



# PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE

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

Madurai - Sivagangai Highway, Arasanoor, Thirumansolai Post, Sivagangai Dt. - 630 561, Tamilnadu  
Mobile : 9842102628, 7373002628 Email: info@psyec.edu.in Website : www.psyec.edu.in

City Office : 10, Pandian Saraswathi St, Sivagami Nagar, Narayanapuram, Madurai - 625 014. Telefax- 0452 2682338, Mobile : 98423-02628

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

### Programme Name & Code: Computer Science and Engineering &104

SL. No	Register Number	Name of the Students	Project Title
1	912019104002	Aarthi R E	AI based drowsiness detection system
2	912019104005	Akshaya P	
3	912019104010	Fahima Parveen A	
4	912019104023	Parkavi J	
5	912019104701	Krishkanth.V	An approach to organize extracted text from image using OCR
6	912019104702	Lokanayagi K	
7	912019104008	Deepa Lakshmi G	
8	912019104003	Afrin Banu. T	
9	912019104004	Ajithraja M	A flexible privacy-preserving data sharing scheme in cloud-assisted
10	912019104013	Jerome Idhaya Michael J	
11	912019104022	Naveen Kumar G	
12	912019104028	Surya Prakash R	
13	912019104007	Arjunan.M	Smart bus tracking system using android
14	912019104015	Kottai Muthukumar M	
15	912019104020	Nagarajan R	
16	912019104033	Velmurugan N	
17	912019104009	Durga B	Brain stroke prediction using machine learning
18	912019104014	Keerthi P	
19	912019104027	Savitha V	
20	912019104030	Swetha D	
21	912019104011	Gopalakrishnan R	E-Ration distribution system
22	912019104012	Harish R	
23	912019104032	Thirumurugan M	
24	912019104301	Jaya Surya	
25	912019104016	Mohamed Dalha Y	Intelligent vehicle damage assessment and insurance cost estimator
26	912019104017	Mohanraj S	
27	912019104035	M Vinoth Kumar S	
28	912019104024	Rajapandi.M	
29	912019104018	Mukesh R	Identification of plant disease using convolutional neural network
30	912019104019	Muthu Siva Sankar M	
31	912019104025	Rajeshkumar R	
32	912019104029	Suryaprakash R	
33	912019104026	Sathiya Priya P	Web-based placement management system
34	912019104034	Vijayalakshmi G	
35	912019104036	Vishali M	
36	912019104037	Yogeshwari K	

**AI BASED DROWSINESS DETECTION**

**PROJECT REPORT**

*Submitted by*

**R.E.AARTHI 912019104002**

**P.AKSHAYA 912019104005**

**A.FAHIMA PARVEEN 912019104010**

**J.PARKAVI 912019104023**

*In partial fulfillment for the award of the degree*

*of*

**BACHELOR OF ENGINEERING**

**IN**

**COMPUTER SCIENCE AND ENGINEERING**



**PANDIAN SARASWATHI YADAV ENGINEERING**

**COLLEGE ,SIVAGANGAI**

**ANNA UNIVERSITY:CHENNAI 600025,**

**APRIL 2023**

# AI BASED DROWSINESS DETECTION

## PROJECT REPORT

*Submitted by*

**R.E.AARTHI** 912019104002

**P.AKSHAYA** 912019104005

**A.FAHIMA PARVEEN** 912019104010

**J.PARKAVI** 912019104023

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**COLLEGE ,SIVAGANGAI**

**ANNA UNIVERSITY:CHENNAI 600025,**

**APRIL 2023**

## BONAFIDE CERTIFICATE

Certified that this project report titled " AI BASED DROWSINESS DETECTION " is a bonafide work of R.E.AARTHI....."who carried out the work under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

  
SIGNATURE

**Dr.K.R.Premalatha,M.E.,Ph.D.,**


**HEAD OF THE DEPARTMENT**

CSE Department

Pandian Saraswathi Yadav

Engineering college,

Sivagangai.

  
SIGNATURE 18/5/23

**Dr.A.ASKARUNISA,M.E.,Ph.D.,**

**PROF./CSE(Guide)**

CSE Department.

Pandian Saraswathi Yadav

Engineering College,

Sivagangai.

Submitted for the project viva -voce held on.....18.05.2023.....

  
18/5/23

**INTERNAL EXAMINER**

  
18/5/23

**EXTERNAL EXAMINER**



## ABSTRACT

In today's busy world people are unable to get complete rest and proper sleep. This can negatively impact on people working in IT industry, classroom environment and this like This project is to build a detection system that will identify key attributes of drowsiness by monitoring the eyes and face.

Drowsiness detection is a crucial task for ensuring the safety of drivers and operators who must remain alert during extended periods of operation. This project aims to develop a drowsiness detection system using RoboFlow and Python.

RoboFlow is used to preprocess and augment the dataset, while YOLOv5 is utilized as the object detection model. The system utilizes real-time video feed from a camera mounted in a vehicle or on an operator to detect the presence of closed eyes or head tilts. A set of alert mechanisms can be triggered if drowsiness is detected, including visual, audio, or haptic alerts. The developed system has the potential to improve safety and reduce the risk of accidents caused by drowsiness in various industries, including transportation and heavy equipment operation.

Python is a popular choice for a wide range of applications, including web development, scientific computing, data analysis, artificial intelligence, and machine learning.

Measure Analysis : Compare the two models [**ROBOFLOW** and **PYTHON**] and then calculated this two models with Accuracy, Precision, Recall are used to find which is more accurate to detect drowsiness.

## 7. CONCLUSION

This project looks at how to detect tiredness in a driver in real time by looking at eye closure . This technology has the advantage of detecting tiredness early on and sounding an alarm before an accident occurs. The use of OpenCV is considered to be more suitable for this application based on the design of the proposed work because it meets the relevant requirements such as cost, power, and size. Face, eye are easily detected by this technology, and these are captured using a webcam. The technology can detect whether the eyes were open or closed during monitoring. A warning signal will be issued if the eyes have been closed for an extended period of time is detected.

# AN APPROACH TO ORGANIZE EXTRACTED TEXT FROM IMAGE USING OCR

A PROJECT REPORT

*Submitted by*

KRISHNA KANTH V (912019104701)

LOGANAYAKI M (912019104702)

DEEPA LAKSHMI G (912019104008)

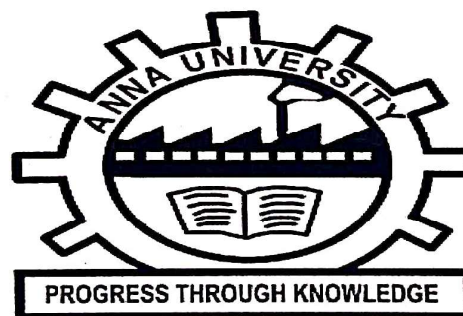
AFRIN BANU T (912019104003)

*in partial fulfillment for the award of the degree of*

BACHELOR OF ENGINEERING

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COMPUTER SCIENCE AND ENGINEERING



PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE  
SIVAGANGAI

ANNA UNIVERSITY, CHENNAI

MAY 2023

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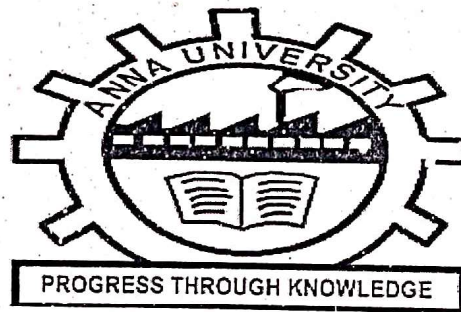
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PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE  
SIVAGANGAI

ANNA UNIVERSITY, CHENNAI

MAY 2023



ANNA UNIVERSITY : CHENNAI 600 025

**BONAFIDE CERTIFICATE**

Certified that this project report "AN APPROACH TO ORGANIZE EXTRACTED TEXT FROM IMAGE USING OCR" is the bonafide work of "KRISHNA KANTH V (912019104701), LOGANAYAKI M (912019104702), AFRINBANU T (912019104008), DEEPALAKSHMI G (912019104003)" who carried out the project work under my supervision .Certified further that to the best of my knowledge the work reported herein does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

  
SIGNATURE

  
SIGNATURE

Dr. K.R.Premalatha, M.E., PhD,

Dr. K.R.Premalatha, M.E., PhD,

**Head of the Department**

**Supervisor**

Department of Computer Science  
& Engineering,

Department of Computer Science  
& Engineering,

Pandian Saraswathi Yadav  
Engineering College

Pandian Saraswathi Yadav  
Engineering College

Sivagangai

Sivagangai

Submitted for the project viva-voce held on 18/05/2023.

  
INTERNAL EXAMINER

  
EXTERNAL EXAMINER



## ABSTRACT

Text data present in images contain useful information for automatic explanation, indexing, and structuring of images. Extraction of this information involves detection, localization, tracking, extraction, enhancement, and recognition of the text from a given image. However, variations of text due to differences in size, style, orientation, and alignment, as well as low image contrast and complex background make the problem of automatic text extraction extremely challenging in the computer vision research area. The following proposed method are used here in this project to extract text from the desired images, they are OCR, Otsu's method. Where in the OCR methodology, the process we inculcate is the conversion of texted, typed, scanned document or any other text imposed image to the proper text format when and ever any text representation is found at any region of the input document or an image and also this method goes through it's pre-processing techniques which are Dc-skewing, De-speckling, Binarisation, Line removal, Layout analysis, Line and script recognition and Character Isolation. Where in Otsu method, the process is to perform automatic image thresholding. In the simplest form, the algorithm returns a single intensity threshold that separate pixels into two classes, foreground and background. This threshold is determined by minimizing intra-class intensity variance, or equivalently, by maximizing inter-class variance. After going through this whole process, the final step in this project is to align the necessary data extracted from the input in a constructed manner which is the most desired and the actual information that will be helpful in that whole document or an image for which we train the system to get the text only from a specific targeted positions of the input image.

**KEY WORDS:** OCR, Otsu, De-Skewing, De-speckling, Binarization, Thresholding, Script recognition.

## CHAPTER 7

### 7. CONCLUSION

In this system, we have implemented a system in which the text can be extracted from the scanned image and organized into a specific aligned format. The proposed algorithm has also shown accurate results and was also able to reduce noise from images to a good extent. This cannot work efficiently if the image format is not in the same alignment as described in the system. OCR used in this system cannot work properly when the image contains handwritten texts. The results are accurate enough for the specified format.

# **A FLEXIBLE PRIVACY-PRESERVING DATA SHARING SCHEME IN CLOUD-ASSISTED**

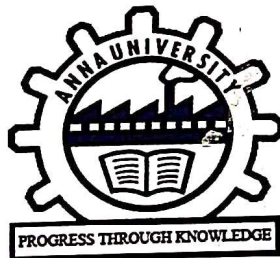
**A PROJECT REPORT**

*Submitted by*

<b>M. AJITH RAJA</b>	<b>912019104004</b>
<b>J. JEROME IDHAYA MICHAEL</b>	<b>912019104013</b>
<b>G. NAVEEN KUMAR</b>	<b>912019104022</b>
<b>R. SURYA PRAKASH</b>	<b>912019104028</b>

*in partial fulfillment for the award of the degree of*

**BACHELOR OF ENGINEERING IN  
COMPUTER SCIENCE AND ENGINEERING**



**PANDIAN SARASWATHI YADAV ENGINEERING  
COLLEGE, SIVAGANGAI  
ANNA UNIVERSITY, CHENNAI**

**MAY 2023**

# A FLEXIBLE PRIVACY-PRESERVING DATA SHARING SCHEME IN CLOUD-ASSISTED

A PROJECT REPORT

*Submitted by*

**M. AJITH RAJA** 912019104004

**J. JEROME IDHAYA MICHAEL** 912019104013

**G. NAVEEN KUMAR** 912019104022

**R. SURYA PRAKASH** 912019104028

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**ANNA UNIVERSITY, CHENNAI**

**MAY 2023**



# ANNA UNIVERSITY, CHENNAI

## BONAFIDE CERTIFICATE

Certified that this project report titled "A FLEXIBLE PRIVACY-PRESERVING DATA SHARING SCHEME IN CLOUD-ASSISTED" is the bonafide work of "M. AJITH RAJA (912019104004), J. JEROME IDHAYA MICHAEL (912019104013), G. NAVEEN KUMAR (912019104022), R. SURYA PRAKASH (912019104028)" who carried out the project work under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

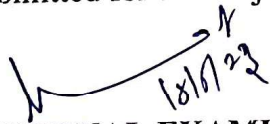
  
SIGNATURE

  
SIGNATURE

**Dr. K.R.Premlatha, M.E., PhD,**  
**Head of the Department**  
Department of Computer Science &  
Engineering,  
Pandian Saraswathi Yadav  
Engineering College  
Sivagangai

**Mr.S. KARTHIKEYAN M.S., M.Tech.,**  
**Supervisor**  
Department of Computer Science &  
Engineering,  
Pandian Saraswathi Yadav Engineering  
College  
Sivagangai

Submitted for the Project Viva Voice held on: 18/05/23....

  
INTERNAL EXAMINER

  
EXTERNAL EXAMINER



## ABSTRACT

The usage of proxy re-encryption cryptosystem re-encrypts the message every time the user sends it. It increases the computation time and paves the way for sending invalid re-encrypted ciphertext to the user that increases the chances for CCA (Chosen Ciphertext Attacks). In proposed system, user can create their own private and public key pair from their credentials and timestamp. After updating the public key with admin, the recipient public key is used to transmit the secret key for end-to-end encryption. It removes the double layer encryption for every message without changing the privacy policy of the users. It uses an efficient proxy re-encryption (PRE) scheme in ICN framework to help reduce the overhead on the user-side while guaranteeing flexible data sharing between subscribers and even their cooperator. It generates an access control policy for registered users, and assigns to this policy a set of subscribers that can access the content, then encrypts the content item using a Shamir's Secret polynomial secret constant and the router's share, i.e., generates encrypted enabling block, and sends the enabling block to the storage router.

## 10. CONCLUSION

It proposes the secure crypto system that includes security, stand model or random model, hard problem and collusion-resistance. This function allows legitimate users to access and use the cached content directly without verification/authentication by an online provider. Although the computation cost of bilinear pairing is happened in encryption, decryption and re-encryption, the complex computation is only heavy at the server side. This results in lightweight computations at the clients, and the overall function in information centric networking is worthy. Implementation of this program also shows that the scheme has a relatively good performance in computation cost and communication complexity aspects.

## FUTURE ENHANCEMENT

Here we have implemented secure crypto system for preventing from chosen cipher text attack using cryptography technique. In which data owner and data user can communicate and share the files between them without any mediator. There are two key such as public and private keys are generated for both owner and user. Using those keys, they can share the data securely. In future, this concept can be implemented in steganography to secure the data from unauthorized access with new and primitive algorithm.

# SMART BUS TRACKING SYSTEM USING ANDROID

A PROJECT REPORT

*Submitted By*

ARJUNAN.M- 912019104007

KOTTAI MUTHUKUMAR.M- 912019104015

NAGARAJAN.R - 912019104020

VELMURUGAN.N- 912019104033

*In partial fulfillment for the award of the degree*

*of*

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**SIVAGANGAI**

**ANNA UNIVERSITY: CHENNAI 600 025**

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**SIVAGANGAI**

**ANNA UNIVERSITY: CHENNAI 600 025**

ANNA UNIVERSITY, CHENNAI

BONAFIDE CERTIFICATE

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SIGNATURE

**Dr. K.R.Premlatha, M.E., PhD,**  
**Head of the Department**  
Department of Computer Science  
& Engineering,  
Pandian Saraswathi Yadav  
Engineering College  
Sivagangai

  
SIGNATURE

**Dr. K.R.Premlatha, M.E., PhD,**  
**Supervisor**  
Department of Computer  
Science & Engineering,  
Pandian Saraswathi Yadav  
Engineering College  
Sivagangai

Submitted for the Project Viva Voice held on: 18/05/2023...

  
INTERNAL EXAMINER

  
EXTERNAL EXAMINER



## ABSTRACT

Madurai city faces severe problems of road congestion and associated issues of commuters, which include delays in the arrival of buses at bus stops, lack of information about different bus routes and stops and time. College students/staffs will miss their bus by a fraction of second. This will lead to many problems like being late for the classes and sometimes late for the exams also. To overcome this, we have implemented a Smart Bus Tracking System. This system is used to track the PYSEC college buses.

The proposed system uses a Smartphone application. Buses carry Global Positioning System (GPS) devices to track their positions and Google Maps API is used to display the vehicle on the map in the Smartphone application. It shows where exactly the bus is there on the map and provides updated information to the user at different time intervals. This also displays the estimated arrival time, which helps the user to know when exactly the bus is going to reach his/her stop.

Apart from this our system also provides the congestion details for driver. It provides the alternate routes for the driver if there is any congestion in his route. The next major advantage is, if the bus is in any emergency situation it sends an alert message to the transport in charge. The user can get flexibility of planning travel using the app, to decide when to catch the bus. The proposed system is user friendly and ensures safety and surveillance at low maintenance cost.

The bus location is automatically placed on Google maps, which makes it easier for tracking a vehicle and provides users with more accurate vehicle location information.

The developed bus tracking system will be able to provide bus users a real time platform to check on updated bus traffic information, for example bus arrival or departure time. Besides, this system also reduces workload for bus management team and provides an immediate platform to update latest and accurate bus traffic information to bus users.

## CHAPTER 9

### CONCLUSION & FUTURE ENHANCEMENT

#### 9.1. CONCLUSION

In this present situation Bangalore city is facing lots of problem due to traffic and so on. One among the major problem is, the students/staff will miss their buses in fraction of second, which may lead to problem like being late for classes, exams and so on. To overcome this kind of problem, Smart Bus Tracking System was introduced. In this system there are three different modules:

- ✓ The first module is the commuter module, when the users wants to know where exactly their bus is located they can click on this module, so that they get the information of their bus on the Google maps along with Estimated Time of Arrival
- ✓ The second module is the driver module, if the driver wants know the traffic details in his route. He can click on the module. By clicking so, the traffic will be displayed on the Google maps.
- ✓ The last module is emergency module. If there is any emergency situation like accident, breakdowns etc. the users/driver can send an SMS to the transport in charger.

#### 9.2. LIMITATIONS:

- ✓ Our tracking system is not secured because it can be accessed by any unauthorized persons also.
- ✓ Our application doesn't work if the GPS is not turned on in the user's phone.
- ✓ Only the transport officer receives the bus break down details.
- ✓ Delay of the bus is not informed for the commuter in early stage.
- ✓ The student or staff will not get any alarm notification regarding the crossing of buses from each stop.

# BRAIN STROKE PREDICTION USING MACHINE LEARNING

A PROJECT REPORT

*Submitted by*

**DURGA.B (912019104009)**

**KEERTHI.P (912019104014)**

**SAVITHA.V (912019104027)**

**SWETHA.D (912019104030)**

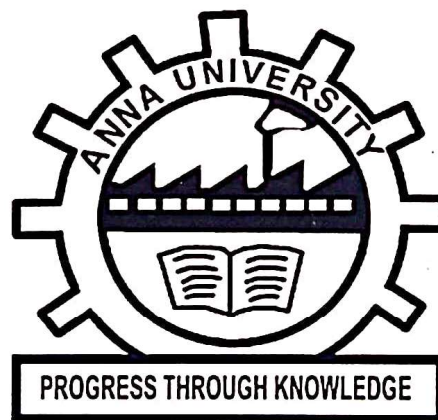
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**MAY 2023**

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**KEERTHI.P (912019104014)**

**SAVITHA.V (912019104027)**

**SWETHA.D (912019104030)**

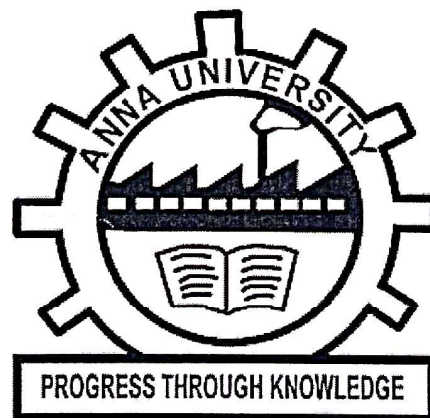
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**SIVAGANGAI**

**ANNA UNIVERSITY : CHENNAI 600025**

**MAY 2023**



# ANNA UNIVERSITY : CHENNAI 600025

## BONAFIDE CERTIFICATE

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SIGNATURE

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**Head of the Department,**  
Department of Computer  
Science and Engineering,  
Pandian Saraswathi Yadav  
Engineering College,  
Sivagangai.

  
SIGNATURE

**Mrs. D.Vanathi, M.Tech,**  
**Supervisor,**  
Department of Computer  
Science and Engineering,  
Pandian Saraswathi Yadav  
Engineering College,  
Sivagangai.

Submitted for the project viva-voce held on 18-05-2023

  
INTERNAL EXAMINER

  
EXTERNAL EXAMINER



## ABSTRACT

A stroke occurs when the blood supply to part of your brain is interrupted or reduced, preventing brain tissue from getting oxygen and nutrients. Brain cells begin to die in minutes. A stroke is a medical emergency, and prompt treatment is crucial. Early action can reduce brain damage and other complications. In 2015, there were about 42.4 million people who had previously had a stroke and were still alive. In 2015, stroke was the second most frequent cause of death after coronary artery disease, accounting for 6.3 million deaths. About 3.0 million deaths resulted from ischemic stroke while 3.3 million deaths resulted from hemorrhagic stroke. Hence, correct detection and finding presence of stroke inside a human becomes essential. There are various medical instruments available in the market for predicting brain stroke but they are very much expensive and they are not efficient enough to be able to calculate the chance of having a brain stroke. So, there is a need to find better and efficient approach to diagnose brain strokes at an early stage.

## **10. CONCLUSION AND FUTURE ENHANCEMENT**

### **10.1. CONCLUSION**

The importance of knowing and understanding the risks of brain stroke is very much in these trying times. The model predicts the probability of brain stroke on the basis of very trivial day-to-day and known to all parameters. This makes this project highly relevant and of need to society. The objective of implementing the project on a web platform was to reach as many individuals as possible. The early warning can save someone's life that might have a probability of a stroke. Therefore, in conclusion this project helps us predict the patients who are diagnosed with brain stroke by cleaning the dataset and applying XG Boost Model to get an accuracy of an average of 93.68%.

### **10.2. FUTURE ENHANCEMENT**

In future, we can implement this project using new, primitive, modern and innovative algorithm and technique to predict more accuracy efficiency. We can also use artificial intelligence and deep learning algorithm to enhance accurate prediction with statistical and graphical report.

# **E-RATION DISTRIBUTION SYSTEM**

**A PROJECT REPORT**

**Submitted By**

**GOPALAKRISHNAN.R - 912019104011**

**HARISH.R - 912019104012**

**THIRUMURUGAN.M - 912019104032**

**JAYASURYA.G - 912019104301**

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**GOPALAKRISHNAN.R - 912019104011**

**HARISH.R - 912019104012**

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**JAYASURYA.G - 912019104301**

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**PANDIAN SARASWATHI YADAV ENGINEERING**

**COLLEGE SIVAGANGAI**

**ANNA UNIVERSITY: CHENNAI 600 025**

**MAY-2023**



# ANNA UNIVERSITY, CHENNAI

## BONAFIDE CERTIFICATE

Certified that this Report titled "E-RATION DISTRIBUTION SYSTEM" is the **GOPALAKRISHNAN.R , HARISH.R , JAYASURYA.G , THIRUMURUGAN.M** who carried out the project work under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on earlier occasion on this or any other candidate.

  
**SIGNATURE**

**Mrs.Dr. K.R. PREMLATHA, M.E., PhD,**  
**AP/CSE.,HEAD OF THE DEPARTMENT**

CSE Department  
Pandian Saraswathi Yadav  
Engineering College,  
Sivagangai-630 561


  
18/5/23

**SIGNATURE**

**Mrs.I.GAYATHRI DEVI**  
**SUPERVISOR**

CSE Department  
Pandian Saraswathi Yadav  
Engineering College,  
Sivagangai-630 561

Submitted for the project viva-voice held on.....18/05/23

  
18/5/23  
**INTERNAL EXAMINER**

  
18/5/23  
**EXTERNAL EXAMINER**

## ABSTRACT

The most of the people having ration card to buy the material from the ration shops. To buy material they need to submit their ration card and distributor will put the sign in the ration card depending on the material. Then they will issue the material through weighting system with help of human. Weight of the material may be accurate due to human mistakes. If material not buy the materials at the end of the month, they will sale to others without any intimation to the government and customers. We have proposed an automatic ration materials distribution based on fingerprint and face recognition techniques. Ration Distribution System means distribution of essential commodities to a large number of people. It is done by the government. Public distribution system is one of the widely controversial officers that involves corruption and illegal smuggling of goods. All these happen because every job in the ration shop involves manual work and there are no specific high-tech technologies to automate the job. Our main objective here is to automate the process of the distribution. The classical method involves customer to tell the person handling the ration shop outlet, the amount of the commodity he/she needs and the type too. The person working then measures the commodity and gives it to the customer. In our version of the system, we will develop an embedded system project where we will have the customer to input the amount he requires and the system made will automatically collect that much amount in a container. It is a new concept which takes into account the various social, economic and general aspects relating to technical as well as day to day disciplines.

## **CHAPTER – 10**

### **CONCLUSION**

Ration forgery is one of the most difficult challenges faced by the food distribution department. There may be chances where ration is delivered to the beneficiaries and false records are noted down, regarding the delivery by commission agent. And there is probability of him (commission agent) selling the commodities in open market with extra profit etc. Therefore, the proposed system is more secure and transparent than the normal existing system. Entry of fallacious data in the ration database can be avoided with the use of smart cards and additional security is provided by the biometric authentication. The commission agent is only responsible for entering the quantity of the commodities, whereas updating and deducting is solely handled by the server (food department). Maintaining the database is also helpful for sending messages to the beneficiaries about the ration delivery. It is anticipated that the proposed project will create transparency in public distribution system as the work becomes automatic and also it makes the system free from irregularities.

### **FUTURE ENHANCEMENT**

- For better understanding, an interface and website can be made available in different languages (regional languages).
- For the ease of use, an application can be built for the same.
- Kiosk can be developed for the beneficiaries to check the commodities available.
- Automatic weighing system can be implemented at the FPS.

# INTELLIGENT VEHICLE DAMAGE ASSESSMENT AND INSURANCE COST ESTIMATOR

A PROJECT REPORT

*Submitted by*

**Y.MOHAMED DALHA-912019104016**

**S.MOHANRAJ- 912019104017**

**S.VINOTH KUMAR- 912019104035**

**M.RAJAPANDI- 912019104024**

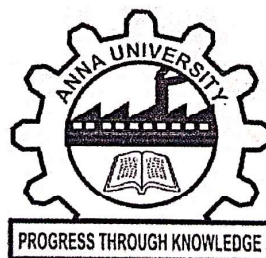
*In partial fulfillment for the award of the degree*

*of*

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**IN**

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**PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE  
SIVAGANGAI**

**ANNA UNIVERSITY: CHENNAI 600 025**

**MAY 2023**



**INTELLIGENT VEHICLE DAMAGE ASSESSMENT  
AND INSURANCE COST ESTIMATOR**

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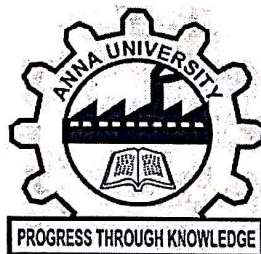
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SIGNATURE

**DR.K.R.PREMLATHA, M.E.,PH.D.,**  
**HEAD OF THE DEPARTMENT**

CSE Department

Pandian Saraswathi Yadav Engineering college,  
Sivagangai-630 561

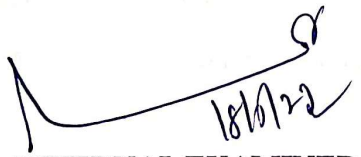
  
SIGNATURE


**MRS.A.SARANYA PRIYA,M.E.,**  
**AP/CSE SUPERVISOR**

CSE Department

Pandian Saraswathi Yadav Engineering college,  
Sivagangai-630 561

Submitted for the project viva -voce held on.....18.05.2023.....

  
INTERNAL EXAMINER

  
EXTERNAL EXAMINER

## ABSTRACT

Intelligent vehicle damage assessment using machine learning is a system that employs advanced algorithms and techniques to identify and assess the extent of damage caused to a vehicle. Machine learning algorithms analyze data from various sources, such as images, videos, and sensor data, to identify the type and severity of damage. The system utilizes a cost estimator insurance tool to determine the cost of repairs and replacements required for the vehicle. The cost estimator insurance tool calculates the cost of replacement parts and labor, taking into account the make and model of the vehicle, as well as the extent of the damage. The use of intelligent vehicle damage assessment and cost estimator insurance tools can streamline the claims process, reducing the time required for assessments and repairs. This results in faster claim settlements and improved customer satisfaction. Furthermore, machine learning algorithms can be trained on large datasets of previous damage assessments to improve accuracy and efficiency. This leads to better predictions of the cost of repairs and can help insurance companies to better manage risk and reduce overall costs.

**Keywords:** Car crash detection, CNN, transfer learning, deep learning

## CHAPTER 7

### CONCLUSION AND FUTUREWORK

#### 7.1 CONCLUSION

In this research proposal, a neural network-based solution for automobile detection will be used to address the issues of automotive damage analysis and position and severity prediction. This project does several tasks in one bundle. The method will unquestionably assist the insurance firms in conducting far more thorough and systematic analyses of the vehicle damage. Simply sending the system a photograph of the vehicle, it will evaluate it and determine whether there is damage of any type, where it is located, and how severe it is.

#### 7.2 FUTURE WORK

In future work, need to use several regularization methods with a big dataset in our next work. Anticipate the cost of a car damaged component more accurately and reliably if we have higher quality datasets that include the attributes of a car (make, model, and year of production), location data, kind of damaged part, and repair cost. This study makes it possible to work together on picture recognition projects in the future, with a focus on the auto insurance industry. The study was able to accurately validate the presence of damage, its location, and its degree while eliminating human bias. These can be further enhanced by adding the on the fly data augmentation approaches.



# **IDENTIFICATION OF PLANT DISEASE USING CONVOLUTIONAL NEURAL NETWORK**

**A PROJECT REPORT**

*Submitted by*

**MUKESH.R (912019104018)**

**MUTHU SIVA SANKAR.M (912019104019)**

**RAJESH KUMAR.R (912019104025)**

**SURYA PRAKASH.R (912019104029)**

*in partial fulfillment for the award of the degree of*

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COMPUTER SCIENCE AND ENGINEERING**



**PANDIAN SARASWATHI YADAV ENGINEERING  
COLLEGE, SIVAGANGAI**

**ANNA UNIVERSITY, CHENNAI**

**MAY 2023**

# IDENTIFICATION OF PLANT DISEASE USING CONVOLUTIONAL NEURAL NETWORK

A PROJECT REPORT

*Submitted by*

**MUKESH.R (912019104018)**

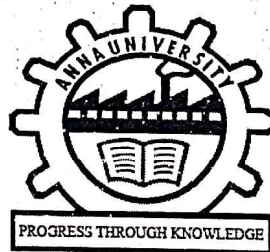
**MUTHU SIVA SANKAR.M (912019104019)**

**RAJESH KUMAR.R (912019104025)**

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COLLEGE, SIVAGANGAI  
ANNA UNIVERSITY, CHENNAI**

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# ANNA UNIVERSITY, CHENNAI

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SIGNATURE

  
SIGNATURE

**Dr. K.R.Premlatha, M.E., PhD,**  
**Head of the Department**  
Department of Computer Science &  
Engineering,  
Pandian Saraswathi Yadav  
Engineering College  
Sivagangai

**Mrs. P. Anusha Devi, M.E., AP/CSE**  
**Supervisor**  
Department of Computer Science &  
Engineering,  
Pandian Saraswathi Yadav  
Engineering College  
Sivagangai

Submitted for the Project Viva Voice held on: 18/05/2023..

  
INTERNAL EXAMINER

  
EXTERNAL EXAMINER

## ABSTRACT

Agriculture field has a high impact on our life. Agriculture is the most important sector of our Economy. Proper management leads to a profit in agricultural products. Farmers do not expertise in leaf disease so they produce less production. Plant leaf diseases detection is the important because profit and loss are depends on production. CNN is the solution for leaf disease detection and classification. Main aim of this research is to detect the apple, grape, corn, potato and tomato plants leaf diseases. Plant leaf diseases are monitoring of large fields of crops disease detection, and thus automatically detected the some feature of diseases as per that provide medical treatment. Proposed Deep CNN model has been compared with popular transfer learning approach such as VGG16. Plant leaf disease detection has wide range of applications available in various fields such as Biological Research and in Agriculture Institute. Plant leaf disease detection is the one of the required research topic as it may prove benefits in monitoring large fields of crops, and thus automatically detect the symptoms of diseases as soon as they appear on plant leaves



## Chapter 6: Conclusion and Future work

### 6.1 Conclusion

We have studied about existing system feature based approach. It's done by image processing technique in this we have studied steps like image Acquisition, image pre-processing, Image Segmentation, features extraction, classification.

Proposed system to achieve this purpose, we have use CNN and get accuracy is 90.23%. We have also use VGG16 model to detect leaf disease but in our case CNN has better result than VGG16.

In future we can add more classes of leaves and disease type.

**WEB –BASED PLACEMENT MANAGEMENT  
SYSTEM**

**A PROJECT REPORT**

*Submitted by*

**SATHIYA PRIYA.P (912019104026)**

**VIJAYALAKSHMI.G (912019104034)**

**VISHALI.M (912019104036)**

**YOGESHWARI.K (912019104037)**

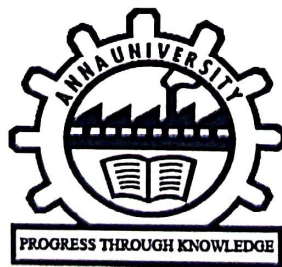
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**COLLEGE, SIVAGANGAI**

**ANNA UNIVERSITY, CHENNAI**

**MAY2023**

# WEB –BASED PLACEMENT MANAGEMENT SYSTEM

A PROJECT REPORT

*Submitted by*

**SATHIYA PRIYA.P (912019104026)**

**VIJAYALAKSHMI.G (912019104034)**

**VISHALI.M (912019104036)**

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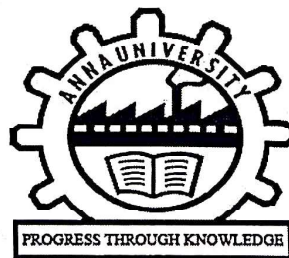
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**Head of the Department**  
Department of Computer Science  
& Engineering,  
Pandian Saraswathi Yadav  
Engineering College  
Sivagangai

  
SIGNATURE

**Dr. K.R.Premalatha, M.E., PhD,**  
**Supervisor**  
Department of Computer Science  
& Engineering,  
Pandian Saraswathi Yadav  
Engineering College  
Sivagangai

Submitted for the Project Viva Voice held on: 18/5/2023.....

  
INTERNAL EXAMINER

  
EXTERNAL EXAMINER



## ABSTRACT

The project aims to automate the process of placement management system and make the process of recruitment easier. It provides a platform where it allows the students to view the companies that are currently recruiting and also provides information on the companies and the packages they offer so that the students may view and assess their opportunities. It helps the company to find the eligible candidates according to their criteria. This system is an application that can be accessed throughout the organization and outside as well with proper login credentials. This system can be used as an application for the Training and placement cell of the college to manage the student information with regarding placement recruitment. Students able to view eligibility criteria based on their CGPA for the upcoming placement drives and they can access technical and QA papers regarding particular company.

## CHAPTER 8

### CONCLUSION AND FUTURE ENHANCEMENT

#### 8.1. CONCLUSION

In the existing system most of the the work will be done manually, as it takes more time for any changes in the system. The major problem with this existing system are notification method available is not available for giving information about student expect the notice board or circulars. The proposed system is online training and placement management system gives the automation in all the process of campus recruitment, searching student details individually. This system in future could be joined to Sms server so that it can notify the message to students via Sms for upcoming companies.

#### 8.2. FEATURE ENHANCEMENT

- In future there is a chance to conduct MR after HR in such cases we can change the application according to the requirements.
- There is a chance to generate graphs on placement procedure on the bases of database.
- In future there is a scope for staff/coordinators to change their passwords. In future we can add an alert domain for the sake of students.
- In future we can add a Feedback from student to faculty.
- In future we can add Company information through company page links.
- In future we can add Chat bot for clarifying our doubts