classifying the image into its cluster.</p>				
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**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

<b>Title:</b> Image Filtering Techniques		<b>Project Code:</b> CS201920-B15		
<b>Abstract:</b>				
<p>Image smoothing is one of the most important and widely used operation in image processing .We have explained various algorithms and techniques for filter the images and which algorithm is the be the best for smoothing and filtering the images, especially we have mainly concentrate on non-linear filtering algorithms i.e. median filtering is very important in edge preserving. The Purpose of smoothing is to reduce noise and improve the visual quality of the image. A variety of algorithms i.e. linear and nonlinear algorithms are used for filtering the images. Image filtering makes possible several useful tasks in image processing. A filter can be applied to reduce the amount of unwanted noise in a particular image.</p>				
<b>Conclusion:</b>				
<p>There are many filtering algorithms which are effectively implemented on an image with a less number of operations per pixel. We have taken different image filtering algorithms and compared. So after comparison, we conclude that median filtering technique is the best approach because it can be implemented easily with the help of the image histograms. The median filter is better than another algorithms at removing noise because it preserves edges for a given, fixed window size. So, median filtering is very widely used in digital image processing.</p>				
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**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

<b>Title:</b> Android Application For Medical OPD Services		<b>Project Code:</b> CS201920-B16		
<b>Abstract:</b>				
<p>Medical OPD(Out Patient Department) Services application will help in locating and booking the ambulance, identifying the nearby hospitals and pharmacy, identifying the blood-bank and blood-donors, application also indicates steps to be followed for first-aid precautions. The application provides the ambulance tracking system for both the application users and hospitals. The ambulance driver can send the alert message to the traffic control room to clear the traffic in case of emergency and also he can send the alert message to the hospital to make prior arrangements with respect to patient's health condition.</p>				
<b>Conclusion:</b>				
<p>An idea is proposed for saving a patient's life in a faster way possible. It is beneficial for users in case of emergencies as it saves time. With this Application, the ambulance can reach the patients, as location is given through the app and can provide necessary equipment required for the patient. Information about the pharmacy's provided helps in getting the appropriate pharmacy which is suitable for the patient's treatment. The challenges people in the rural areas with respect to public health care facilities like medical emergency services. In particular, patients found it difficult if not impossible to access medical ambulance transport during emergency situations which consequently, leads to loss of lives that could be prevented. With such challenges and others, proposed a solution in the capacity of Mobile-based ambulance transportation system.</p>				
<b>Guide</b>	<b>Team Members</b>			
				
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**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

<b>Title:</b> An Artificial Intelligence Approach for Predicting Different Types of Stroke		<b>Project Code:</b> CS201920-B17		
<b>Abstract:</b>				
<p>Stroke is a second leading cause of death and they have been serious, long-term incapacity. Stroke is the sudden collapse of cerebrum cells because of a nonattendance of oxygen, caused by blockage of bloodstream or break of a supply route to the mind. According to World Health Organization in the upcoming year's stroke will continue growth death rate. The many works have been carried out for detecting stroke diseases. An artificial intelligence approach for predicting stroke and its types using deep learning. Types are Ischemic stroke, Hemorrhagic Stroke, Transient Ischemic Attack. In our work, dataset is collected from the medical institute. The pre-processing method expels copy records, missing information, and conflicting information. Principle component analysis algorithm is computation is used for reducing the estimations and deep learning utilizing predicts whether the patient is encountering stroke illness or not. So as to predict the stroke illness, it actualizes classification by deep learning. When the patient details are entered, it checks with trained model and forecasting of different types of stroke. This proposed work mainly focuses on predicting different type of stroke.</p>				
<b>Conclusion:</b>				
<p>To boost precision and execution. At the time when we enter the details of the person which includes some of the factors, it would verify with the model and stroke type will be predicted. Guide for various treatment approaches, prompting diminished demise rates through before expectation. Assemble profound system display. To enhance the exactness and the execution. The bigger dataset can be effectively prepared. Dataset is gathered from medicinal school, it incorporates quiet history, clinic points of interest, hazard components and side effects. At the point when the patient subtle elements are entered, it checks with prepared model and predicts the kind of stroke and estimating of various sorts of stroke.</p>				
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**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

<b>Title:</b> Crop Yield Prediction Using Machine Learning		<b>Project Code:</b> CS201920-B18	
<b>Abstract:</b>			
<p>India is one among the oldest countries which is still practicing agriculture. But in recent times the trends in agriculture has drastically evolved due to globalization. Various factors have affected the health of agriculture in India. Many new technologies have been evolved to regain the health. One such technique is precision agriculture. Precision agriculture is budding in India .Precision agriculture is the technology of “site-specific” farming. It has provided us with the advantage of efficient input, output and better decisions regarding farming. Although precision agriculture has delivered better improvements it is still facing certain issues. There exist many systems which propose the inputs for a particular farming land. Systems propose crops, fertilizers and even farming techniques.</p>			
<b>Conclusion:</b>			
<p>India is a nation in which agriculture plays a prime role. In prosperity of the farmers, prospers the nation. Thus our work would help farmers in sowing the right seed based on soil requirements to increase productivity and acquire profit out of such a technique. Thus the farmers can plant the right crop increasing his yield and also increasing the overall productivity of the nation.</p>			
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## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

<b>Title:</b> Automated Smart Parking System Using IoT	Project Code: <i>CS201920-B19</i>
<p style="text-align: center;"><b>Abstract:</b></p> <p>In this project we describe an automatic system for car parks payment based on Near Field Communication technology. This system has been projected and developed as part of the SIESTA (Study of Infants' Emergent Sleep Trajectories) project, a research project financed by the Tuscany region in Italy, to study innovative services for tourists visiting cities of art. The developed system allows users to use their own mobile phone both as an electronic ticket to enter and exit the parking and as an electronic wallet to pay automatically for it. To fully implement this system, four applicative protocols have been developed: two protocols manage the entrance and the exit operations for close parks, enabling respectively the load of the money on the phone and the cash payment. The underlying structure of the system foresees the presence of the corresponding software's performing the protocol operations and interacting directly with the NFC memory of the phone for the read/write tasks, and IOT platform collecting all the information about car parking system.</p>	
<p style="text-align: center;"><b>Conclusion:</b></p> <p>The implemented system represents only a prototype but it proves the efficiency of the proposed protocols. Evidently, the implementation of a fully working system would require additional work, in particular for what concerns the realization of the hardware infrastructure (the kiosk and the entrance and exit ticketing machines): anyway, the software and logical infrastructure proposed in the SIESTA system represents a valid solution even for a real system.</p> <p>Among the main advantages deriving from such a solution the following can be listed:</p> <ul style="list-style-type: none"><li>♣ Users don't have to keep paper tickets which can easily go lost;</li><li>♣ Users who adopt the NFC payment method don't have to stop at the payment machines with a substantial time-saving;</li><li>♣ With the NFC payment there are no problems concerning the lack of coins for the payment.</li></ul> <p>Moreover, the payment system is integrated inside the SIESTA platform, which also provides a set of other possible NFC based services, making the proposed solution especially advantageous. In order to perform</p>	



on-field experimentation, the installation of a fully working system is required: anyway the biggest limitation derives from the extremely limited diffusion of NFC phones. While in some parts of the world NFC is already a widespread technology, in Italy (as also in Europe) the NFC market is hardly emerging. While some studies foresee a vast diffusion of NFC phones also in Europe in the next years, the only kind of inexpensive experimentation that could be carried on nowadays is based on NFC Smart Cards, which present a very low price and partially emulate the functions of a phone.

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