

Dr. B. Satyanarayana

B.Tech., M.Tech., Ph.D., MISTE

Professor & Principal

Authentication Certificate

This is to certify that the Total Amount generated from consultancy and corporate training year wise during last five years (INR in lakhs).

Year	2022-23	2021-22	2020-21	2019-20
Amount in lakhs (INR)	2.60	2.50	3.50	2.80


Principal
Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

3.5.1 Letters from the beneficiary of the consultancy along with details of the consultancy fee.

Name of the faculty consultant or trainer	Organization to which consultancy or corporate training provided	Dates/duration of consultancy	Amount generated in INR	Page No.
2019-2020				
Dr. K. Pradeep Reddy	Claro software Solutions Pvt Ltd	2019-2020	2,80,000	1-28
2020-2021				
Dr. Alagumuthu Krishnan	Claro software Solutions Pvt Ltd	2020-2021	2,90,000	29-35
Dr. Praveen Kumar Kancherla	Amaravathi Research Academy	2020-2021	60,000	36-62
2021-2022				
Mr. N. Suresh	Claro software Solutions Pvt Ltd	2021-2022	2,50,000	63-84
2022-2023				
Dr. L. Arokia Jesu Prabhu	Claro software Solutions Pvt Ltd	2022-2023	2,60,000	85-111



Principal

CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

12th August 2019

To,
The Principal,
CMR Institute of Technology,
Kandlakoya (v), Medchal Road,
Hyderabad, Telangana, India – 501401

Respected Sir,

In Reference to our discussion cited,
I am writing to inform you that our company Claro Software Solutions Pvt. Ltd. Experiencing some challenges in carrying on its Project developments although it is currently in progress. This proposal letter outlines the said project's details which have great Improvisation and benefits on a longer run. We are looking for the best support from your side positively by the end of June 2020, on these projects mentioned below, and we are also attaching project details along with the troubles with this letters.

Project title: “Semantic-Enhanced Marginalized Denoising Auto-Encoder-Based Cyberbullying Detection”

We hope that you will consider our request in reviving this project and allocate suitable experienced faculty to complete the project on time.

Please send us the confirmation for carrying out the project.

Yours Sincerely,
For **Claro Software Solutions Pvt Ltd,**

Ilyas,
Manager – Human Resources



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

Date: 19/08/2019

From,
The Principal,
CMR Institute of Technology
Kandlakoya(v), Medchal Road
Hyderabad, Telangana, India – 501401

To,
The Project Head,
Claro Software Solutions Pvt. Ltd
Level 1, MB Towers, Road No 10
Banjara Hills, Hyderabad
500034. Telangana.

Dear Sir,

On behalf of CMR Institute of Technology, I am pleased to inform you that the management has accepted your proposed request for solving your problem through our faculty team.

Project title: “Semantic-Enhanced Marginalized Denoising Auto-Encoder-Based Cyberbullying Detection”

We feel that your proposal of problem statement can be handled by team of experts headed by **Dr. K. Pradeep Reddy** and his team. We believe that this proposal can be completed within the desired duration as mentioned by you. Hence we wish to accommodate and work on your proposal.

Deployed Team members:

Principal Investigator: Dr. K. Pradeep Reddy

Associate Investigators:

- 1. Dr. Vijender Kumar Solanki**
- 2. Dr. S. Alagumuthukrishnan**



Regards
Principal

CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

30th August 2019

From,
Claro Software Solutions Pvt. Ltd
Level 1, MB Towers, Road No 10
Banjara Hills, Hyderabad
500034. Telangana.

To,
The Principal,
CMR Institute of Technology,
Kandlakoya (v), Medchal Road
Hyderabad, Telangana, India – 501401

Subject: Acknowledging with the project work-Reg.

Dear Sir,

We wish to express our sincere thanks to you for accepting our project work on,

Project title: “Semantic-Enhanced Marginalized Denoising Auto-Encoder-Based Cyberbullying Detection”

And we wish to acknowledge and proceed with the project work. We, once again, would like to express my gratitude for association with our project application and undertaking the same.

Yours Sincerely,
For **Claro Software Solutions Pvt Ltd,**

Ilyas,
Manager – Human Resources



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

Date: 30/09/2019

From,
The Principal,
CMR Institute of Technology
Kandlakoya(v), Medchal Road
Hyderabad, Telangana, India - 501401

To,
The Project Head,
Claro Software Solutions Pvt. Ltd
Level 1, MB Towers, Road No 10
Banjara Hills, Hyderabad
500034. Telangana.

Dear Sir,

Sub: Project cost estimation for implementing the project "**Semantic-Enhanced Marginalized Denoising Auto-Encoder-Based Cyberbullying Detection**"-Reg

1. We thankfully acknowledge your enquiry and I wish to inform you that the assignment would be handled by our faculty from our institution.
2. As decided in the meeting at your organization on 30/08/2019 the project estimate is Rs.2,80,000/-.

Best regards,



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

18th January 2020

To,
The Principal,
CMR Institute of Technology,
Kandlakoya (v), Medchal Road
Hyderabad, Telangana, India – 501401

Respected Sir,

Ref: Budget Proposal - CMRIT/2019 dated on 30/09/2019.

Respected Sir,

The company has received the budget proposed for implementing the project work titled “**Semantic-Enhanced Marginalized Denoising Auto-Encoder-Based Cyberbullying Detection**”

The Budget has provided necessary cost elements associated with the project.

Herewith, the company acknowledges the total approximate budget cost of Rs.2,80,000 stated by the institution for the completion of project work.

Thanking you.

We wish him all the success in his future endeavours. info@clarosoft.in

Yours Sincerely,
For **Claro Software Solutions Pvt Ltd,**

Ilyas,
Manager – Human Resources


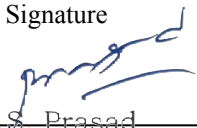


Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

CIN : U72900TG2017PTC118423

Level 1, MB Towers, am@10, Road No.10, Banjara Hills, Hyderabad, Telangana 500034.

Ph: 040-66885713 | info@clarosoft.in | www.clarosoft.in

INVOICE						
 EXPLORE TO INVENT	CMR Institute of Technology Kandlakoya (V), Medchal Road Hyderabad – 501 401. Telangana, India	Invoice No: CMRIT/2019-2020/01				
The Project Head, Claro Software Solutions Pvt. Ltd Level 1, MB Towers, Road No 10 Banjara Hills, Hyderabad 500034. Telangana.		Date: 11/06/2020				
Sl. No.	Activity Description	Amount(Rs.)				
1.	“Semantic-Enhanced Marginalized Denoising Auto-Encoder-Based Cyberbullying Detection ”	2,80,000				
Payment Details (Rupees in words) Two lakh eighty thousand only <hr style="width: 50%; margin-left: 0;"/>		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Sub Total</td> <td style="text-align: right;">2,80,000</td> </tr> <tr> <td>TOTAL</td> <td style="text-align: right;">2,80,000</td> </tr> </table>	Sub Total	2,80,000	TOTAL	2,80,000
Sub Total	2,80,000					
TOTAL	2,80,000					
<hr style="width: 50%; margin-left: 0;"/>		Signature  K.S.S. Prasad Accounts Officer				

Date: 15.06.2020

COMPLETION STATEMENT

From,
The Principal,
CMR Institute of Technology
Kandlakoya(v), Medchal Road
Hyderabad, Telangana, India – 501401

To,
The Project Head,
Claro Software Solutions Pvt. Ltd
Level 1, MB Towers, Road No 10
Banjara Hills, Hyderabad
500034. Telangana.

Dear Sir,

Sub: Completion of the consultancy work-Reg

I am pleased to inform you that I have successfully completed the consultancy project titled:
“Semantic-Enhanced Marginalized Denoising Auto-Encoder-Based Cyberbullying Detection” during the academic year 2019-2020.

Principal Investigator: Dr. K. Pradeep Reddy

Associate Investigators:

- 1. Dr. Vijender Kumar Solanki**
- 2. Dr. S. Alagumuthukrishnan**

Yours faithfully,

Regards,



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

A Project Report

On

**SEMANTIC-ENHANCED MARGINALIZED DENOISING AUTO-ENCODER-
BASED CYBERBULLYING DETECTION**

Principal Investigator

Dr. K. Pradeep Reddy

Associate Investigators

Dr. Vijender Kumar Solanki

Dr. Alagumuthu Krishnan



CMR INSTITUTE OF TECHNOLOGY

(An Autonomous Institution)

KANDLAKOYA, MEDCHAL ROAD, HYDERABAD-501401

A.Y:2019-2020



Principal

CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

ABSTRACT

As a side effect of increasingly popular social media, cyberbullying has emerged as a serious problem afflicting children, adolescents and young adults. Machine learning techniques make automatic detection of bullying messages in social media possible, and this could help to construct a healthy and safe social media environment. In this meaningful research area, one critical issue is robust and discriminative numerical representation learning of text messages. In this paper, we propose a new representation learning method to tackle this problem. Our method named Semantic-Enhanced Marginalized Denoising Auto-Encoder (smSDA) is developed via semantic extension of the popular deep learning model stacked denoising autoencoder. The semantic extension consists of semantic dropout noise and sparsity constraints, where the semantic dropout noise is designed based on domain knowledge and the word embedding technique. Our proposed method is able to exploit the hidden feature structure of bullying information and learn a robust and discriminative representation of text.



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CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

INTRODUCTION

What is Secure Computing?

Computer security (Also known as cyber security or IT Security) is information security as applied to computers and networks. The field covers all the processes and mechanisms by which computer-based equipment, information and services are protected from unintended or unauthorized access, change or destruction. Computer security also includes protection from unplanned events and natural disasters. Otherwise, in the computer industry, the term security -- or the phrase computer security -- refers to techniques for ensuring that data stored in a computer cannot be read or compromised by any individuals without authorization. Most computer security measures involve data encryption and passwords. Data encryption is the translation of data into a form that is unintelligible without a deciphering mechanism. A password is a secret word or phrase that gives a user access to a particular program or system.



Diagram clearly explain the about the secure computing

Working conditions and basic needs in the secure computing:

If you don't take basic steps to protect your work computer, you put it and all the information on it at risk. You can potentially compromise the operation of other computers on your organization's network, or even the functioning of the network as a whole.

1. Physical security:

Technical measures like login passwords, anti-virus are essential. (More about those below) However, a secure physical space is the first and more important line of defense. Is the place you keep your workplace computer secure enough to prevent theft or access to it while you are away? While the Security Department provides coverage across the Medical center, it only takes seconds to steal a computer, particularly a portable device like a laptop or a PDA. A computer should be secured like any other valuable possession when you are not present. Human threats are not the only concern. Computers can be compromised by environmental mishaps (e.g., water, coffee) or physical trauma. Make sure the physical location of your computer takes account of those risks as well.

2. Access passwords:

The University's networks and shared information systems are protected in part by login credentials (user-IDs and passwords). Access passwords are also an essential protection for personal computers in most circumstances. Offices are usually open and shared spaces, so physical access to computers cannot be completely controlled.

To protect your computer, you should consider setting passwords for particularly sensitive applications resident on the computer (e.g., data analysis software), if the software provides that capability.

3. Prying eye protection:

Because we deal with all facets of clinical, research, educational and administrative data here on the medical campus, it is important to do everything possible to minimize exposure of data to unauthorized individuals.

4. Anti-virus software:

Up-to-date, properly configured anti-virus software is essential. While we have server-side anti-virus software on our network computers, you still need it on the client side (your computer).

5. Firewalls:

Anti-virus products inspect files on your computer and in email. Firewall software and hardware monitor communications between your computer and the outside world. That is essential for any networked computer.

6. Software updates:

It is critical to keep software up to date, especially the operating system, anti-virus and anti-spyware, email and browser software. The newest versions will contain fixes for discovered vulnerabilities.

Almost all anti-virus have automatic update features (including SAV). Keeping the "signatures" (digital patterns) of malicious software detectors up-to-date is essential for these products to be effective.

7. Keep secure backups:

Even if you take all these security steps, bad things can still happen. Be prepared for the worst by making backup copies of critical data, and keeping those backup copies in a separate, secure location. For example, use supplemental hard drives, CDs/DVDs, or flash drives to store critical, hard-to-replace data.

8. Report problems:

If you believe that your computer or any data on it has been compromised, you should make a information security incident report. That is required by University policy for all data on our systems, and legally required for health, education, financial and any other kind of record containing identifiable personal information.

Benefits of secure computing:

- **Protect yourself - Civil liability:**

You may be held legally liable to compensate a third party should they experience financial damage or distress as a result of their personal data being stolen from you or leaked by you.

- **Protect your credibility - Compliance:**

You may require compliancy with the Data Protection Act, the FSA, SOX or other regulatory standards. Each of these bodies stipulates that certain measures be taken to protect the data on your network.

- **Protect your reputation – Spam:**

A common use for infected systems is to join them to a botnet (a collection of infected machines which takes orders from a command server) and use them to send out spam. This spam can be traced back to you, your server could be blacklisted and you could be unable to send email.

- **Protect your income - Competitive advantage:**

There are a number of “hackers-for-hire” advertising their services on the internet selling their skills in breaking into company’s servers to steal client databases, proprietary software, merger and acquisition information, personnel details *et al.*

- **Protect your business – Blackmail:**

A seldom-reported source of income for “hackers” is to break into your server, change all your passwords and lock you out of it. The password is then sold back to you. Note: the “hackers” may implant a backdoor program on your server so that they can repeat the exercise at will.

Protect your investment - Free storage:

Your server’s harddrive space is used (or sold on) to house the hacker's video clips, music collections, pirated software or worse. Your server or computer then becomes continuously slow and your internet connection speeds deteriorate due to the number of people connecting to your server in order to download the offered wares.



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

SYSTEM ANALYSIS

EXISTING SYSTEM:

- ❖ Previous works on computational studies of bullying have shown that natural language processing and machine learning are powerful tools to study bullying.
- ❖ Cyberbullying detection can be formulated as a supervised learning problem. A classifier is first trained on a cyberbullying corpus labeled by humans, and the learned classifier is then used to recognize a bullying message.
- ❖ Yin et.al proposed to combine BoW features, sentiment features and contextual features to train a support vector machine for online harassment detection.
- ❖ Dinakar et.al utilized label specific features to extend the general features, where the label specific features are learned by Linear Discriminative Analysis. In addition, common sense knowledge was also applied.
- ❖ Nahar et.al presented a weighted TF-IDF scheme via scaling bullying-like features by a factor of two. Besides content-based information, Maral et.al proposed to apply users' information, such as gender and history messages, and context information as extra features.

DISADVANTAGES OF EXISTING SYSTEM:

- ❖ The first and also critical step is the numerical representation learning for text messages.
- ❖ Secondly, cyberbullying is hard to describe and judge from a third view due to its intrinsic ambiguities.
- ❖ Thirdly, due to protection of Internet users and privacy issues, only a small portion of messages are left on the Internet, and most bullying posts are deleted.



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CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

PROPOSED SYSTEM:

- ❖ Three kinds of information including text, user demography, and social network features are often used in cyberbullying detection. Since the text content is the most reliable, our work here focuses on text-based cyberbullying detection.
- ❖ In this paper, we investigate one deep learning method named stacked denoising autoencoder (SDA). SDA stacks several denoising autoencoders and concatenates the output of each layer as the learned representation. Each denoising autoencoder in SDA is trained to recover the input data from a corrupted version of it. The input is corrupted by randomly setting some of the input to zero, which is called dropout noise. This denoising process helps the autoencoders to learn robust representation.
- ❖ In addition, each autoencoder layer is intended to learn an increasingly abstract representation of the input.
- ❖ In this paper, we develop a new text representation model based on a variant of SDA: marginalized stacked denoising autoencoders (mSDA), which adopts linear instead of nonlinear projection to accelerate training and marginalizes infinite noise distribution in order to learn more robust representations.
- ❖ We utilize semantic information to expand mSDA and develop Semantic-enhanced Marginalized Stacked Denoising Autoencoders (smSDA). The semantic information consists of bullying words. An automatic extraction of bullying words based on word embeddings is proposed so that the involved human labor can be reduced. During training of smSDA, we attempt to reconstruct bullying features from other normal words by discovering the latent structure, i.e. correlation, between bullying and normal words. The intuition behind this idea is that some bullying messages do not contain bullying words. The correlation information discovered by smSDA helps to reconstruct bullying features from normal words, and this in turn facilitates detection of bullying messages without containing bullying words.

ADVANTAGES OF PROPOSED SYSTEM:

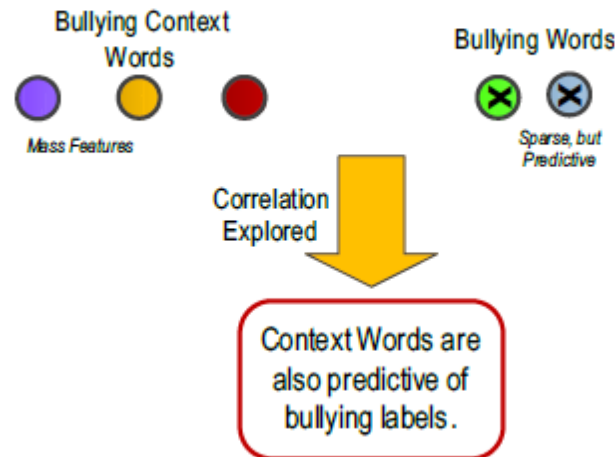
- ❖ Our proposed Semantic-enhanced Marginalized Stacked Denoising Autoencoder is able to learn robust features from BoW representation in an efficient and effective way. These robust features are learned by reconstructing original input from corrupted (i.e., missing) ones. The new feature space can improve the performance of cyberbullying detection even with a small labeled training corpus.
- ❖ Semantic information is incorporated into the reconstruction process via the designing of semantic dropout noises and imposing sparsity constraints on mapping matrix. In our framework, high-quality semantic information, i.e., bullying words, can be extracted automatically through word embeddings.
- ❖ Finally, these specialized modifications make the new feature space more discriminative and this in turn facilitates bullying detection.
- ❖ Comprehensive experiments on real-data sets have verified the performance of our proposed model.



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SYSTEM DESIGN

SYSTEM ARCHITECTURE:



6. SYSTEM REQUIREMENTS

HARDWARE REQUIREMENTS:

- System : Pentium IV 2.4 GHz.
- Hard Disk : 40 GB.
- Floppy Drive : 1.44 Mb.
- Monitor : 15 VGA Colour.
- Mouse : Logitech.
- Ram : 512 Mb.

SOFTWARE REQUIREMENTS:

- Operating system : - Windows XP.
- Coding Language: JAVA
- Data Base : MYSQL

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Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

SYSTEM STUDY

FEASIBILITY STUDY

The feasibility of the project is analyzed in this phase and business proposal is put forth with a very general plan for the project and some cost estimates. During system analysis the feasibility study of the proposed system is to be carried out. This is to ensure that the proposed system is not a burden to the company. For feasibility analysis, some understanding of the major requirements for the system is essential.

Three key considerations involved in the feasibility analysis are

- ◆ ECONOMICAL FEASIBILITY
- ◆ TECHNICAL FEASIBILITY
- ◆ SOCIAL FEASIBILITY

ECONOMICAL FEASIBILITY

This study is carried out to check the economic impact that the system will have on the organization. The amount of fund that the company can pour into the research and development of the system is limited. The expenditures must be justified. Thus the developed system as well within the budget and this was achieved because most of the technologies used are freely available. Only the customized products had to be purchased.

TECHNICAL FEASIBILITY

This study is carried out to check the technical feasibility, that is, the technical requirements of the system. Any system developed must not have a high demand on the available technical resources. This will lead to high demands on the available technical resources. This will lead to high demands being placed on the client. The developed system must have a modest requirement, as only minimal or null changes are required for implementing this system.

SOCIAL FEASIBILITY

The aspect of study is to check the level of acceptance of the system by the user. This includes the process of training the user to use the system efficiently. The user must not feel threatened by the system, instead must accept it as a necessity. The level of acceptance by the users solely depends on the methods that are employed to educate the user about the system and to make him familiar with it. His level of confidence must be raised so that he is also able to make some constructive criticism, which is welcomed, as he is the final user of the system.



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CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

SYSTEM TESTING

The purpose of testing is to discover errors. Testing is the process of trying to discover every conceivable fault or weakness in a work product. It provides a way to check the functionality of components, sub assemblies, assemblies and/or a finished product It is the process of exercising software with the intent of ensuring that the

Software system meets its requirements and user expectations and does not fail in an unacceptable manner. There are various types of test. Each test type addresses a specific testing requirement.

TYPES OF TESTS

Unit testing

Unit testing involves the design of test cases that validate that the internal program logic is functioning properly, and that program inputs produce valid outputs. All decision branches and internal code flow should be validated. It is the testing of individual software units of the application .it is done after the completion of an individual unit before integration. This is a structural testing, that relies on knowledge of its construction and is invasive. Unit tests perform basic tests at component level and test a specific business process, application, and/or system configuration. Unit tests ensure that each unique path of a business process performs accurately to the documented specifications and contains clearly defined inputs and expected results.

Integration testing

Integration tests are designed to test integrated software components to determine if they actually run as one program. Testing is event driven and is more concerned with the basic outcome of screens or fields. Integration tests demonstrate that although the components were individually satisfaction, as shown by successfully unit testing, the combination of components is correct and consistent. Integration testing is specifically aimed at exposing the problems that arise from the combination of components.

Functional test

Functional tests provide systematic demonstrations that functions tested are available as specified by the business and technical requirements, system documentation, and user manuals.

Functional testing is centered on the following items:

- Valid Input : identified classes of valid input must be accepted.
- Invalid Input : identified classes of invalid input must be rejected.
- Functions : identified functions must be exercised.
- Output : identified classes of application outputs must be exercised.

Systems/Procedures: interfacing systems or procedures must be invoked.

Organization and preparation of functional tests is focused on requirements, key functions, or special test cases. In addition, systematic coverage pertaining to identify Business process flows; data fields, predefined processes, and successive processes must be considered for testing. Before functional testing is complete, additional tests are identified and the effective value of current tests is determined.



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CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

System Test

System testing ensures that the entire integrated software system meets requirements. It tests a configuration to ensure known and predictable results. An example of system testing is the configuration oriented system integration test. System testing is based on process descriptions and flows, emphasizing pre-driven process links and integration points.

White Box Testing

White Box Testing is a testing in which the software tester has knowledge of the inner workings, structure and language of the software, or at least its purpose. It is used to test areas that cannot be reached from a black box level.

Black Box Testing

Black Box Testing is testing the software without any knowledge of the inner workings, structure or language of the module being tested. Black box tests, as most other kinds of tests, must be written from a definitive source document, such as specification or requirements document, such as specification or requirements document. It is a testing in which the software under test is treated, as a black box .you cannot “see” into it. The test provides inputs and responds to outputs without considering how the software works.

Unit Testing:

Unit testing is usually conducted as part of a combined code and unit test phase of the software lifecycle, although it is not uncommon for coding and unit testing to be conducted as two distinct phases.

Test strategy and approach

Field testing will be performed manually and functional tests will be written in detail.

Test objectives

- All field entries must work properly.
- Pages must be activated from the identified link.
- The entry screen, messages and responses must not be delayed.

Features to be tested

- Verify that the entries are of the correct format
- No duplicate entries should be allowed
- All links should take the user to the correct page.

Integration Testing

Software integration testing is the incremental integration testing of two or more integrated software components on a single platform to produce failures caused by interface defects.

The task of the integration test is to check that components or software applications, e.g. components in a software system or – one step up – software applications at the company level – interact without error.

Test Results: All the test cases mentioned above passed successfully. No defects encountered.



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CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

Acceptance Testing

User Acceptance Testing is a critical phase of any project and requires significant participation by the end user. It also ensures that the system meets the functional requirements.

Test Results: All the test cases mentioned above passed successfully. No defects encountered.



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CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
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10. CONCLUSION

In, This paper addresses the text-based cyberbullying detection problem, where robust and discriminative representations of messages are critical for an effective detection system. By designing semantic dropout noise and enforcing sparsity, we have developed semantic-enhanced marginalized denoising autoencoder as a specialized representation learning model for cyberbullying detection. In addition, word embeddings have been used to automatically expand and refine bullying word lists that is initialized by domain knowledge. The performance of our approaches has been experimentally verified through two cyberbullying corpora from social medias: Twitter and MySpace. As a next step we are planning to further improve the robustness of the learned representation by considering word order in messages.



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CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

INDIAN INCOME TAX RETURN ACKNOWLEDGEMENT

[Where the data of the Return of Income in Form ITR-1 (SAHAJ), ITR-2, ITR-3,
ITR-4 , ITR-5, ITR-6, ITR-7 filed and verified electronically]

Assessment Year
2019-20

PERSONAL INFORMATION AND THE ACKNOWLEDGEMENT NUMBER	Name			PAN		
	M.G.R. EDUCATIONAL SOCIETY			AAATM8546M		
	Flat/Door/Block No	Name Of Premises/Building/Village		Form Number.	ITR-7	
	173	Mallareddy Gardens				
	Road/Street/Post Office	Area/Locality				
		Bowenpally		Status AOP/BOI		
	Town/City/District	State	Pin/ZipCode	Filed u/s		
	Secunderabad	TELANGANA	500011	139(1)-On or before due date		
	Assessing Officer Details (Ward/Circle)			EXEMPTION CIRCLE 1(1)HYD		
	e-filing Acknowledgement Number			248457551011119		
COMPUTATION OF INCOME AND TAX THEREON	1	Gross total income			1	0
	2	Total Deductions under Chapter-VI-A			2	0
	3	Total Income			3	0
	3a	Deemed Total Income under AMT/MAT			3a	0
	3b	Current Year loss, if any			3b	0
	4	Net tax payable			4	0
	5	Interest and Fee Payable			5	0
	6	Total tax, interest and Fee payable			6	0
	7	Taxes Paid	a	Advance Tax	7a	0
			b	TDS	7b	800775
c			TCS	7c	0	
d			Self Assessment Tax	7d	0	
e			Total Taxes Paid (7a+7b+7c +7d)	7e	800775	
8	Tax Payable (6-7e)			8	0	
9	Refund (7e-6)			9	800780	
10	Exempt Income	Agriculture		10	0	
		Others				

Income Tax Return submitted electronically on 01-11-2019 00:12:34 from IP address 183.82.99.209 and verified by

GOPAL REDDY CHAMAKURA having PAN ABJPC6525E on 01-11-2019 00:12:34 from IP address

183.82.99.209 using Digital Signature Certificate (DSC)

DSC details: 16898576CN=e-Mudhra Sub CA for Class 2 Individual 2014,OU=Certifying Authority,O=eMudhra Consumer Services Limited,C=IN

DO NOT SEND THIS ACKNOWLEDGEMENT TO CPC, BENGALURU



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

MGR EDUCATIONAL SOCIETY (CMR INSTITUTE OF TECHNOLOGY)

BALANCE SHEET AS ON 31.03.2019

LIABILITIES	AMOUNT	ASSETS	AMOUNT
GENERAL FUND	(5,102,354)	FIXED ASSETS	187,056,413
SUNDRY CREDITORS	9,247,742	DEPOSITS	550,910
OUTSTANDING LIABILITIES	306,752,748	PUR. & ADVANCES & RECEIVABLES	114,824,797
INTER TRANSFER RECEIPTS	3,430,560	CASH & BANK BAL.	11,896,576
	314,328,697		314,328,696

For M R K REDDY & Co.
Chartered Accountants
FRN : 003265S


(M. RAMAKRISHNA REDDY)
Proprietor
MNO: 27526



For M.G.R. Educational Society


Secretary



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

MGR EDUCATIONAL SOCIETY (CMR INSTITUTE OF TECHNOLOGY)

INCOME & EXPENDITURE FOR THE YEAR ENDED 31.03.2019

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To Advertisement Charges	2,688,797	By Tuition Fee	227,393,000
To Audit Fee	11,800	By JNTU & Admission Fee	10,565,000
To Bank Charges	17,780	By NBA FEE	9,315,000
To Books & Periodicals	449,726	By Transport Fee	17,280,000
To Building Maintenance	532,799	By Hostel Fee	18,074,000
To Bus Hire Charges	7,990,856	By Exam Fee Receipts	8,401,960
To College Function Exp	722,455	By Interest on FDR's	1,792,216
To Computer Pheriperals	391,685	By Other Receipts	1,495,062
To Convenor TSCET	70,000		
To E Journals & News Papers	1,015,610		
To Electricity Charges	3,102,574		
To Employer PF Contribution	1,407,673		
To Exam Fee Exps	7,692,049		
To Garden Expenses	541,380		
To Generator Maintenance	438,721		
To Guest Faculty Remuneration	142,500		
To Hostel Expenses	9,739,974		
To Internet Charges	250,000		
To Internal Audit Fee	570,000		
To JNTU Common Service Fee	4,548,000		
To JNTU Inspection Fee	192,800		
To JNTUH Ratification Expenses	110,000		
To Lab Maintenance Expenses	839,760		
To Meetings & Seminars	422,120		
To Membership & Subscription Exps	65,195		
To NAAC Expenses	110,252		
To NBA Expenses	413,000		
To Office Maintenance	2,290,577		
To Postage & Telegrams	453,295		
To Printing & Stationary	504,566		
To Rates & Taxes	761,402		
To Repairs & Maintenance	669,851		
To Research & Development	3,460,073		
To Salaries & Wages	189,681,026		
To Security Charges	1,150,289		
To Software Expenses	2,184,518		
To Sports & Games	383,288		
To Staff Development Programms	660,380		
To Staff Welfare	678,440		
To Students Projects & Development	724,000		
To Student Welfare	385,430		
To TAFRC Fee	45,000		
To Telephone Charges	146,596		
To Training & Placement Exp.	3,275,965		
To Transport Charges	81,100		
To Travelling & Conveyance	273,088		
To TSCHE Processing Fee	244,400		
To Vehicle Insurance	530,459		
To Vehicle Maintenance	2,862,763		
To Workshop Exps	328,302		
To Depreciation	18,349,550		
Excess of Income Over Expenditure	19,714,373		

294,316,238

For M R K REDDY & Co.
Chartered Accountants
FRN : 003265S
(Signature)
(M. RAMAKRISHNA REDDY)
Proprietor
M.D.S.O: 275246



For M.G.R. Educational Society

(Signature)
Secretary



(Signature)
Principal

CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401. **294,316,238**

MGR EDUCATIONAL SOCIETY (CMR INSTITUTE OF TECHNOLOGY)

BALANCE SHEET SCHEDULES AS ON 31-03-2019

GENERAL FUND:

Opening	(24,816,727)
Add: Surplus for the Year	19,714,373
	<u>(5,102,354)</u>

SUNDRY CREDITORS:

Associated Broad Casting	749,960
Bhagya Lakshmi Enterprises	7,928,822
Coign Consultannts	168,750
Future Step	33,276
Mechtrix Engineers	10,620
Scientech Technologies Pvt Ltd	143,724
Superkleen	7,788
SVA Security Services	97,317
Techno Systems	107,485
	<u>9,247,742</u>

OUTSTANDING LIABILITIES:

Bus Hire Charges Payable	472,707
Caution Deposit	2,695,000
MRK & CO	11,800
P.F. Payable	183,597
Professional Tax Payable	43,050
Salaries & Wages Payable	294,898,365
Scholarships Payable	5,800,512
Staff Welfare Association Payable	202,800
TDS Payable	2,444,917
	<u>306,752,748</u>



For M.G.R. Educational Society

[Signature]
Secretary

[Signature]

Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501401.

MGR EDUCATIONAL SOCIETY (CMR INSTITUTE OF TECHNOLOGY)

BALANCE SHEET SCHEDULES AS ON 31-03-2019

PUR. & ADVANCES & RECEIVABLES:

Advanced to Suppliers	540,499
Income Tax Refundable	300,000
TDS Receivable	1,265,864
Tuition Fee Receivable	112,579,050
AICTE Grant - SERB	(275,000)
Sundry Debtors	414,384

114,824,797

INTER TRANSFER RECEIPTS:

CMR College of Engineering & Tech	9,027,222
CMR College of Pharmacy	(5,596,662)

3,430,560

DEPOSITS:

FDR-327403030189624	159,273
Electricity Deposit	391,637

550,910

CASH & BANK BALANCES:

Hdfc Bank - 16402320000160	3,281,895
Hdfc Bank - 16408640000021	4,606,088
Hdfc Bank - 50200031367880	136,260
ICICI Bank - 279801000244	27,379
SBI - 30532849525	3,474,274
Cash Balance	370,681

11,896,577



For M.G.R. Educational Society

Mr. S. Reddy
Secretary


S. Reddy

Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

MGR EDUCATIONAL SOCIETY (CMR INSTITUTE OF TECHNOLOGY)

FIXED ASSETS SCHEDULE AS ON 31-03-2019

PARTICULARS	DEP. RATE	OP. BAL. 01-04-2018	ADDITIONS		TOTAL	DEPRECIATION	W.D.V. CLG. BAL. 31-03-2019
			BEF. SEP. 18	AFT. SEP. 18			
LAND		10,775,310	-	-	10,775,310		10,775,310
BUILDINGS & CIVIL WORK	10%	103,809,861	9,318,727	2,236,356	115,364,944	11,424,677	103,940,267
BUSES	15%		3,926,000	11,682,374	15,608,374	976,719	14,631,655
COMPUTERS	40%	752,451	116,650	5,666,570	6,535,671	370,239	6,165,432
FURNITURE & FIXTURES	10%	11,764,614	880,600	373,200	13,018,414	1,283,181	11,735,233
GENERATOR	15%	1,040,853	-	-	1,040,853	104,085	936,768
LAB EQUIPMENT	15%	17,963,699	1,435,842	1,961,553	21,361,094	2,038,032	19,323,062
LIBRARY	10%	6,383,390	278,391	194,698	6,856,479	675,913	6,180,566
OFFICE EQUIPMENT	15%	8,348,653	844,065	101,200	9,293,918	924,332	8,369,586
SOLAR EQUIPMENT	40%	4,067,600	-	-	4,067,600	406,760	3,660,840
SPORTS & EQUIPMENT	15%	1,428,955	-	54,351	1,483,306	145,613	1,337,693
		166,335,386	16,800,275	22,270,302	205,405,963	18,349,550	187,056,413


 Principal
 CMR INSTITUTE OF TECHNOLOGY
 Kandlakoya (V), Medchal Road,
 Hyderabad-501 401.



For M.G.R. Educational Society

 Secretary

Audit report under section 12A(b) of the Income-tax Act, 1961, in the case of charitable or religious trusts or institutions

We have examined the balance sheet of M G R Educational Society , AAATM8546M [name and PAN of the trust or institution] as at 31/03/2019 and the Profit and loss account for the year ended on that date which are in agreement with the books of account maintained by the said trust or institution.

We have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purposes of the audit. In our opinion, proper books of account have been kept by the head office and the branches of the abovenamed institution visited by us so far as appears from our examination of the books, and proper Returns adequate for the purposes of audit have been received from branches not visited by us , subject to the comments given below:

In our opinion and to the best of our information, and according to information given to us , the said accounts give a true and fair view-

- (i) in the case of the balance sheet, of the state of affairs of the above named institution as at 31/03/2019 and
- (ii) in the case of the profit and loss account, of the profit or loss of its accounting year ending on 31/03/2019

The prescribed particulars are annexed hereto.

Place Hyderabad
Date 26/10/2019

Name
Membership Number
FRN (Firm Registration Number)
Address

M Ramakrishna Reddy
027546
003265S
Flat No: 101 , Manohar Apartm
ents, Vidyanagar, Hyderabad -5
00044



ANNEXURE

Statement of particulars

I. APPLICATION OF INCOME FOR CHARITABLE OR RELIGIOUS PURPOSES

1.	Amount of income of the previous year applied to charitable or religious purposes in India during that year (₹)	729793370
2.	Whether the <u>institution</u> has exercised the option under clause (2) of the Explanation to section 11(1) ? If so, the details of the amount of income deemed to have been applied to charitable or religious purposes in India during the previous year (₹)	No
3.	Amount of income accumulated or set apart for application to charitable or religious purposes, to the extent it does not exceed 15 per cent of the income derived from property held under trust wholly for such purposes. (₹)	No
4.	Amount of income eligible for exemption under section 11(1)(c) (Give details)	No
5.	Amount of income, in addition to the amount referred to in item 3 above, accumulated or set apart for specified purposes under section 11(2) (₹)	0
6.	Whether the amount of income mentioned in item 5 above has been invested or deposited in the manner laid down in section 11(2)(b) ? If so, the details thereof.	No
7.	Whether any part of the income in respect of which an option was exercised under clause (2) of the Explanation to section 11(1) in any earlier year is deemed to be income of the previous year under section 11(1B) ? If so, the details thereof (₹)	No
8.	Whether, during the previous year, any part of income accumulated or set apart for specified purposes under section 11(2) in any earlier year-	
(a)	has been applied for purposes other than charitable or religious purposes or has ceased to be accumulated or set apart for application thereto, or	No
(b)	has ceased to remain invested in any security referred to in section 11(2)(b)(i) or deposited in any account referred to in section 11(2)(b)(ii) or section 11(2)(b)(iii), or	No
(c)	has not been utilised for purposes for which it was accumulated or set apart during the period for which	No

it was to be accumulated or set apart, or in the year immediately following the expiry thereof? If so, the details thereof

II. APPLICATION OR USE OF INCOME OR PROPERTY FOR THE BENEFIT OF PERSONS REFERRED TO IN SECTION 13(3)

1.	Whether any part of the income or property of the institution was lent, or continues to be lent, in the previous year to any person referred to in section 13(3) (hereinafter referred to in this Annexure as such person)? If so, give details of the amount, rate of interest charged and the nature of security, if any.	No
2.	Whether any part of the income or property of the institution was made, or continued to be made, available for the use of any such person during the previous year? If so, give details of the property and the amount of rent or compensation charged, if any.	No
3.	Whether any payment was made to any such person during the previous year by way of salary, allowance or otherwise? If so, give details	No
4.	Whether the services of the institution were made available to any such person during the previous year? If so, give details thereof together with remuneration or compensation received, if any	No
5.	Whether any share, security or other property was purchased by or on behalf of the institution during the previous year from any such person? If so, give details thereof together with the consideration paid	No
6.	Whether any share, security or other property was sold by or on behalf of the institution during the previous year to any such person? If so, give details thereof together with the consideration received	No
7.	Whether any income or property of the institution was diverted during the previous year in favour of any such person? If so, give details thereof together with the amount of income or value of property so diverted	No
8.	Whether the income or property of the institution was used or applied during the previous year for the benefit of any such person in any other manner? If so, give details	No

III. INVESTMENTS HELD AT ANY TIME DURING THE PREVIOUS YEAR(S) IN CONCERNS IN WHICH PERSONS REFERRED TO IN SECTION 13(3) HAVE A SUBSTANTIAL INTEREST

S. No	Name and address of the concern	Where the concern is a company, number and class of shares held	Nominal value of the investment(₹)	Income from the investment(₹)	Whether the amount in col. 4 exceeded 5 per cent of the capital of the concern during the previous year-say, Yes/No
Total					

Place **Hyderabad**
Date **26/10/2019**

Name
Membership Number
FRN (Firm Registration Number)
Address

M Ramakrishna Reddy
027546
003265S
Flat No: 101, Manohar Apartm
ents, Vidyanagar, Hyderabad -5
00044
UDIN : 19027546AAAAID3920



Form Filing Details	
Revision/Original	Original

Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

02nd September 2020

To,
The Principal,
CMR Institute of Technology,
Kandlakoya (v), Medchal Road,
Hyderabad, Telangana, India – 501401

Respected Sir,

In Reference to our discussion cited,
I am writing to inform you that our company Claro Software Solutions Pvt. Ltd. Experiencing some challenges in carrying on its Project developments although it is currently in progress. This proposal letter outlines the said project's details which have great Improvisation and benefits on a longer run. We are looking for the best support from your side positively by the end of May 2021, on these projects mentioned below, and we are also attaching project details along with the troubles with this letters.

Project title: “Better P2P Multimedia Distribution Preserving Privacy Using Recombined Fingerprints”

We hope that you will consider our request in reviving this project and allocate suitable experienced faculty to complete the project on time.

Please send us the confirmation for carrying out the project.

Yours Sincerely,
For **Claro Software Solutions Pvt Ltd,**

Ilyas,
Manager – Human Resources



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

Date: 11/09/2020

From,
The Principal,
CMR Institute of Technology
Kandlakoya(v), Medchal Road
Hyderabad, Telangana, India – 501401

To,
The Project Head,
Claro Software Solutions Pvt. Ltd
Level 1, MB Towers, Road No 10
Banjara Hills, Hyderabad
500034. Telangana.

Dear Sir,

On behalf of CMR Institute of Technology, I am pleased to inform you that the management has accepted your proposed request for solving your problem through our faculty team.

Project title: “Better P2P Multimedia Distribution Preserving Privacy Using Recombined Fingerprints ”

We feel that your proposal of problem statement can be handled by team of experts headed by **Dr. S. Alagumuthukrishnan** and his team. We believe that this proposal can be completed within the desired duration as mentioned by you. Hence we wish to accommodate and work on your proposal.

Deployed Team members:

Principal Investigator: Dr. S. Alagumuthukrishnan

Associate Investigators:

- 1. Dr. Vijender Kumar Solanki**
- 2. Dr. K. Pradeep Reddy**

Regards,



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

15th September 2020

From,
Claro Software Solutions Pvt. Ltd
Level 1, MB Towers, Road No 10
Banjara Hills, Hyderabad
500034. Telangana.

To,
The Principal,
CMR Institute of Technology,
Kandlakoya (v), Medchal Road
Hyderabad, Telangana, India – 501401

Subject: Acknowledging with the project work-Reg.

Dear Sir,

We wish to express our sincere thanks to you for accepting our project work on,

Project title: “Better P2P Multimedia Distribution Preserving Privacy Using Recombined Fingerprints”

And we wish to acknowledge and proceed with the project work. We, once again, would like to express my gratitude for association with our project application and undertaking the same.

Yours Sincerely,
For **Claro Software Solutions Pvt Ltd,**

Ilyas,
Manager – Human Resources



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

Date: 22/10/2020

From,
The Principal,
CMR Institute of Technology
Kandlakoya(v), Medchal Road
Hyderabad, Telangana, India – 501401

To,
The Project Head,
Claro Software Solutions Pvt. Ltd
Level 1, MB Towers, Road No 10
Banjara Hills, Hyderabad
500034. Telangana.

Dear Sir,

Sub: Project cost estimation for implementing the project “**Better P2P Multimedia Distribution Preserving Privacy Using Recombined Fingerprints**”-Reg

1. We thankfully acknowledge your enquiry and I wish to inform you that the assignment would be handled by our faculty from our institution.
2. As decided in the meeting at your organization on 15/09/2020 the project estimate is Rs.2,90,000/-.

Best regards,



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

18th January 2021

To,
The Principal,
CMR Institute of Technology,
Kandlakoya (v), Medchal Road
Hyderabad, Telangana, India – 501401

Respected Sir,

Ref: Budget Proposal - CMRIT/2020 dated on 22/10/2020.

Respected Sir,

The company has received the budget proposed for implementing the project work titled “**Better P2P Multimedia Distribution Preserving Privacy Using Recombined Fingerprints**”

The Budget has provided necessary cost elements associated with the project.

Herewith, the company acknowledges the total approximate budget cost of Rs.2,90,000 stated by the institution for the completion of project work.

Thanking you.

We wish him all the success in his future endeavours. info@clarosoft.in

Yours Sincerely,
For **Claro Software Solutions Pvt Ltd,**

Ilyas,
Manager – Human Resources




Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

INVOICE



CMR Institute of Technology
Kandlakoya (V), Medchal Road
Hyderabad – 501 401. Telangana, India

Invoice No: CMRIT/2020-2021/01

The Project Head,
Claro Software Solutions Pvt. Ltd
Level 1, MB Towers, Road No 10
Banjara Hills, Hyderabad
500034. Telangana.

Date: 10/05/2021

Sl. No.	Activity Description	Amount(Rs.)
1.	“Better P2P Multimedia Distribution Preserving Privacy Using Recombined Fingerprints ”	2,90,000

Payment Details	
(Rupees in words) Two lakh ninety thousand only	Sub Total 2,90,000
	TOTAL 2,90,000

Signature

K.S.S. Prasad

Accounts Officer



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

Date: 14.05.2021

COMPLETION STATEMENT

From,
The Principal,
CMR Institute of Technology
Kandlakoya(v), Medchal Road
Hyderabad, Telangana, India – 501401

To,
The Project Head,
Claro Software Solutions Pvt. Ltd
Level 1, MB Towers, Road No 10
Banjara Hills, Hyderabad
500034. Telangana.

Dear Sir,

Sub: Completion of the consultancy work-Reg

I am pleased to inform you that I have successfully completed the consultancy project titled:
“Better P2P Multimedia Distribution Preserving Privacy Using Recombined Fingerprints”
during the academic year 2020-2021.

Principal Investigator: Dr. S. Alagumuthukrishnan

Associate Investigators:

- 1. Dr. Vijender Kumar Solanki**
- 2. Dr. K. Pradeep Reddy**

Yours faithfully,

Regards,



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.



AMARAVATHI RESEARCH ACADEMY

Communicating your research

WWW.ARAA.CO.IN



Date: 02/08/2020

To,
The Head of the Department,
Department of Electronics and Communication Engineering,
CMR Institute of Technology,
Kandlakoya(v), Medchal Road
Hyderabad, Telangana, India – 501401

Respected Sir,

Reference to our discussion,
I am writing to inform you that our company Amaravathi Research Academy (ARA), is experiencing some challenges in carrying on its Project developments although it is currently in progress. This proposal letter outlines the said project's details which have great potential and benefits in the long term. We are looking for the best support from your side positively the project mentioned below, and we are also attaching project abstract along with the troubles with this letters.

Project title: "Compact Low Volume EBG Embedded Patch Antenna for Wireless Applications "

We hope that you will consider our request in reviving this project and allocate suitable experienced faculty to complete the project on time.

Please send us the confirmation for carrying out the project.

Managing Director,
Amaravathi Research Academy(ARA)
Hyderabad

Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.



49

Date: 10/08/2020

From,
CMR Institute of Technology
Kandlakoya(v), Medchal Road
Hyderabad, Telangana, India – 501401

To,
The Managing Director,
Amaravathi Research Academy(ARA),
Hyderabad - 501401

Dear Sir,

On behalf of CMR Institute of Technology, I am pleased to inform you that the management has accepted your proposed request for solving your problem through our faculty team.

Title : “Compact Low Volume EBG Embedded Patch Antenna for Wireless Applications”

We feel that your proposal of problem statement can be taken up with our experienced faculty Dr. Praveen Kumar Kancherla and his team consists of two more faculty members. We believe that this proposal can be completed within the desired duration as mentioned by you. Hence we wish to accept your proposal.

Deployed Team members:


Principal Investigator : Dr. Praveen Kumar Kancherla

Associate Investigators:

- 1. Mr. Tula Santosh**
- 2. Mrs. Nagaraju**
- 3. Mr. Siva Kumar**



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

Regards, 
Head of the Department, ECE,
CMR Institute of Technology



Date: 12/08/2020

From,
The Managing Director,
Amaravathi Research Academy(ARA),
Hyderabad - 501401

To,
The Head of the Department,
Department of Electronics and Communication Engineering,
CMR Institute of Technology
Kandlakoya(v), Medchal Road
Hyderabad, Telangana, India – 501401

Subject: Acknowledging with the project work-Reg.

Dear Sir,

We wish to express our sincere thanks to you for accepting our project work

Titled: "Compact Low Volume EBG Embedded Patch Antenna for Wireless Applications"

And acknowledging you to proceed with the project work. We, once again, would like to express my gratitude for association with our project application and undertaking the same.

Managing Director,
Amaravathi Research Academy(ARA)
Hyderabad

Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.



Date: 18/08/2020

From,
The Head of the Department,
Electronics and Communication Engineering,
CMR Institute of Technology
Kandlakoya(v), Medchal Road
Hyderabad, Telangana, India – 501401

To,
The Managing Director,
Amaravathi Research Academy(ARA),
Hyderabad - 501401

Dear Sir,


Sub: Project cost estimation for implementing the project “Compact Low Volume EBG Embedded Patch Antenna for Wireless Applications”

1. We thankfully acknowledge your enquiry and I wish to inform you that the assignment would be handled by our faculty from our institution.
2. As decided in the meeting at your organization on 17/08/2020 the project estimate is Rs.60,000/-
3. Please find below project Milestones for implementing the system.
 - a) Preliminary study of the system: W(Week)1 to W4 from the starting date of the assignment
 - b) Design Methodology : W 5 to W 15
 - c) Implementation, Verification & Validation of results : W 16 to W 20
 - d) Documentation of Project : W21 to W 24,
4. Kindly let us know the feasibility of the above plan for you to get started with the work. I shall give you a confirmation call for finalizing the dates of delivery.



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

Best regards



Head of the Department, ECE
CMR Institute of Technology, Hyderabad.

AMARAVATHI RESEARCH ACADEMY

Communicating your research

WWW.ARAA.CO.IN

Date: 25-08/2020



To,

The Head of the Department,
Department of Electronics and Communication Engineering,
CMR Institute of Technology
Kandlakoya(v), Medchal Road
Hyderabad, Telangana, India – 501401

Ref: Budget Proposal - CMRIT/ECE/2020 dated on 18/08/2020.

Respected Sir,

The company has received the budget proposed for implementing the project work titled "**Compact Low Volume EBG Embedded Patch Antenna for Wireless Applications**". The Budget has provided necessary cost elements associated with the project.

Herewith, the company acknowledges the total approximate budget cost of Rs.60,000 stated by the institution for the completion of project work.

Thanking you.

Managing Director,
Amaravathi Research Academy(ARA)
Hyderabad

Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.



INVOICE



CMR Institute of Technology
Kandlakoya (V), Medchal Road
Hyderabad – 501 401, Telangana, India

Invoice No:
CMRIT/ECE/2020-21/01

To,
The Managing Director,
Amaravathi Research Academy (ARA)
Hyderabad- 5001401

Date: 03/09/2020

Sl. No.	Activity Description	Amount(Rs.)
1.	Compact Low Volume EBG Embedded Patch Antenna for Wireless Applications	60,000.00

Payment Details		Sub Total	60,000.00
(Rupees in words) Sixty Thousand Rupees only		TOTAL	60,000.00
_____		Signature <i>[Signature]</i> HOD (ECE)	

[Signature]
Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

COMPLETION STATEMENT

Date: 04.02.2021

From,

Dr. Praveen Kumar Kancherla
Associate Professor.,
ECE Department.
CMR Institute of Technology
Kandlakoya(v), Medchal Road
Hyderabad, Telangana, India – 501401

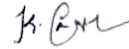
To,
The Managing Director,
Amaravathi Research Academy(ARA),
Hyderabad - 501401

Dear Sir,

Sub: Completion of the consultancy work-Reg

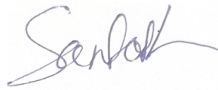
I am pleased to inform you that I have successfully completed the consultancy project titled:
“Compact Low Volume EBG Embedded Patch Antenna for Wireless Applications” during
the academic year 2020-21.

Principal Investigator: Dr. Praveen Kumar Kancherla



Associate Investigators:

1. Mr. Tula Santosh
2. Mr. Nagaraja Kumar Pateti
3. Mr. K. Siva Prasad



Yours faithfully,

Dr. Praveen Kumar Kancherla



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Kandlakoya (V), Medchal Road,
Hyderabad-501401.

A Project Report

On

**BETTER P2P MULTIMEDIA DISTRIBUTION PRESERVING
PRIVACY USING RECOMBINED FINGERPRINTS**

Principal Investigator

Dr. AlagumuthuKrishnan

Associate Investigators

Dr. Vijender Kumar Solanki

Dr. K. Pradeep Reddy



CMR INSTITUTE OF TECHNOLOGY

(An Autonomous Institution)

KANDLAKOYA, MEDCHAL ROAD, HYDERABAD-501401

A.Y:2020-2021



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CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

ABSTRACT

Anonymous fingerprint has been suggested as a convenient solution for the legal distribution of multimedia contents with copyright protection whilst preserving the privacy of buyers, whose identities are only revealed in case of illegal re-distribution. However, most of the existing anonymous fingerprinting protocols are impractical for two main reasons: 1) the use of complex time-consuming protocols and/or homomorphic encryption of the content, and 2) a unicast approach for distribution that does not scale for a large number of buyers. This paper stems from a previous proposal of recombined fingerprints which overcomes some of these drawbacks. However, the recombined fingerprint approach requires a complex graph search for traitor tracing, which needs the participation of other buyers, and honest proxies in its P2P distribution scenario. This paper focuses on removing these disadvantages resulting in an efficient, scalable, privacy-preserving and P2P-based fingerprinting system.



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SYSTEM ANALYSIS

EXISTING SYSTEM:

- ❖ Most fingerprinting systems can be classified in three categories, namely symmetric, asymmetric and anonymous schemes.
- ❖ In symmetric schemes, the merchant is the one who embeds the fingerprint into the content and forwards the result to the buyer; hence, the buyer cannot be formally accused of illegal re-distribution, since the merchant also had access to the fingerprinted content and could be responsible for the re-distribution.
- ❖ In asymmetric fingerprinting, the merchant does not have access to the fingerprinted copy, but he can recover the fingerprint in case of illegal re-distribution and thereby identify the offending buyer.
- ❖ In anonymous fingerprinting, in addition to asymmetry, the buyer preserves her anonymity (privacy) and hence she cannot be linked to the purchase of a specific content, unless she participates in an illegal re-distribution.

DISADVANTAGES OF EXISTING SYSTEM:

- ❖ Developing a practical system using this idea appears difficult, because public-key encryption expands data and substantially increases the communication bandwidth required for transfers.
- ❖ Homomorphic encryption constrains the type of mathematical operations which can be performed on the content for embedding, making it difficult to use the more advanced and robust techniques in the data hiding literature.
- ❖ In addition, the application of this idea in a distributed scenario (such as P2P networks) is not simple, since embedding would have to be performed by peer buyers, requiring a complex and supervised protocol.

PROPOSED SYSTEM:

- ❖ The content is divided into several ordered fragments and each of them is embedded separately with a random binary sequence. The binary sequence for each fragment is called segment and the concatenation of all segments forms the whole fingerprint.
- ❖ The merchant distributes different copies to a reduced set of M seed buyers. The fingerprints of these buyers are such that their segments have low pair-wise correlations.
- ❖ The buyers other than the seed ones engage on P2P transfers of the content in such a way that each new buyer obtains fragments from at least two other buyers. The total number of buyers is $N \gg M$.
- ❖ The communication between peer buyers is anonymous through an onion routing-like protocol using a proxy.
- ❖ The fingerprint of each new buyer is built as a recombination of the segments of its parents.
- ❖ Proxies know the pseudonyms of source and destination buyers and they have access to the symmetric keys used for encrypting the multimedia content.
- ❖ A transaction record is created by a transaction monitor to keep track of each transfer between peer buyers. These records do not contain the embedded fingerprints, but only an encrypted hash of them.
- ❖ The fingerprints' hashes are encrypted in such a way that the private key of at least one parent is required for obtaining their cleartext.



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- ❖ The real identities of buyers are known only by the merchant. The transaction monitor records buyers' pseudonyms.
- ❖ In case of illegal re-distribution, a search is required through the distribution graph. The search starts from the seed buyers and is directed by a correlation function between the traced fingerprint and the fingerprints of the tested buyers. These tested buyers must co-operate with a tracing authority to compute the correlation between their fingerprint and the one extracted from the illegally re-distributed file. The fingerprints' hashes recorded in the transaction monitor are enough to prevent buyers from cheating in this step.
- ❖ At each step of the traitor tracing protocol, the buyer with maximum correlation is chosen as the most likely ancestor of the illegal re-distributor. This criterion is mostly right, but some incorrect choices may occur during the search process, requiring the exhaustion of a subgraph and backtracking.
- ❖ The search ends when perfect correlation is found between the fingerprint of the tested buyer and that of the illegally re-distributed file. If a buyer refuses to take a correlation test, the hash recorded in the transaction monitor can be used as evidence against her.

ADVANTAGES OF PROPOSED SYSTEM:

- ❖ This paper reviews the main features of the proposal suggested, highlights its main drawbacks, and suggests several significant improvements to achieve a more efficient and practical system, especially as traitor tracing is concerned, since it avoids the situations in which illegal redistributors cannot be traced with the proposal.
- ❖ Furthermore, better security properties against potentially malicious proxies are obtained.

Although the system proposed in this paper uses publickey encryption in the distribution and traitor tracing protocols, it must be taken into account that this encryption is only applied to short bit strings, such as the binary fingerprints and hashes, not to the content. The fragments of the content are encrypted using symmetric cryptography, which is much more efficient.



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Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

IMPLEMENTATION

MODULES:

1. Merchant
2. Buyers' Privacy
3. Transaction monitor
4. Database authentication attacks

MODULES DESCRIPTION:

Buyers' Privacy:

The identity of a buyer who has purchased a specific content could be revealed by a coalition of two parties: one of the proxies chosen by the buyer and the merchant (who can link her pseudonym to a real identity) or, similarly, the transaction monitor and the merchant. Better privacy could be achieved if, for example, the pseudonyms were encrypted by the proxies using the public key of the tracing authority.

Database authentication attacks:

An attacker may try to obtain the fingerprint of a buyer that is stored in the transaction monitor's database. An attacker may try to intercept the traffic between a buyer and one or more of her proxies and keep a copy of all the fragments of the content.

Transaction monitor:

It keeps a transaction register for each purchase carried out for each buyer. This transaction register includes an encrypted version of the embedded fingerprints. In case of illegal re-distribution, it participates in the tracing protocol that is used to identify the illegal re-distributor(s).

Merchant:

He distributes copies of the content legally to the seed buyers. Each fragment of the content contains a different segment of the fingerprint embedded into it. The segments have low pair-wise correlations.



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Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

INPUT DESIGN

The input design is the link between the information system and the user. It comprises the developing specification and procedures for data preparation and those steps are necessary to put transaction data in to a usable form for processing can be achieved by inspecting the computer to read data from a written or printed document or it can occur by having people keying the data directly into the system. The design of input focuses on controlling the amount of input required, controlling the errors, avoiding delay, avoiding extra steps and keeping the process simple. The input is designed in such a way so that it provides security and ease of use with retaining the privacy. Input Design considered the following things:

- What data should be given as input?
- How the data should be arranged or coded?
- The dialog to guide the operating personnel in providing input.
- Methods for preparing input validations and steps to follow when error occur.

OBJECTIVES

1. Input Design is the process of converting a user-oriented description of the input into a computer-based system. This design is important to avoid errors in the data input process and show the correct direction to the management for getting correct information from the computerized system.
2. It is achieved by creating user-friendly screens for the data entry to handle large volume of data. The goal of designing input is to make data entry easier and to be free from errors. The data entry screen is designed in such a way that all the data manipulates can be performed. It also provides record viewing facilities.
3. When the data is entered it will check for its validity. Data can be entered with the help of screens. Appropriate messages are provided as when needed so that the user will not be in maize of instant. Thus the objective of input design is to create an input layout that is easy to follow

OUTPUT DESIGN

A quality output is one, which meets the requirements of the end user and presents the information clearly. In any system results of processing are communicated to the users and to other system through outputs. In output design it is determined how the information is to be displaced for immediate need and also the hard copy output. It is the most important and direct source information to the user. Efficient and intelligent output design improves the system's relationship to help user decision-making.

1. Designing computer output should proceed in an organized, well thought out manner; the right output must be developed while ensuring that each output element is designed so that people will find the system can use easily and effectively. When analysis design computer output, they should Identify the specific output that is needed to meet the requirements.
2. Select methods for presenting information.
3. Create document, report, or other formats that contain information produced by the system. The output of an information system should accomplish one or more of the following objectives.

- ❖ Convey information about past activities, current status or projections of the
- ❖ Future.
- ❖ Signal important events, opportunities, problems, or warnings.
- ❖ Trigger an action.
- ❖ Confirm an action.



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Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

LITERATURE SURVEY

1) An efficient and fair buyer-seller fingerprinting scheme for large scale networks

AUTHORS: C.-C. Chang, H.-C. Tsai, and Y.-P. Hsieh

In digital watermarking, most existing schemes focus on the owners' copyright protection rather than protection of the customers' rights. Therefore, these schemes are unfair to legitimate customers who have no certificate to prove their right to use the watermarked digital content that they have purchased. In addition, these schemes are also unable to identify those who leak pirated copies of the watermarked digital content. To protect customers' rights and to identify the users of unauthorized copies, the fingerprinting technique is a feasible method for embedding a watermark so that content owners can identify users who have purchased the right to use the content and users who have not purchased this right. Although some fingerprinting schemes have been proposed in recent years, most of them are inefficient due to their homomorphic architecture that is based on public key cryptography. Therefore, in this paper, we propose a fair, traceable, and efficient watermarking scheme with a novel architecture. Due to the high computational complexity of the asymmetric cryptography, such as modular multiplications and exponentiations which lead much heavier burden than operations in symmetric cryptography, the proposed protocol transfers the demanding computational requirements from the buyer to a powerful server in protocol design. The proposed method can achieve these benefits: 1) the rights of legitimate buyers can be protected; 2) the proposed scheme is traceable; 3) the proposed scheme is more efficient than the previous schemes because public key cryptography is not frequently used; and 4) the buyer's anonymity can be well-protected until there is an infringement accusation.

2) Distributed multicast of fingerprinted content based on a rational peer-to-peer community

AUTHORS: J. Domingo-Ferrer and D. Megias

In conventional multicast transmission, one sender sends the same content to a set of receivers. This precludes fingerprinting the copy obtained by each receiver (in view of redistribution control and other applications). A straightforward alternative is for the sender to separately fingerprint and send in unicast one copy of the content for each receiver. This approach is not scalable and may implode the sender. We present a scalable solution for distributed multicast of fingerprinted content, in which receivers rationally co-operate in fingerprinting and spreading the content. Furthermore, fingerprinting can be anonymous, in order for honest receivers to stay anonymous.



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3) Secure logarithmic audio watermarking scheme based on the human auditory system

AUTHORS: M. Fallahpour and D. Megias

This paper proposes a high capacity audio watermarking algorithm in the logarithm domain based on the absolute threshold of hearing of the human auditory system (HAS), which makes this scheme a novel technique. When considering the fact that the human ear requires more precise samples at low amplitudes (soft sounds), the use of the logarithm helps us design a logarithmic quantization algorithm. The key idea is to divide the selected frequency band into short frames and quantize the samples based on the HAS. Using frames and the HAS improves the robustness, since embedding a secret bit into a set of samples is more reliable than embedding it into a single sample. In addition, the quantization level is adjusted according to the HAS. Apart from remarkable capacity, transparency and robustness, this scheme provides three parameters (frequency band, scale factor and frame size) which facilitate the regulation of the watermarking properties. The experimental results show that the method has a high capacity (800–7,000 bits per second), without significant perceptual distortion ($ODG > 1$) and provides robustness against common audio signal processing such as added noise, filtering and MPEG compression (MP3).

4) DNA-inspired anonymous fingerprinting for efficient peer-to-peer content distribution

AUTHORS: D. Megias and J. Domingo-Ferrer

When selling electronic content, the merchant would like each buyer to receive a different copy of the content fingerprinted with a serial number, in order to be able to trace redistributors should illegal redistribution happen. On the other hand, the merchant would like content distribution to be as scalable as possible, in order for mass transactions to be possible. Multicast content distribution fails to satisfy the first requirement: all receivers get exactly the same copy of the content, which makes it difficult to trace illegal redistributors. Unicast distribution of fingerprinted content, on the other hand, fails to satisfy the second requirement: for each buyer, the merchant needs to compute a fingerprint and establish a connection. P2P content distribution is a third option combining the strengths of multicast and unicast: the merchant needs to establish unicast connections only with a few seed buyers; on the other hand, with a suitable fingerprinting mechanism, illegal redistributors can still be identified and honest buyers can stay anonymous. We present a P2P content distribution scheme with such an anonymous fingerprinting mechanism, which is inspired in the way DNA sequences combine and spread from ancestors to descendants.



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Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

5) Privacy-aware peer-to-peer content distribution using automatically recombined fingerprints

AUTHORS: D. Megias and J. Domingo-Ferrer

Multicast distribution of content is not suited to content-based electronic commerce because all buyers obtain exactly the same copy of the content, in such a way that unlawful redistributors cannot be traced. Unicast distribution has the shortcoming of requiring one connection with each buyer, but it allows the merchant to embed a different serial number in the copy obtained by each buyer, which enables redistributor tracing. Peer-to-peer (P2P) distribution is a third option which may combine some of the advantages of multicast and unicast: on the one hand, the merchant only needs unicast connections with a few seed buyers, who take over the task of further spreading the content; on the other hand, if a proper fingerprinting mechanism is used, unlawful redistributors of the P2P-distributed content can still be traced. In this paper, we propose a novel fingerprinting mechanism for P2P content distribution which allows redistributor tracing, while preserving the privacy of most honest buyers and offering collusion resistance and buyer frame proofness.



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Hyderabad-501 401.

CONCLUSION

The use of automatic recombined fingerprints has been recently suggested in the literature [12], [13], showing remarkable advantages: the fingerprints of buyers are unknown to the merchant (achieving anonymity) and fingerprint embedding is required only for a few seed buyers, whereas the other fingerprints are automatically obtained as a recombination of segments. However, the published system has some shortcomings: 1) it requires an expensive graph search in order to identify an illegal re-distributor, 2) some innocent buyers are requested to co-operate for tracing, and 3) the P2P distribution protocol requires honest proxies. This paper shows that the co-operation of honest buyers in traitor tracing entails several relevant drawbacks that can make the published system fail under some circumstances. The improvements suggested in this paper overcome the drawbacks of [12], [13] by recording the fingerprints using multiple encryption in such a way that the graph search is replaced by a standard database search, whilst buyers' frameproofness is retained. Also, misbehaving proxies are discouraged by means of random checks by the authority and using a four-party anonymous communication protocol to prevent proxies from accessing the cleartext of the fragments of the content. The final result is a fingerprinting system that features:

- 1) efficient and scalable distribution of multimedia contents in P2P networks.
- 2) efficient traitor tracing of illegal redistributors through a standard database search.
- 3) privacy preservation and buyer frameproofness.
- 4) mutual anonymity for merchant and buyers and between peer buyers.
- 5) collusion resistance.
- 6) avoidance of fingerprint embedding except for a few seed buyers.
- 7) avoidance of (complex) homomorphic (or any type of public-key) encryption of the multimedia content. Further research can be focused on developing a proof of concept of this proposal on a real distribution scenario.



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Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

INDIAN INCOME TAX RETURN ACKNOWLEDGEMENT

[Where the data of the Return of Income in Form ITR-1 (SAHAJ), ITR-2, ITR-3,
ITR-4(SUGAM), ITR-5, ITR-6, ITR-7 filed and verified]
(Please see Rule 12 of the Income-tax Rules, 1962)

**Assessment Year
2020-21**

PAN	AAATM8546M		
Name	M.G.R.EDUCATIONAL SOCIETY		
Address	173, Mallareddy Gardens, , Bowenpally, Secunderabad, TELANGANA, 500011		
Status	AOP/BOI	Form Number	ITR-7
Filed u/s	139(1)-On'or before due date	e-Filing Acknowledgement Number	262870891150221

Taxable Income and Tax details		
Current Year business loss, if any	1	0
Total Income		0
Book Profit under MAT, where applicable	2	0
Adjusted Total Income under AMT, where applicable	3	0
Net tax payable	4	0
Interest and Fee Payable	5	0
Total tax, interest and Fee payable	6	0
Taxes Paid	7	837076
(+)Tax Payable /(-)Refundable (6-7)	8	-837080
Dividend Distribution Tax details	9	0
	10	0
	11	0
	12	0
	13	0
Accreted Income & Tax Detail	14	0
	15	0
	16	0
	17	0
	18	0
	19	0

Income Tax Return submitted electronically on 15-02-2021 18:13:25 from IP address 183.82.99.209 and verified by

GOPAL REDDY CHAMAKURA

having PAN ABJPC6525E on 15-02-2021 18:13:25 from IP address 183.82.99.209 using

Digital Signature Certificate (DSC).

DSC details: 16899782CN=e-Mudhra Sub CA for Class 2 Individual 2014,OU=Certifying Authority,O=eMudhra Consumer Services Limited,C=IN

DO NOT SEND THIS ACKNOWLEDGEMENT TO CPC, BENGALURU

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Hyderabad-501 401.

MGR EDUCATIONAL SOCIETY (CMR INSTITUTE OF TECHNOLOGY)

BALANCE SHEET AS ON 31.03.2020

LIABILITIES	AMOUNT	ASSETS	AMOUNT
GENERAL FUND	5,134,595	FIXED ASSETS	183,508,288
SUNDRY CREDITORS	6,232,922	DEPOSITS	49,820,466
OUTSTANDING LIABILITIES	375,001,474	PUR. & ADVANCES & RECEIVABLES	135,177,719
		INTER TRANSFER RECEIPTS	5,571,440
		CASH & BANK BAL.	12,291,080
	386,368,993		386,368,993

For P R Chandra & Co.
Chartered Accountants
FRN:018985S

P Ravichandra

CA P Ravichandra
Proprietor
M.No. 230754



For M.G.R. Educational Society

C. Srinivas Reddy
Secretary

S. Srinivas

Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

MGR EDUCATIONAL SOCIETY (CMR INSTITUTE OF TECHNOLOGY)

INCOME & EXPENDITURE FOR THE YEAR ENDED 31.03.2020

EXPENDITURE	AMOUNT		INCOME	AMOUNT
To Advertisement Charges	2,269,083	By	Tuition Fee	247,452,000
To AICTE Fee	150,000	By	JNTU & Admission Fee	10,392,500
To Audit Fee	354,000	By	NBA FEE	9,444,000
To Bank Charges	16,878	By	Transport Fee	18,324,000
To Books & Periodicals	263,456	By	Exam Fee Received	12,008,740
To Building Maintenance Exps	1,448,347	By	Hostel Fee	27,029,216
To Bus Hire Charges	190,847	By	Research Funds Received	4,234,000
To College Function / Festival Exps	1,718,290	By	Interest on FDR's	2,560,608
To Computer Peripherals	443,200	By	Other Receipts	2,231,164
To Convenor TSCET	40,000			
To E Journals & News Papers	1,224,800			
To Electricity Charges	3,273,059			
To Employer PF Contribution	1,119,239			
To Exam Fee & Expenses	8,743,373			
To Garden Maintenance	772,900			
To Generator Maintenance	752,797			
To Guest Faculty Remuneration	168,223			
To Hostel Expenditure	17,858,080			
To Internet Charges	300,000			
To Insurance Exps	411,437			
To JNTU Affiliation Fee	2,362,000			
To JNTU Common Service Fee	5,392,000			
To JNTU Inspection Fee	183,300			
To JNTU Ratification Fee	144,000			
To Lab Maintenance	939,857			
To Meeting & Seminars	398,823			
To Membership & Subscriptions	21,938			
To Office Maintenance	2,453,214			
To Postage & Telegrams	445,166			
To Printing & Stationary	1,127,506			
To Rates & Taxes	595,979			
To Repairs & Maintenance	841,785			
To Research & Development	5,292,197			
To Salaries & Wages	222,788,289			
To Scholarships	1,882,200			
To Security Charges	1,130,897			
To Software Exps	1,024,454			
To Sports & Games	504,608			
To Staff Development Programme	2,493,300			
To Staff Welfare	283,903			
To Student Projects & Developments	1,102,280			
To Student Welfare	303,750			
To TAFRC Fee	100,000			
To Telephone Charges	145,141			
To Training & Placement Exps	4,839,754			
To Travelling & Conveyance	211,443			
To TSCHE Fee	141,000			
To Vehicle Maintenance	5,933,781			
To Depreciation	18,838,705			
Excess of Income Over	10,236,949			
	333,676,228			

(Signature)

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Kandlakoya (V), Medchal Road,
Hyderabad-501 401.



For M.G.R. Educational Society

(Signature)
Secretary

For P R Chandra & Co.
Chartered Accountants
FRN:018985S
(Signature)
CA P Ravichandra
Proprietor
M.No.: 230754



(Signature)

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Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

333,676,228

MGR EDUCATIONAL SOCIETY (CMR INSTITUTE OF TECHNOLOGY)

BALANCE SHEET SCHEDULES AS ON 31-03-2020

GENERAL FUND:

Opening	(5,102,353)
Add: Surplus for the Year	10,236,949
	<u>5,134,595</u>

SUNDRY CREDITORS:

Aspiring Minds Common Admission Test(AM	31,851
Bhagya Lakshmi Enterprises	5,976,072
Nuvepro Technologies	53,324
Pranava Tech Solutions	31,000
Sound Line	59,000
SVA Security Services	81,675
	<u>6,232,922</u>

OUTSTANDING LIABILITIES:

Caution Deposit	2,451,000
JNTUH Affiliation Fee Payable	1,230,000
JNTUH Common Service Fee Payable	4,552,000
PF Payable	240,509
Professional Tax Payable	46,100
Salaries & Wages Payable	365,237,561
Staff Welfare Association CMRIT	78,500
TDS Payable	1,165,804
	<u>375,001,474</u>



For M.G.R. Educational Society
C. Suresh Reddy
Secretary

B. Srinivas

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CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

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BALANCE SHEET SCHEDULES AS ON 31-03-2020

DEPOSITS:

Electricity Deposit	424,109
HDFC Fixed Deposit - 50300347703659	10,268,790
HDFC Fixed Deposit - 50300350772607	2,568,213
HDFC Fixed Deposit - 50300350773001	10,576,807
HDFC Fixed Deposit - 50300350773652	2,569,240
HDFC Fixed Deposit - 50300356898950	10,565,019
HDFC Fixed Deposit - 50300356899880	2,567,402
HDFC Fixed Deposit - 50300356900710	2,568,427
HDFC Fixed Deposit - 50300356901558	2,569,454
HDFC Fixed Deposit - 50300356903120	2,570,480
HDFC Fixed Deposit - 50300358397847	2,572,526

49,820,466

PUR. & ADVANCES & RECEIVABLES:

Accrued interest	457,526
Income Tax Refundable	300,000
Research Funds Receivable	1,287,000
TDS Receivable	1,581,939
Tuition Fee Receivable	131,288,012
Sundry Debtors	263,242

135,177,719

INTER TRANSFER RECEIPTS:

CMR College of Engg & Tech.	(225,222)
CMR College of Pharmacy	5,796,662

5,571,440

CASH & BANK BALANCES:

Hdfc Bank - 16402320000160	4,001,331
Hdfc Bank - 16408640000021	2,154,417
Hdfc Bank - 50100190232243	97,130
Hdfc Bank - 50200031367880	2,016,016
ICICI Bank - 279801000244	126,212
SBI - 30532849525	3,597,175
SBI - 3898623680	24,594
Cash Balance	274,206

12,291,081



For M.G.R. Educational Society

[Signature]
Secretary

[Signature]

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Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

MGR EDUCATIONAL SOCIETY (CMR INSTITUTE OF TECHNOLOGY)

FIXED ASSETS SCHEDULE AS ON 31-03-2020 .

PARTICULARS	DEP. RATE	OP. BAL. 01-04-2019	ADDITIONS		TOTAL	DEPRECIATION	CLG. BAL. 31-03-2020
			BEF. SEP. 19	AFT. SEP 19			
LAND		10,775,310	-	-	10,775,310		10,775,310.00
BUILDINGS & CIVIL WORK	10%	103,940,267	4,002,613	1,957,489	109,900,369	10,892,162	99,008,206.91
VEHICLES	15%	14,631,655	-	1,649,766	16,281,421	1,545,654	14,735,767.47
COMPUTERS	40%	6,165,432	640,500	282,900	7,088,832	694,738	6,394,094.16
FURNITURE & FIXTURES	10%	11,735,233	197,410	426,994	12,359,637	1,214,614	11,145,022.64
GENERATOR	15%	936,768	1,950,000	-	2,886,768	288,677	2,598,090.93
LAB EQUIPMENT	15%	19,323,062	606,436	1,620,255	21,549,753	2,073,963	19,475,790.68
LIBRARY	10%	6,180,566	201,849	271,647	6,654,062	651,824	6,002,238.15
OFFICE EQUIPMENT	15%	8,369,586	1,198,215	113,035	9,680,836	962,432	8,718,404.33
SOLAR EQUIPMENT	40%	3,660,840	-	-	3,660,840	366,084	3,294,756.00
SPORTS & EQUIPMENT	15%	1,337,693	124,300	47,172	1,509,165	148,558	1,360,607.06
		187,056,413	8,921,323	6,369,258	202,346,994	18,838,705	183,508,288

W.D.V.

(Signature)

Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.



For M.G.R. Educational Society
(Signature)
Secretary

FORM NO. 10B

[See rule 17B]

Audit report under section 12A(b) of the Income-tax Act, 1961, in the case of charitable or religious trusts or institutions

I have examined the balance sheet of **M G R Educational Society**, **AAATM8546M** [name and PAN of the trust or institution] as at **31/03/2020** and the Profit and loss account for the year ended on that date which are in agreement with the books of account maintained by the said trust or institution.

I have obtained all the information and explanations which to the best of **my** knowledge and belief were necessary for the purposes of the audit. In **my** opinion, proper books of account have been kept by the head office and the branches of the abovenamed **institution** visited by **me** so far as appears from **my** examination of the books, and proper Returns adequate for the purposes of audit have been received from branches not visited by **me**, subject to the comments given below:

In **my** opinion and to the best of **my** information, and according to information given to **me**, the said accounts give a true and fair view-

(i) in the case of the balance sheet, of the state of affairs of the above named **institution** as at **31/03/2020** and

(ii) in the case of the profit and loss account, of the profit or loss of its accounting year ending on **31/03/2020**

The prescribed particulars are annexed hereto.

Place **Hyderabad**

Date **15/02/2021**

Name
Membership Number
FRN (Firm Registration Number)
Address

P. Ravichandra

230754

0018985S

8-3-677/23, 202 B, KSR Grandu

er Sri Krishna Devaraya Nagar,

Yellareddyguda Hyderabad - 5

00073



ANNEXURE

Statement of particulars

I. APPLICATION OF INCOME FOR CHARITABLE OR RELIGIOUS PURPOSES

1.	Amount of income of the previous year applied to charitable or religious purposes in India during that year (₹)	802716269
2.	Whether the institution has exercised the option under clause (2) of the Explanation to section 11(1) ? If so, the details of the amount of income deemed to have been applied to charitable or religious purposes in India during the previous year (₹)	No
3.	Amount of income accumulated or set apart for application to charitable or religious purposes, to the extent it does not exceed 15 per cent of the income derived from property held under trust wholly for such purposes. (₹)	3744556.3
4.	Amount of income eligible for exemption under section 11(1)(c) (Give details)	No
5.	Amount of income, in addition to the amount referred to in item 3 above, accumulated or set apart for specified purposes under section 11(2) (₹)	0
6.	Whether the amount of income mentioned in item 5 above has been invested or deposited in the manner laid down in section 11(2)(b) ? If so, the details thereof.	No
7.	Whether any part of the income in respect of which an option was exercised under clause (2) of the Explanation to section 11(1) in any earlier year is deemed to be income of the previous year under section 11(1B) ? If so, the details thereof (₹)	No
8.	Whether, during the previous year, any part of income accumulated or set apart for specified purposes under section 11(2) in any earlier year-	
(a)	has been applied for purposes other than charitable or religious purposes or has ceased to be accumulated or set apart for application thereto, or	No
(b)	has ceased to remain invested in any security referred to in section 11(2)(b)(i) or deposited in any account referred to in section 11(2)(b)(ii) or section 11(2)(b)(iii), or	No

(Signature)

Principal

CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

(c) has not been utilised for purposes for which it was accumulated or set apart during the period for which it was to be accumulated or set apart, or in the year immediately following the expiry thereof? If so, the details thereof	No
---	----

II. APPLICATION OR USE OF INCOME OR PROPERTY FOR THE BENEFIT OF PERSONS REFERRED TO IN SECTION 13(3)

1. Whether any part of the income or property of the institution was lent, or continues to be lent, in the previous year to any person referred to in section 13(3) (hereinafter referred to in this Annexure as such person)? If so, give details of the amount, rate of interest charged and the nature of security, if any.	No
2. Whether any part of the income or property of the institution was made, or continued to be made, available for the use of any such person during the previous year? If so, give details of the property and the amount of rent or compensation charged, if any.	No
3. Whether any payment was made to any such person during the previous year by way of salary, allowance or otherwise? If so, give details	No
4. Whether the services of the institution were made available to any such person during the previous year? If so, give details thereof together with remuneration or compensation received, if any	No
5. Whether any share, security or other property was purchased by or on behalf of the institution during the previous year from any such person? If so, give details thereof together with the consideration paid	No
6. Whether any share, security or other property was sold by or on behalf of the institution during the previous year to any such person? If so, give details thereof together with the consideration received	No
7. Whether any income or property of the institution was diverted during the previous year in favour of any such person? If so, give details thereof together with the amount of income or value of property so diverted	No
8. Whether the income or property of the institution was used or applied during the previous year for the benefit of any such person in any other manner? If so, give details	No

III. INVESTMENTS HELD AT ANY TIME DURING THE PREVIOUS YEAR(S) IN CONCERNS IN WHICH PERSONS REFERRED TO IN SECTION 13(3) HAVE A SUBSTANTIAL INTEREST

S. No	Name and address of the concern	Where the concern is a company, number and class of shares held	Nominal value of the investment(₹)	Income from the investment(₹)	Whether the amount in col. 4 exceeded 5 per cent of the capital of the concern during the previous year-say. Yes No
Total					

Place **Hyderabad**
Date **15/02/2021**

Name
Membership Number
FRN (Firm Registration Number)
Address

P. Ravichandra
P. Ravichandra
230754
0018985S
8-3-677/23, 202 B, KSR Grandu
er Sri Krishna Devaraya Nagar,
Yellareddyguda Hyderabad - 5
00073



Form Filing Details

Revision/Original	Original
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3 Satish

Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.



e-Filing *Anywhere Anytime*
Income Tax Department, Government of India

ACKNOWLEDGEMENT OF RECEIPT OF FORM (Other Than ITR)

Name	M.G.R.EDUCATIONAL SOCIETY	PAN	AAATM8546M
Form No	10B	Assessment Year	2020-21
e-Filing Acknowledgement Number	262779921150221	Date of e-Filing	15/02/2021

*For and on behalf of,
e-Filing Administrator*

(This is a computer generated Acknowledgment Receipt and needs no signature)

[Click to Print the Receipt](#)

[Click here to Close the window](#)

Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

15th November 2021

To,
The Principal,
CMR Institute of Technology,
Kandlakoya (v), Medchal Road,
Hyderabad, Telangana, India – 501401

Respected Sir,

In Reference to our discussion cited,
I am writing to inform you that our company Claro Software Solutions Pvt. Ltd. Experiencing some challenges in carrying on its Project developments although it is currently in progress. This proposal letter outlines the said project's details which have great Improvisation and benefits on a longer run. We are looking for the best support from your side positively by the end of May 2022, on these projects mentioned below, and we are also attaching project abstract along with the troubles with this letters.

Project title: “Mobile Application Development on VNR”

We hope that you will consider our request in reviving this project and allocate suitable experienced faculty to complete the project on time.

Please send us the confirmation for carrying out the project.

Yours Sincerely,
For **Claro Software Solutions Pvt Ltd,**

Ilyas,
Manager – Human Resources



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

Date: 24/11/2021

From,
The Principal,
CMR Institute of Technology
Kandlakoya(v), Medchal Road
Hyderabad, Telangana, India – 501401

To,
The Project Head,
Claro Software Solutions Pvt. Ltd
Level 1, MB Towers, Road No 10
Banjara Hills, Hyderabad
500034. Telangana.

Dear Sir,

On behalf of CMR Institute of Technology, I am pleased to inform you that the management has accepted your proposed request for solving your problem through our faculty team.

Project title: “Mobile Application Development on VNR ”

We feel that your proposal of problem statement can be handled by team of experts headed by **Mr N. Suresh** and his team. We believe that this proposal can be completed within the desired duration as mentioned by you. Hence we wish to accommodate and work on your proposal.

Deployed Team members:

Principal Investigator: Mr. N. Suresh

Associate Investigators:

- 1. Mr. V. Shiva Kumar**
- 2. Dr. K. Ruben Raju**

Regards,



Principal

CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

29th November 2021

From,
Claro Software Solutions Pvt. Ltd
Level 1, MB Towers, Road No 10
Banjara Hills, Hyderabad
500034. Telangana.

To,
The Principal,
CMR Institute of Technology,
Kandlakoya (v), Medchal Road
Hyderabad, Telangana, India – 501401

Subject: Acknowledging with the project work-Reg.

Dear Sir,

We wish to express our sincere thanks to you for accepting our project work on,

Project title: “Mobile Application Development on VNR”

And we wish to acknowledge and proceed with the project work. We, once again, would like to express my gratitude for association with our project application and undertaking the same.

Yours Sincerely,
For **Claro Software Solutions Pvt Ltd,**

Ilyas,
Manager - Human Resources



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

CIN : U72900TG2017PTC118423

Level 1, MB Towers, am@10, Road No.10, Banjara Hills, Hyderabad, Telangana 500034.

Ph: 040-66885713 | info@clarosoft.in | www.clarosoft.in

Date: 30/12/2021

From,
The Principal,
CMR Institute of Technology
Kandlakoya(v), Medchal Road
Hyderabad, Telangana, India – 501401

To,
The Project Head,
Claro Software Solutions Pvt. Ltd
Level 1, MB Towers, Road No 10
Banjara Hills, Hyderabad
500034. Telangana.

Dear Sir,

Sub: Project cost estimation for implementing the project “**Mobile Application Development on VNR**”-Reg

1. We thankfully acknowledge your enquiry and I wish to inform you that the assignment would be handled by our faculty from our institution.
2. As decided in the meeting at your organization on 29/11/2021 the project estimate is Rs.2,50,000/- .

Best regards



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

18th January 2022

To,
The Principal,
CMR Institute of Technology,
Kandlakoya (v), Medchal Road
Hyderabad, Telangana, India – 501401

Respected Sir,

Ref: Budget Proposal - CMRIT/2021 is dated on 30/12/2021.

Respected Sir,

The company has received the budget proposed for implementing the project work titled “**Mobile Application Development on VNR**”

The Budget has provided necessary cost elements associated with the project.

Herewith, the company acknowledges the total approximate budget cost of Rs.2,50,000 stated by the institution for the completion of project work.

Thanking you.

We wish him all the success in his future endeavours. info@clarosoft.in

Yours Sincerely,
For **Claro Software Solutions Pvt Ltd,**

Ilyas,
Manager – Human Resources



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

INVOICE



CMR Institute of Technology
Kandlakoya (V), Medchal Road
Hyderabad – 501 401. Telangana, India

Invoice No: CMRIT/2021-22/01

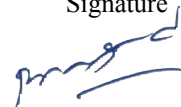
The Project Head,
Claro Software Solutions Pvt. Ltd
Level 1, MB Towers, Road No 10
Banjara Hills, Hyderabad
500034. Telangana.

Date: 16/05/2022

Sl. No.	Activity Description	Amount(Rs.)
1.	“Mobile Application Development on VNR”	2,50,000

Payment Details	
(Rupees in words) Two lakh fifty thousand only	Sub Total 2, 50,000
	TOTAL 2, 50,000

Signature


K.S.S. Prasad
Accounts Officer


Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

Date: 19.05.2022

COMPLETION STATEMENT

From,
The Principal,
CMR Institute of Technology
Kandlakoya(v), Medchal Road
Hyderabad, Telangana, India - 501401

To,
The Project Head,
Claro Software Solutions Pvt. Ltd
Level 1, MB Towers, Road No 10
Banjara Hills, Hyderabad
500034. Telangana.

Dear Sir,

Sub: Completion of the consultancy work-Reg

I am pleased to inform you that I have successfully completed the consultancy project titled:
“Mobile Application Development on VNR” during the academic year 2021-2022.

Principal Investigator: N. Suresh

Associate Investigators:

- 1. Mr. V. Shiva Kumar**
- 2. Dr. K. Ruben Raju**

Yours faithfully,

Regards,



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

A Project Report
On
MOBILE APPLICATION DEVELOPMENT ON VNR

Principal Investigator

Mr. N. Suresh

Associate Investigators

Mr. V. Shiva Kumar Dr. K. Ruben Raju



CMR INSTITUTE OF TECHNOLOGY
(An Autonomous Institution)
KANDLAKOYA, MEDCHAL ROAD, HYDERABAD-501401
A.Y:2021-2022

Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

ABSTRACT

This project can be used to identify a vehicle's license plate from pictures kept in a database (the information can be obtained from security cameras). In other words, it seeks to identify a car's license plate and then collect data about that vehicle. A government agency collects this data at motor vehicle registration in order to connect the vehicle's owner or user to the vehicle. The registration number, which is often alphanumeric, uniquely identifies the vehicle in the database of the issuing body. Depending on the country and its regulations, these number plates might have varied colors, fonts, and sizes. Automatic vehicle identification is accomplished by number plate recognition. The only way to identify a specific car is via its number plate. Real-time number plate identification is crucial for sustaining both traffic laws and law enforcement. It has numerous application locations; including border crossings, parking lots, and regions requiring high levels of protection. Number plate recognition is intended to automatically identify the number plate from a moving vehicle and then recognize the vehicle number plate. The two main components of automatic number plate recognition are:

1. Vehicle Number Plate Extraction (VNPR).
2. Optical Character Recognition (OCR).

Number plate extraction is the process of identifying a vehicle's license plate and extracting the text from it. After being normalized, the segmented characters are given to an OCR algorithm. The optical character data will finally be transformed into encoded text. Utilizing template matching, the characters are identified. The output must be a string of characters as the end product.

Keywords: Optical Character Recognition (OCR), Closed Circuit Television (CCTV), Vehicle Number Plate Extraction (VNPR), Unique Identification Number (UID).

I



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

INTRODUCTION

It has become exceedingly difficult to locate and monitor vehicles used in crimes in recent years. Because they are able to travel by public transportation or their own means of transportation from one location to another. So it is challenging to locate that individual. But these days, every place has been digitalized and is protected by CCTV. We can locate the location of that car using the area code and location ID they provided while establishing the CCTV link. In this application, we must link all of the CCTV cameras to a single database and control its entire functioning. We must utilize technology and certain machine learning approaches to detect the person or vehicle by using the car number plate because it is difficult to identify and store the information (to convert the picture file to alpha-numeric). Since they use the box filter technique, which smoothes the image by making each output pixel the average of the surrounding ones and eliminating details, noise, and edges from images, many applications that were previously introduced and put into use do not produce the best results. The process of transforming an image of text into a machine-readable text format is known as optical character recognition (OCR), and it is one of the two machine learning techniques we are introducing in this study that may yield the greatest results. Your computer will save the scan as an image file, for instance, if you scan a form or a receipt. The words in the image file cannot be edited, searched for, or counted using a text editor.) and Gaussian Blurring (carried out using the `cv.GaussianBlur()` function. The kernel's width and height should be positive and odd, respectively. Additionally, we must supply `sigmaX` and `sigmaY`, which stand for the standard deviations in the X and Y axes, respectively. `sigmaY` is assumed to be the same as `sigmaX` if only `sigmaX` is supplied. If either or both are provided as zeros, they are determined based on the kernel size. Gaussian noise can be effectively eliminated from an image using Gaussian blurring. The key distinction between the Gaussian Blur and Box Filter techniques is that Gaussian filters place more weight on the pixels that surround the central pixel. As a result, pixels located farther away have lower weights. Mean-filter, often known as a box-filter, simply takes the average of all adjacent pixels' pixel values.



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CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

LITERATURE REVIEW

This essay demonstrates how a camera initially records a video of a vehicle's license plate. This video is read by our software. During operations, a 10- to 15-second clip is used. The 10-second video consists of 240 frames, or pictures. The video is converted to frames at a frame rate of 24 fps in the second step. The final step, when frames are turned into images, is very important. The opening and closing processes are then finished. To retrieve the car number plate, image processing methods like segmentation, recognition, and localisation have been applied. A sophisticated edge detection method first identifies the image's edges. Following is the use of morphological operators. And in this way, the license plate is identified. [1].

India has a standard format for license plates that includes four distinct codes for each individual vehicle number plate, followed by two state codes, two district codes, and two more state codes. If the color of the number plate and the background are the same, mistakes may be made when locating and recognizing it. Processes including opening and shutting, erosion, and dilatation are applied to images. The assignment is divided into several pieces, including The first colorful image is taken with a camera. The picture is then converted from color to grayscale. to remove noise from an image. The segmentation method is then used to divide the quantity of plates into segments. [2].

Techniques for character segmentation and image processing are utilized to recognize number plates. Given that the high resolution camera can be used to take photos or movies, the output after receiving it as input should be clear. There are four basic steps in this system: In the first step, a video captured by the camera is input. A single standout frame or image is then selected from each of the video's frames. The region of the plate is then retrieved using the edge density and aspect ratio of two features. The segmentation procedure divides and identifies each number on the license plate. Recognition is then finalized in order to accurately and properly identify the numbers on the license plate [3].

This essay illustrates the following techniques: The first method involves preprocessing. The colored input image is changed to a grayscale version in this process, which separates the image into a set number of pixels. The next step is the detection of edges using a clever edge detector, where the edges of the image are recognized to minimize discontinuities. The input image is then dilated using a morphological operator to thicken the number so that it can be easily spotted. The segmented image is one that has been dilated. It functions as though the plate's numbers were acquired individually. The segmentation makes use of an OCR-like template matching method. Finally, the statistics are improved to get a better intended image. In order for the output to be of the highest quality possible, the camera must have a very high resolution [4].

The primary goal of this paper is to use the Restoration technique to find license plates in various environments.

The restoration process is comparable to image enhancement. Image enhancement raises the image's quality. The system used in this article operates as follows: First, a video is recorded using a camera that is fixed in place. With the aid of our software operations, the video is divided into frames after being captured. The video lasts for 10 seconds and has 240 frames or images. After being transformed from frames of video to pictures. On these photos, specific operations are carried out to extract the license plate. On the chosen, several resolution approaches are used.

Image On extracted photos, restoration and contrast enhancement are conducted in order to find number plates. Filtering with an un sharp mask is used to get rid of background noise like rain and fog. An output image including the license plate appears after the noise has been eliminated [5].



Principal

In the first step of this study, a picture is shot with a Raspberry Pi camera, video is used as input, and the acquired photographs are saved in color JPEG format. The system contains the noise. Grey processing and median filtering are employed to reduce noise. The image is transformed into a grayscale format using grey processing, and noise is eliminated using median filtering. The borders of the rectangular license plate are recognized using a bounding box, and the edge of the car is detected using an edge detector. Segmentation is completed after extraction. The characters on the license plate are divided via segmentation. To identify various characters and digits, OCR is employed. Following recognition, the characters are printed in the form of a.txt file [6].



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CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

METHODOLOGY

A security system that relies on camera surveillance must perform the critical task of recognizing a vehicle's license plate. Using some computer vision techniques, we can extract the license plate from an image, and then we can utilize optical character recognition to identify the license number. Here, I'll walk you through the entire process of doing this task. Identify every curve in the picture, each contour's boundary rectangle may be found via With an average license plate, compare and verify the sides ratio and area of each surrounding rectangle. Use image segmentation to discover characters in the image inside the verified contour. Use OCR to recognize characters.

Step 1: Original Image Captured by the CCTV

Step 2: The input image must first be gray scaled and then blurred using a Gaussian blur in order to reduce noise.

Step 3: Locate the image's vertical edges. The image must be binarized in order to disclose the plate. Apply Otsu's Thresholding to the image of the vertical edge for this. Other thresholding techniques require us to select a threshold value in order to binarize the image, whereas Otsu's Thresholding chooses the threshold value for us. On the threshold image, apply Closing Morphological Transformation. In a threshold image, closing is effective for filling in tiny black spaces between white areas. It makes the license plates rectangular, white box visible. We must locate contours in the image in order to detect the plate. Before identifying contours, it is crucial to binarize and morph the image in order for it to find a smaller number of more pertinent contours. It would appear as follows if you drew all the retrieved outlines on the original image: Next, confirm the side ratios and area of the rectangle with the smallest area that each of the contours encloses. The minimum and maximum areas of the plate have been established at 4500 and 30000, respectively. Next, locate the contours in the region that has been confirmed and verify the side ratios and area of the bounding rectangle of the largest contour there. You will obtain a beautiful license plate shape after validating. Now take that contour out of the starting picture. You will see the plate's image: Clean_plate and the ratioCheck function of the class PlateFinder carry out this procedure.

Step 4: We must use image segmentation in order to accurately recognize the characters on the license plate. The HSV format of the plate's picture must first be processed in order to retrieve the value channel. Binarize the value channel picture of the plate using adaptive thresholding to make the characters visible. Since adaptive thresholding employs different threshold values for different regions dependent on the brightness of the pixels nearby, it may be more appropriate to binarize the picture of the plate if it has varying lighting conditions in different parts of the image. Once the image has been binarized, use the bitwise not operation to identify any related image components so that we can extract character candidates. Create a mask that displays every aspect of the character, and then look for contours in the mask. Take the largest contour after the contours have been extracted, identify its bounding rectangle, and check the side ratios. Locate the convex hull of the contour and draw it on the character candidate mask after the side ratios have been verified. Locate every contour in the character candidate mask, and then extract those contour areas from the value threshold picture of the plate. This will give you every character separately.

Step 5: In the end, we will store the information in our database. If a vehicle makes a mistake on our property, we must input the vehicle's number so that CCTV equipment can locate the vehicle's location. So, by utilizing this program, we can quickly identify and resolve any concerns and reduce crime in our nation.



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CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

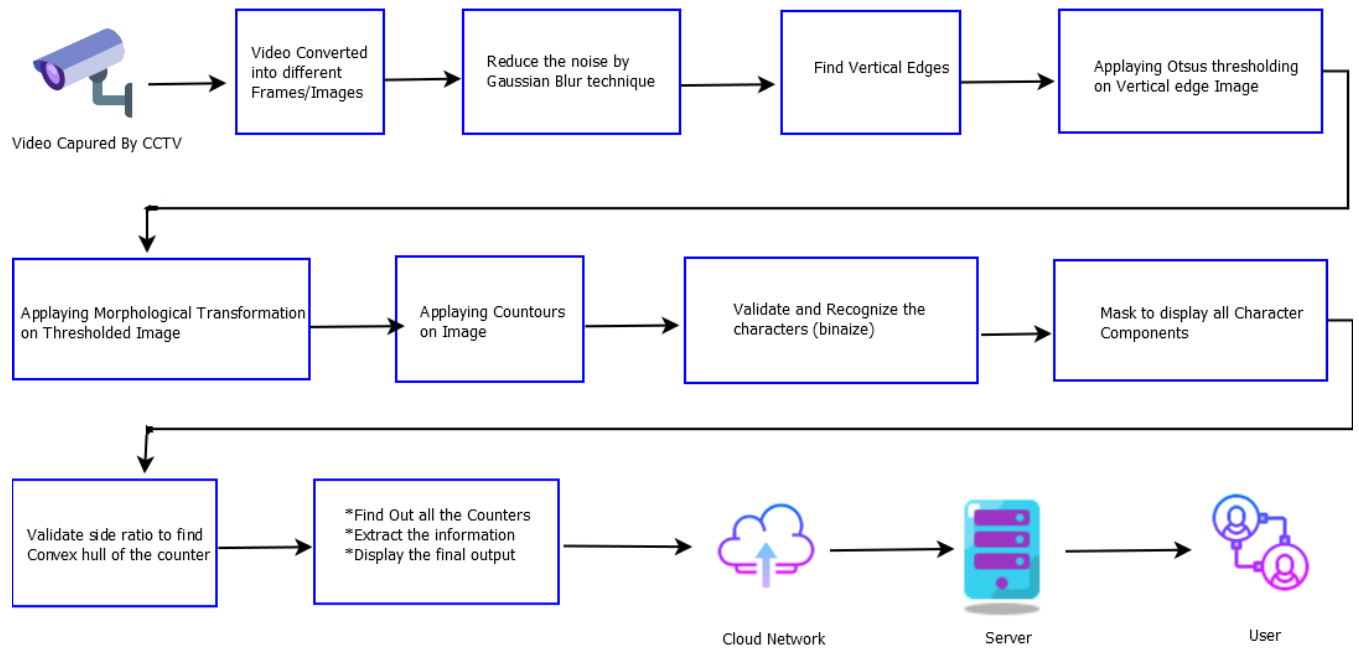



Figure: Block Diagram of Proposed approach


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 Kandlakoya (V), Medchal Road,
 Hyderabad-501 401.

IMPLEMENTATION

VANPR technology has become increasingly popular in recent years as a result of its numerous advantages for a variety of applications. A few benefits of ANPR include the ability to identify the vehicles implicated in crimes, traffic management, intelligent parking, toll automation, intelligent transportation systems in smart cities, and journey time analysis.

Automatic Number Plate Recognition (ANPR) is a technique that reads a vehicle's registration number from photographs of its license plate using optical character recognition. To swiftly and automatically identify vehicles in still photos or live video from one or more cameras, automatic license plate recognition system uses several image processing techniques. If we use this program, we can minimize both traffic and security issues.



Principal

CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

DISCUSSION

EXISTING SYSTEM

In the current system, it is quite difficult to locate the car used in a crime, but many large cities are deploying CCTV cameras to defend their cities. High definition cameras are now being used, but they are all connected to a single server, so automatically recording is taking place. If there is a problem or difficulty, we have to inspect it manually, which takes a lot of time. for instance, it takes longer and requires manual verification if you want to check any vehicles that have been used in crimes.

PROPOSED SYSTEM

In the suggested method, we make use of CCTV material that has been cut up into several kinds of frames. To identify the car that was used in the crime on those frames, we are employing machine learning techniques. We can also control traffic in big cities. In this system, we employ methods including segmentation, vehicle number plate extraction, and optical character recognition. Using the aforementioned method, we can locate and administer the system and get the best outcomes. By using this method, we can offer additional protection, simply identify the vehicles used in crime, and do so with less staff.



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CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

CONCLUSION

With the help of this application, people will be more secure and the nation's security environment will be maintained. We are using the Python programming language and new machine learning methods to create this application in order to reduce the amount of manpower required and the image noise. This program gives handlers additional time savings and security.

FUTURE EXTENSION

Since ensuring people's security is a never-ending process, we can employ this methodology and connect our service to mobile platforms (such as Android, IOS, or others). Because everyone uses a cell phone these days, it is tremendously beneficial to society. If a problem arises, they may quickly resolve it by utilizing their device.



Principal

CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

MGR EDUCATIONAL SOCIETY (CMR INSTITUTE OF TECHNOLOGY)

BALANCE SHEET AS ON 31.03.2021

LIABILITIES	AMOUNT	ASSETS	AMOUNT
GENERAL FUND	3,15,06,219	FIXED ASSETS	18,48,53,779
SUNDRY CREDITORS	64,27,749	DEPOSITS	8,87,50,622
OUTSTANDING LIABILITIES	42,91,50,747	PUR, ADV & RECEIVABLES	17,43,23,411
		INTER TRANSFER RECEIPTS	1,38,57,697
		CASH & BANK BAL.	52,99,205
	<u>46,70,84,714</u>		<u>46,70,84,714</u>

For P R Chandra & Co.
Chartered Accountants
FRN: 0189856

P.R. Chandra

CA P Ravichandra
Proprietor
M.No: 230754



For M.G.R. Educational Society

C. Ravi Ruddy
Secretary

S. Satyan

Principal

CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

MGR EDUCATIONAL SOCIETY (CMR INSTITUTE OF TECHNOLOGY)


INCOME & EXPENDITURE FOR THE YEAR ENDED 31.03.2021

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To Advertisement Charges	18,65,122	By Tuition Fee	28,30,10,000
To Bank Charges	485	By JNTU & Admission Fee	1,15,36,500
To Books & Periodicals	3,32,801	By NBA FEE	89,25,000
To Building Maintenance Exps	16,71,603	By Transport Fee	78,97,000
To College Function / Festival Exps	9,22,700	By Exam Fee Received	1,24,04,105
To Computer Peripherals	3,82,112	By Hostel Fee	90,29,200
To Consultancy Charges	10,75,000	By Interest on FDR's	30,84,881
To Conference Exps	1,25,985	By Research Funds Received	21,68,422
To Convenor TSCET	2,02,400	By Non Govt Funds	3,16,000
To Covid -19 Donotion	6,00,000	By Consultancy Project Receipts	36,48,700
To E Journals & News Papers	11,44,500	By Other Receipts	27,61,233
To Electricity Charges	9,62,689		
To Employer PF Contribution	9,48,882		
To Exam Fee & Expenses	30,94,484		
To Garden Maintenance	8,53,575		
To Generator Maintenance	4,89,521		
To Guest Faculty Remuneration	2,30,400		
To Hostel Expenditure	54,22,680		
To Internet Charges	2,34,534		
To JNTU Affiliation Fee	14,10,000		
To JNTU Common Service Fee	46,79,500		
To JNTU Inspection Fee	1,35,300		
To Lab Maintenance	7,11,892		
To Meeting & Seminars	2,79,900		
To Membership & Subscriptions	41,995		
To Office Maintenance	20,76,754		
To Postage & Telegrams	2,58,991		
To Printing & Stationary	4,00,725		
To Rates & Taxes	9,65,084		
To Repairs & Maintenance	9,03,860		
To Research & Development	39,54,300		
To Salaries & Wages	23,83,59,361		
To Scholarships	67,40,000		
To Security Charges	6,25,247		
To Software Exps	4,73,769		
To Sports & Games	1,68,000		
To Staff Development Programme	13,44,300		
To Staff Welfare	1,60,200		
To Student Projects & Developments	18,65,650		
To Student Welfare	1,12,079		
To Telephone Charges	2,36,180		
To Training & Placement Exps	44,48,669		
To Transport Charges	60,700		
To Travelling & Conveyance	1,36,958		
To TSCHE Fee	3,11,611		
To Vehicle Insurance	9,91,680		
To Vehicle Maintenance	27,09,426		
To Workshop Expenses	3,15,764		
To Depreciation	2,29,72,050		

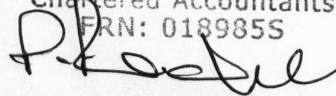
**Excess of Income Over
Expenditure**

2,63,71,624

34,47,81,041

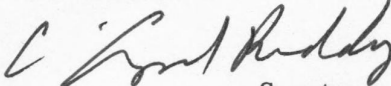

Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401

34,47,81,041

For P R Chandra & Co.
Chartered Accountants
FRN: 018985S

CA P Ravichandra
Proprietor
M.No: 230754



For M.G.R. Educational Society


Secretary

MGR EDUCATIONAL SOCIETY (CMR INSTITUTE OF TECHNOLOGY)

BALANCE SHEET SCHEDULES AS ON 31.03.2021

GENERAL FUND:

Opening	51,34,595
Add: Surplus for the Year	2,63,71,624

3,15,06,219

SUNDRY CREDITORS:

Bhagya Lakshmi Enterprises	60,18,322
Nuvepro Technologies	38,369
Sree Ravikiran Electricals	48,250
SSR Subscription Agency	31,066
SVA Security Services	78,742
Syed Mohituddin	28,000
Triumphant Training Solutions	1,85,000

64,27,749

OUTSTANDING LIABILITIES:

Caution Deposit	26,63,000
JNTUH Affiliation Fee Payable	14,10,000
JNTUH Common Service Fee Payable	46,79,500
PF Payable	1,42,726
Professional Tax Payable	50,400
Salaries & Wages Payable	41,24,84,385
Scholarships Payable	58,00,512
Staff Welfare Association CMRIT	77,800
TDS Payable	18,42,424

42,91,50,747



For M.G.R. Educational Society

[Signature]
Secretary

[Signature]

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CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

MGR EDUCATIONAL SOCIETY (CMR INSTITUTE OF TECHNOLOGY)

BALANCE SHEET SCHEDULES AS ON 31.03.2021

DEPOSITS:

ELECTRICITY DEPOSIT	4,53,269
HDFC FIXED DEPOSIT - 50300451904470	50,00,000
HDFC FIXED DEPOSIT - 50300451923586	51,03,465
HDFC FIXED DEPOSIT - 50300451924741	51,03,465
HDFC FIXED DEPOSIT - 50300454464996	50,00,000
HDFC FIXED DEPOSIT - 50300454470667	51,03,483
HDFC FIXED DEPOSIT - 50300454471670	51,03,483
HDFC FIXED DEPOSIT - 50300462677819	51,01,841
HDFC FIXED DEPOSIT - 50300467147274	25,25,585
HDFC FIXED DEPOSIT - 50300467148008	25,25,585
HDFC FIXED DEPOSIT - 50300467148698	25,25,585
HDFC FIXED DEPOSIT - 50300474081630	50,51,215
HDFC FIXED DEPOSIT - 50300474082669	50,51,215
HDFC FIXED DEPOSIT - 50300474088740	50,51,215
HDFC FIXED DEPOSIT - 50300474091375	25,25,608
HDFC FIXED DEPOSIT - 50300474092098	25,25,608
HDFC FIXED DEPOSIT - 50300492161782	50,00,000
HDFC FIXED DEPOSIT - 50300492169741	1,00,00,000
HDFC FIXED DEPOSIT - 50300492170334	1,00,00,000

8,87,50,622

PUR. & ADVANCES & RECEIVABLES:

Accured interest	4,39,721
Advance to Suppliers	19,34,350
Research Funds Receivable	4,45,964
TCS Receivable	11,514
TDS Receivable	2,38,979
Tuition Fee Receivable	17,12,52,883

17,43,23,411

INTER TRANSFER RECEIPTS:

CMR College of Engg & Tech.	80,61,035
CMR College of Pharmacy	57,96,662

1,38,57,697

CASH & BANK BALANCES:

Hdfc Bank - 16402320000160	7,576
Hdfc Bank - 16408640000021	8,23,216
Hdfc Bank - 50100190232243	16,28,023
Hdfc Bank - 50200031367880	8,15,452
ICICI Bank - 279801000244	3,37,726
SBI - 30532849525	10,76,565
SBI - 3898623680	1,71,381
Cash Balance	4,39,269

52,99,206



For M.G.R. Educational Society

[Signature]
Secretary

[Signature]

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CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

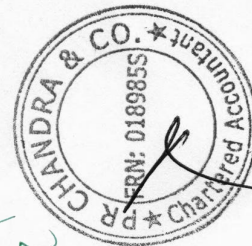
MGR EDUCATIONAL SOCIETY (CMR INSTITUTE OF TECHNOLOGY)

FIXED ASSETS SCHEDULE AS ON 31.03.2021

PARTICULARS	DEP. RATE	OP.BAL.		ADDITIONS		TOTAL	DEPRECIATION	CLG.BAL. 31-03-2021
		01-04-2020	31-03-2021	BEF.SEP.20	AFT.SEP20			
LAND		1,07,75,310		-		1,07,75,310	-	1,07,75,310
BUILDINGS & CIVIL WORK	10%	9,90,08,207	12,68,104	2,03,51,739		12,06,28,050	1,10,45,218	10,95,82,832
VEHICLES	15%	1,35,47,835				1,35,47,835	20,32,175	1,15,15,660
COMPUTERS	40%	36,43,450		67,25,040		1,03,68,490	28,02,388	75,66,102
FURNITURE & FIXTURES	10%	1,11,45,023		16,62,026		1,28,07,049	11,97,604	1,16,09,445
GENERATOR	15%	24,09,516				24,09,516	3,61,427	20,48,089
LAB EQUIPMENT	15%	1,75,72,646	2,00,000	10,21,014		1,87,93,660	27,42,473	1,60,51,187
LIBRARY	10%	60,02,238		60,254		60,62,492	6,03,237	54,59,256
OFFICE EQUIPMENT	15%	78,44,347	13,19,373	5,38,922		97,02,642	14,14,977	82,87,665
SOLAR EQUIPMENT	40%	14,64,336				14,64,336	5,85,734	8,78,602
SPORTS & EQUIPMENT	15%	12,24,443		42,006		12,66,449	1,86,817	10,79,632
		17,46,37,351	27,87,477	3,04,01,001		20,78,25,829	2,29,72,050	18,48,53,779

[Signature]

Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.



For M.G.R. Educational Society



[Signature]
Secretary

08th August 2022

To,
The Principal,
CMR Institute of Technology,
Kandlakoya (v), Medchal Road,
Hyderabad, Telangana, India – 501401

Respected Sir,

In Reference to our discussion cited,
I am writing to inform you that our company Claro Software Solutions Pvt. Ltd. Experiencing some challenges in carrying on its Project developments although it is currently in progress. This proposal letter outlines the said project's details which have great Improvisation and benefits on a longer run. We are looking for the best support from your side positively by the end of May 2023, on these projects mentioned below, and we are also attaching project abstract along with the troubles with this letters.

Project title: “A Cloud-Based Safe Anti-Collusion Data Sharing System for Adaptive Groups”

We hope that you will consider our request in reviving this project and allocate suitable experienced faculty to complete the project on time.

Please send us the confirmation for carrying out the project.

Yours Sincerely,
For **Claro Software Solutions Pvt Ltd,**

Ilyas,
Manager – Human Resources



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

Date: 17/08/2022

From,
The Principal,
CMR Institute of Technology
Kandlakoya(v), Medchal Road
Hyderabad, Telangana, India – 501401

To,
The Project Head,
Claro Software Solutions Pvt. Ltd
Level 1, MB Towers, Road No 10
Banjara Hills, Hyderabad
500034. Telangana.

Dear Sir,

On behalf of CMR Institute of Technology, I am pleased to inform you that the management has accepted your proposed request for solving your problem through our faculty team.

Project title: “A Cloud-Based Safe Anti-Collusion Data Sharing System for Adaptive Groups”

We feel that your proposal of problem statement can be handled by team of experts headed by **Dr. L. Arokia Jesu Prabhu** and his team. We believe that this proposal can be completed within the desired duration as mentioned by you. Hence we wish to accommodate and work on your proposal.

Deployed Team members:

Principal Investigator: Dr. L. Arokia Jesu Prabhu.

Associate Investigators:

- 1. Mr. N. Suresh**
- 2. Dr. K. Ruben Raju**

Regards,



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

26th August 2022

From,
Claro Software Solutions Pvt. Ltd
Level 1, MB Towers, Road No 10
Banjara Hills, Hyderabad
500034. Telangana.

To,
The Principal,
CMR Institute of Technology,
Kandlakoya (v), Medchal Road
Hyderabad, Telangana, India – 501401

Subject: Acknowledging with the project work-Reg.

Dear Sir,

We wish to express our sincere thanks to you for accepting our project work on,

Project title: “A Cloud-Based Safe Anti-Collusion Data Sharing System for Adaptive Groups”

And we wish to acknowledge and proceed with the project work. We, once again, would like to express my gratitude for association with our project application and undertaking the same.

Yours Sincerely,
For **Claro Software Solutions Pvt Ltd,**

Ilyas,
Manager – Human Resources



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

Date: 06/09/2022

From,
The Principal,
CMR Institute of Technology
Kandlakoya(v), Medchal Road
Hyderabad, Telangana, India – 501401

To,
The Project Head,
Claro Software Solutions Pvt. Ltd
Level 1, MB Towers, Road No 10
Banjara Hills, Hyderabad
500034. Telangana.

Dear Sir,

Sub: Project cost estimation for implementing the project “A Cloud-Based Safe Anti-Collusion Data Sharing System for Adaptive Groups”-Reg

1. We thankfully acknowledge your enquiry and I wish to inform you that the assignment would be handled by our faculty from our institution.
2. As decided in the meeting at your organization on 26/08/2022 the project estimate is Rs.2,60,000/-

Best regards



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

12th October 2022

To,
The Principal,
CMR Institute of Technology,
Kandlakoya (v), Medchal Road
Hyderabad, Telangana, India – 501401

Respected Sir,

Ref: Budget Proposal - CMRIT/2022 dated on 06/09/2022.

Respected Sir,

The company has received the budget proposed for implementing the project work titled “**A Cloud-Based Safe Anti-Collusion Data Sharing System for Adaptive Groups**”

The Budget has provided necessary cost elements associated with the project.

Herewith, the company acknowledges the total approximate budget cost of Rs.2,60,000 stated by the institution for the completion of project work.

Thanking you.

We wish him all the success in his future endeavours. info@clarosoft.in

Yours Sincerely,
For **Claro Software Solutions Pvt Ltd,**

Ilyas,
Manager – Human Resources



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

INVOICE



CMR Institute of Technology
Kandlakoya (V), Medchal Road
Hyderabad – 501 401. Telangana, India

Invoice No: CMRIT/2022-23/01

The Project Head,
Claro Software Solutions Pvt. Ltd
Level 1, MB Towers, Road No 10
Banjara Hills, Hyderabad
500034. Telangana.

Date: 17/05/2023

Sl. No.	Activity Description	Amount(Rs.)
1.	“A Cloud-Based Safe Anti-Collusion Data Sharing System for Adaptive Groups”	2,60,000

Payment Details	
(Rupees in words) Two lakh sixty thousand only	Sub Total 2,60,000
	TOTAL 2,60,000

Signature

K.S.S. Prasad
K.S.S. Prasad
Accounts Officer

Date: 21.05.2023

COMPLETION STATEMENT

From,
The Principal,
CMR Institute of Technology
Kandlakoya(v), Medchal Road
Hyderabad, Telangana, India – 501401

To,
The Project Head,
Claro Software Solutions Pvt. Ltd
Level 1, MB Towers, Road No 10
Banjara Hills, Hyderabad
500034. Telangana.

Dear Sir,

Sub: Completion of the consultancy work-Reg

I am pleased to inform you that I have successfully completed the consultancy project titled: “A Secure Anti-Collusion Data Sharing Scheme for Dynamic Groups in the Cloud” during the academic year 2022-2023.

Principal Investigator: Dr. L. Arokia Jesu Prabhu

Associate Investigators:

1. Mr. N. Suresh
2. Dr. K. Ruben Raju

Yours faithfully,

Regards,


Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

A Project Report
On
A CLOUD-BASED SAFE ANTI-COLLUSION DATA SHARING
SYSTEM FOR ADAPTIVE GROUPS

Principal Investigator
Dr. L. Arokia Jesu Prabhu

Associate Investigators
Mr. N. Suresh Dr. K. Ruben Raju



CMR INSTITUTE OF TECHNOLOGY
(An Autonomous Institution)
KANDLAKOYA, MEDCHAL ROAD, HYDERABAD-501401
A.Y:2022-2023



Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

ABSTRACT

Benefited from cloud computing, users can achieve an effective and economical approach for data sharing among group members in the cloud with the characters of low maintenance and little management cost. Meanwhile, we must provide security guarantees for the sharing data files since they are outsourced. Unfortunately, because of the frequent change of the membership, sharing data while providing privacy-preserving is still a challenging issue, especially for an untrusted cloud due to the collusion attack. Moreover, for existing schemes, the security of key distribution is based on the secure communication channel, however, to have such channel is a strong assumption and is difficult for practice. In this paper, we propose a secure data sharing scheme for dynamic members. Firstly, we propose a secure way for key distribution without any secure communication channels, and the users can securely obtain their private keys from group manager. Secondly, our scheme can achieve fine-grained access control, any user in the group can use the source in the cloud and revoked users cannot access the cloud again after they are revoked. Thirdly, we can protect the scheme from collusion attack, which means that revoked users cannot get the original data file even if they conspire with the untrusted cloud. In our approach, by leveraging polynomial function, we can achieve a secure user revocation scheme. Finally, our scheme can achieve fine efficiency, which means previous users need not to update their private keys for the situation either a new user joins in the group or a user is revoked from the group.

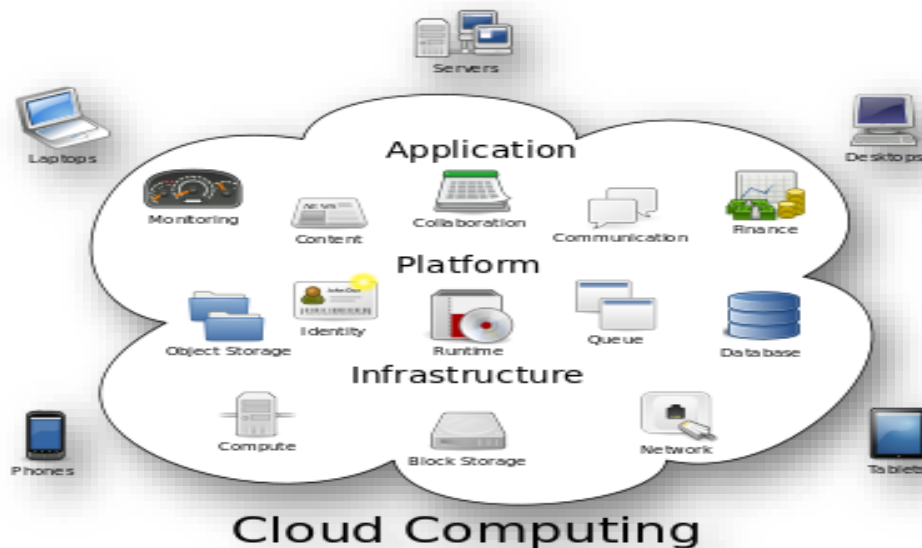


Principal
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INTRODUCTION

What is cloud computing?

Cloud computing is the use of computing resources (hardware and software) that are delivered as a service over a network (typically the Internet). The name comes from the common use of a cloud-shaped symbol as an abstraction for the complex infrastructure it contains in system diagrams. Cloud computing entrusts remote services with a user's data, software and computation. Cloud computing consists of hardware and software resources made available on the Internet as managed third-party services. These services typically provide access to advanced software applications and high-end networks of server computers.



Structure of cloud computing

How Cloud Computing Works?

The goal of cloud computing is to apply traditional supercomputing, or high-performance computing power, normally used by military and research facilities, to perform tens of trillions of computations per second, in consumer-oriented applications such as financial portfolios, to deliver personalized information, to provide data storage or to power large, immersive computer games.

The cloud computing uses networks of large groups of servers typically running low-cost consumer PC technology with specialized connections to spread data-processing chores across them. This shared IT infrastructure contains large pools of systems that are linked together. Often, virtualization techniques are used to maximize the power of cloud computing.

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Characteristics and Services Models:

The salient characteristics of cloud computing based on the definitions provided by the National Institute of Standards and Terminology (NIST) are outlined below:

- **On-demand self-service:** A consumer can unilaterally provision computing capabilities, such as server time and network storage, as needed automatically without requiring human interaction with each service's provider.
- **Broad network access:** Capabilities are available over the network and accessed through standard mechanisms that promote use by heterogeneous thin or thick client platforms (e.g., mobile phones, laptops, and PDAs).
- **Resource pooling:** The provider's computing resources are pooled to serve multiple consumers using a multi-tenant model, with different physical and virtual resources dynamically assigned and reassigned according to consumer demand. There is a sense of location-independence in that the customer generally has no control or knowledge over the exact location of the provided resources but may be able to specify location at a higher level of abstraction (e.g., country, state, or data center). Examples of resources include storage, processing, memory, network bandwidth, and virtual machines.
- **Rapid elasticity:** Capabilities can be rapidly and elastically provisioned, in some cases automatically, to quickly scale out and rapidly released to quickly scale in. To the consumer, the capabilities available for provisioning often appear to be unlimited and can be purchased in any quantity at any time.
- **Measured service:** Cloud systems automatically control and optimize resource use by leveraging a metering capability at some level of abstraction appropriate to the type of service (e.g., storage, processing, bandwidth, and active user accounts). Resource usage can be managed, controlled, and reported providing transparency for both the provider and consumer of the utilized service.

5 Essential Characteristics of Cloud Computing



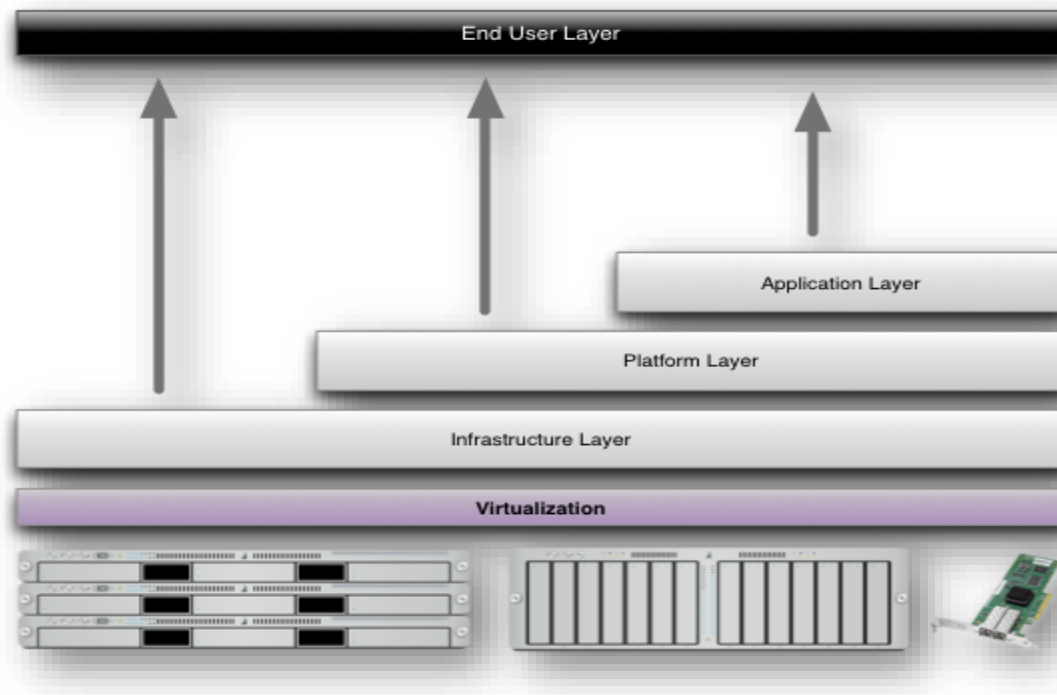
jpinfotech.org

Characteristics of cloud computing

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Hyderabad-501 401.

Services Models:

Cloud Computing comprises three different service models, namely Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS), and Software-as-a-Service (SaaS). The three service models or layer are completed by an end user layer that encapsulates the end user perspective on cloud services. The model is shown in figure below. If a cloud user accesses services on the infrastructure layer, for instance, she can run her own applications on the resources of a cloud infrastructure and remain responsible for the support, maintenance, and security of these applications herself. If she accesses a service on the application layer, these tasks are normally taken care of by the cloud service provider.



Structure of service models

Benefits of cloud computing:

1. **Achieve economies of scale** – increase volume output or productivity with fewer people. Your cost per unit, project or product plummets.
2. **Reduce spending on technology infrastructure.** Maintain easy access to your information with minimal upfront spending. Pay as you go (weekly, quarterly or yearly), based on demand.
3. **Globalize your workforce on the cheap.** People worldwide can access the cloud, provided they have an Internet connection.
4. **Streamline processes.** Get more work done in less time with less people.
5. **Reduce capital costs.** There's no need to spend big money on hardware, software or licensing fees.
6. **Improve accessibility.** You have access anytime, anywhere, making your life so much easier!
7. **Monitor projects more effectively.** Stay within budget and ahead of completion cycle times.
8. **Less personnel training is needed.** It takes fewer people to do more work on a cloud, with a minimal learning curve on hardware and software issues.

Principal

9. **Minimize licensing new software.** Stretch and grow without the need to buy expensive software licenses or programs.
10. **Improve flexibility.** You can change direction without serious “people” or “financial” issues at stake.

Advantages:

1. **Price:** Pay for only the resources used.
2. **Security:** Cloud instances are isolated in the network from other instances for improved security.
3. **Performance:** Instances can be added instantly for improved performance. Clients have access to the total resources of the Cloud’s core hardware.
4. **Scalability:** Auto-deploy cloud instances when needed.
5. **Uptime:** Uses multiple servers for maximum redundancies. In case of server failure, instances can be automatically created on another server.
6. **Control:** Able to login from any location. Server snapshot and a software library lets you deploy custom instances.

Traffic: Deals with spike in traffic with quick deployment of additional instances to handle the load.



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SYSTEM STUDY

FEASIBILITY STUDY

The feasibility of the project is analyzed in this phase and business proposal is put forth with a very general plan for the project and some cost estimates. During system analysis the feasibility study of the proposed system is to be carried out. This is to ensure that the proposed system is not a burden to the company. For feasibility analysis, some understanding of the major requirements for the system is essential.

Three key considerations involved in the feasibility analysis are

- ◆ ECONOMICAL FEASIBILITY
- ◆ TECHNICAL FEASIBILITY
- ◆ SOCIAL FEASIBILITY

ECONOMICAL FEASIBILITY

This study is carried out to check the economic impact that the system will have on the organization. The amount of fund that the company can pour into the research and development of the system is limited. The expenditures must be justified. Thus the developed system as well within the budget and this was achieved because most of the technologies used are freely available. Only the customized products had to be purchased.

TECHNICAL FEASIBILITY

This study is carried out to check the technical feasibility, that is, the technical requirements of the system. Any system developed must not have a high demand on the available technical resources. This will lead to high demands on the available technical resources. This will lead to high demands being placed on the client. The developed system must have a modest requirement, as only minimal or null changes are required for implementing this system.

SOCIAL FEASIBILITY

The aspect of study is to check the level of acceptance of the system by the user. This includes the process of training the user to use the system efficiently. The user must not feel threatened by the system, instead must accept it as a necessity. The level of acceptance by the users solely depends on the methods that are employed to educate the user about the system and to make him familiar with it. His level of confidence must be raised so that he is also able to make some constructive criticism, which is welcomed, as he is the final user of the system.



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Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

SYSTEM REQUIREMENTS:

HARDWARE REQUIREMENTS:

- System : Pentium IV 2.4 GHz.
- Hard Disk : 40 GB.
- Floppy Drive : 1.44 Mb.
- Monitor : 15 VGA Colour.
- Mouse : Logitech.
- Ram : 512 Mb.

SOFTWARE REQUIREMENTS:

- Operating system : - Windows XP.
 - Coding Language: J2EE
- Data Base : MYSQL



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SYSTEM ANALYSIS

EXISTING SYSTEM:

- Kallahalla et al presented a cryptographic storage system that enables secure data sharing on untrustworthy servers based on the techniques that dividing files into file groups and encrypting each file group with a file-block key.
- Yu et al exploited and combined techniques of key policy attribute-based encryption, proxy re-encryption and lazy re-encryption to achieve fine-grained data access control without disclosing data contents.

DISADVANTAGES OF EXISTING SYSTEM:

- The file-block keys need to be updated and distributed for a user revocation; therefore, the system had a heavy key distribution overhead.
- The complexities of user participation and revocation in these schemes are linearly increasing with the number of data owners and the revoked users.
- The single-owner manner may hinder the implementation of applications, where any member in the group can use the cloud service to store and share data files with others.

PROPOSED SYSTEM:

- ❖ In this paper, we propose a secure data sharing scheme, which can achieve secure key distribution and data sharing for dynamic group.
- ❖ We provide a secure way for key distribution without any secure communication channels. The users can securely obtain their private keys from group manager without any Certificate Authorities due to the verification for the public key of the user.
- ❖ Our scheme can achieve fine-grained access control, with the help of the group user list, any user in the group can use the source in the cloud and revoked users cannot access the cloud again after they are revoked.
- ❖ We propose a secure data sharing scheme which can be protected from collusion attack. The revoked users can not be able to get the original data files once they are revoked even if they conspire with the untrusted cloud. Our scheme can achieve secure user revocation with the help of polynomial function.
- ❖ Our scheme is able to support dynamic groups efficiently, when a new user joins in the group or a user is revoked from the group, the private keys of the other users do not need to be recomputed and updated.
- ❖ We provide security analysis to prove the security of our scheme.



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ADVANTAGES OF PROPOSED SYSTEM:

- ✓ The computation cost is irrelevant to the number of revoked users in RBAC scheme. The reason is that no matter how many users are revoked, the operations for members to decrypt the data files almost remain the same.
- ✓ The cost is irrelevant to the number of the revoked users. The reason is that the computation cost of the cloud for file upload in our scheme consists of two verifications for signature, which is irrelevant to the number of the revoked users. The reason for the small computation cost of the cloud in the phase of file upload in RBAC scheme is that the verifications between communication entities are not concerned in this scheme.

In our scheme, the users can securely obtain their private keys from group manager Certificate Authorities and secure communication channels. Also, our scheme is able to support dynamic groups efficiently, when a new user joins in the group or a user is revoked from the group, the private keys of the other users do not need to be recomputed and updated.



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LITERATURE SURVEY

1 “Oruta: Privacy-Preserving Public Auditing for Shared Data in the Cloud,”

AUTHORS: B. Wang, B. Li, and H. Li,

With cloud data services, it is commonplace for data to be not only stored in the cloud, but also shared across multiple users. Unfortunately, the integrity of cloud data is subject to skepticism due to the existence of hardware/software failures and human errors. Several mechanisms have been designed to allow both data owners and public verifiers to efficiently audit cloud data integrity without retrieving the entire data from the cloud server. However, public auditing on the integrity of shared data with these existing mechanisms will inevitably reveal confidential information-identity privacy-to public verifiers. In this paper, we propose a novel privacy-preserving mechanism that supports public auditing on shared data stored in the cloud. In particular, we exploit ring signatures to compute verification metadata needed to audit the correctness of shared data. With our mechanism, the identity of the signer on each block in shared data is kept private from public verifiers, who are able to efficiently verify shared data integrity without retrieving the entire file. In addition, our mechanism is able to perform multiple auditing tasks simultaneously instead of verifying them one by one. Our experimental results demonstrate the effectiveness and efficiency of our mechanism when auditing shared data integrity.

2. “Security Challenges for the Public Cloud,”

AUTHORS: K. Ren, C. Wang, and Q. Wang,

In this talk, I will first discuss a number of pressing security challenges in Cloud Computing, including data service outsourcing security and secure computation outsourcing. Then, I will focus on data storage security in Cloud Computing. As one of the primitive services, cloud storage allows data owners to outsource their data to cloud for its appealing benefits. However, the fact that owners no longer have physical possession of the outsourced data raises big security concerns on the storage correctness. Hence, enabling secure storage auditing in the cloud environment with new approaches becomes imperative and challenging. In this talk, I will present our recent research efforts towards storage outsourcing security in cloud computing and describe both our technical approaches and security & performance evaluations.



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3. “Privacy-Preserving Public Auditing for Data Storage Security in Cloud Computing,”

AUTHORS: C. Wang, Q. Wang, K. Ren, and W. Lou

Cloud computing is the long dreamed vision of computing as a utility, where users can remotely store their data into the cloud so as to enjoy the on-demand high quality applications and services from a shared pool of configurable computing resources. By data outsourcing, users can be relieved from the burden of local data storage and maintenance. However, the fact that users no longer have physical possession of the possibly large size of outsourced data makes the data integrity protection in Cloud Computing a very challenging and potentially formidable task, especially for users with constrained computing resources and capabilities. Thus, enabling public audit ability for cloud data storage security is of critical importance so that users can resort to an external audit party to check the integrity of outsourced data when needed. To securely introduce an effective third party auditor (TPA), the following two fundamental requirements have to be met: 1) TPA should be able to efficiently audit the cloud data storage without demanding the local copy of data, and introduce no additional on-line burden to the cloud user; 2) The third party auditing process should bring in no new vulnerabilities towards user data privacy. In this paper, we utilize and uniquely combine the public key based homomorphic authenticator with random masking to achieve the privacy-preserving public cloud data auditing system, which meets all above requirements. To support efficient handling of multiple auditing tasks, we further explore the technique of bilinear aggregate signature to extend our main result into a multi-user setting, where TPA can perform multiple auditing tasks simultaneously. Extensive security and performance analysis shows the proposed schemes are provably secure and highly efficient.

4. “Computing Encrypted Cloud Data Efficiently under Multiple Keys,”

AUTHORS: B. Wang, M. Li, S.S. Chow, and H. Li,

The emergence of cloud computing brings users abundant opportunities to utilize the power of cloud to perform computation on data contributed by multiple users. These cloud data should be encrypted under multiple keys due to privacy concerns. However, existing secure computation techniques are either limited to single key or still far from practical. In this paper, we design two efficient schemes for secure outsourced computation over cloud data encrypted under multiple keys. Our schemes employ two non-colluding cloud servers to jointly compute polynomial functions over multiple users' encrypted cloud data without learning the inputs, intermediate or final results, and require only minimal interactions between the two cloud servers but not the users. We demonstrate our schemes' efficiency experimentally via applications in machine learning. Our schemes are also applicable to privacy-preserving data aggregation such as in smart metering.



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5. “Achieving Secure, Scalable, and Fine-Grained Data Access Control in Cloud Computing,”

AUTHORS: S. Yu, C. Wang, K. Ren, and W. Lou,

Cloud computing is an emerging computing paradigm in which resources of the computing infrastructure are provided as services over the Internet. As promising as it is, this paradigm also brings forth many new challenges for data security and access control when users outsource sensitive data for sharing on cloud servers, which are not within the same trusted domain as data owners. To keep sensitive user data confidential against untrusted servers, existing solutions usually apply cryptographic methods by disclosing data decryption keys only to authorized users. However, in doing so, these solutions inevitably introduce a heavy computation overhead on the data owner for key distribution and data management when fine-grained data access control is desired, and thus do not scale well. The problem of simultaneously achieving fine-grainedness, scalability, and data confidentiality of access control actually still remains unresolved. This paper addresses this challenging open issue by, on one hand, defining and enforcing access policies based on data attributes, and, on the other hand, allowing the data owner to delegate most of the computation tasks involved in fine-grained data access control to untrusted cloud servers without disclosing the underlying data contents. We achieve this goal by exploiting and uniquely combining techniques of attribute-based encryption (ABE), proxy re-encryption, and lazy re-encryption. Our proposed scheme also has salient properties of user access privilege confidentiality and user secret key accountability. Extensive analysis shows that our proposed scheme is highly efficient and provably secure under existing security models.



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CONCLUSION

In this paper, we design a secure anti-collusion data sharing scheme for dynamic groups in the cloud. In our scheme, the users can securely obtain their private keys from group manager Certificate Authorities and secure communication channels. Also, our scheme is able to support dynamic groups efficiently, when a new user joins in the group or a user is revoked from the group, the private keys of the other users do not need to be recomputed and updated. Moreover, our scheme can achieve secure user revocation, the revoked users can not be able to get the original data files once they are revoked even if they conspire with the untrusted cloud.



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**MGR EDUCATIONAL SOCIETY
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BALANCE SHEET AS ON 31.03.2023

LIABILITIES	AMOUNT	ASSETS	AMOUNT
GENERAL FUND	6,64,89,460	FIXED ASSETS	25,79,29,452
SUNDRY CREDITORS	33,12,309	DEPOSITS	5,33,19,961
OUTSTANDING LIABILITIES	53,51,36,630	PUR, ADV & RECEIVABLES	26,83,10,088
		INTER TRANSFER RECEIPTS	1,94,81,269
		CASH & BANK BAL.	58,97,627
	<u>60,49,38,397</u>		<u>60,49,38,397</u>

For P R Chandra & Co,
Chartered Accountants
FRN: 018985S

P. Rav
CA P. Ravichandra
Partner
M.No: 230754



For M.G.R. Educational Society



[Signature]
Secretary

[Signature]

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MGR EDUCATIONAL SOCIETY

(CMR INSTITUTE OF TECHNOLOGY)

INCOME & EXPENDITURE FOR THE YEAR ENDED 31.03.2023

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To Advertisement	34,83,003	By Tuition Fee	39,30,75,000
To AICTE Fee	2,00,000	By Bus fee & Others	12,36,08,410
To AMC Charges	3,14,160		
To Bank Charges	3,779		
To Books & Periodicals	6,74,382		
To Building Maintenance Exps	24,61,735		
To College Function / Festival Exps	19,64,590		
To Computer Peripherals	19,80,759		
To Consultancy Exps	17,46,500		
To E Journals & News Papers	28,77,615		
To Electricity Charges	66,98,533		
To Employees Gratuity Expenses	1,27,31,600		
To Employer PF Contribution	6,06,696		
To Exam Fee & Expenses	1,56,54,543		
To Fuel for Cars	26,32,850		
To Fuel for College Buses	1,12,07,813		
To Garden Maintenance	16,35,010		
To Generator Maintenance	8,82,573		
To Green Environmental	51,500		
To Guest Faculty Remuneration	3,63,550		
To Hostel Expenditure	3,54,82,153		
To Internet Charges	6,59,250		
To ISO Certification	15,000		
To JNTU Affiliation Fee	21,31,080		
To JNTU Common Service Fee	48,50,500		
To JNTU Inspection Fee	3,37,600		
To JNTU Ratification Fee	1,98,000		
To Lab Maintenance	16,11,692		
To Learning Management Studio & Lecture	8,12,900		
To Meeting & Seminars	24,05,850		
To Membership & Subscriptions	10,43,920		
To NBA Exp.	7,08,020		
To NSS Exp.	7,66,373		
To Office Maintenance	33,74,667		
To Postage & Telegrams	5,41,346		
To Printing & Stationary	33,87,575		
To Rates & Taxes	8,21,030		
To Repairs & Maintenance	33,27,624		
To Research & Development	79,04,460		
To Salaries & Wages	28,04,16,029		
To Scholarships	1,06,00,000		
To Security Charges	26,89,115		



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For M.G.R. Educational Society

C. Sant Reddy
 Secretary

To Software Exps	17,83,730
To Sports & Games	13,41,496
To Staff Development Programme	21,40,906
To Staff Welfare	4,57,400
To Student Projects & Developments	25,74,500
To Student Welfare	3,52,455
To Telephone Charges	5,17,317
To Training & Placement Exps	1,72,06,392
To Transport Charges	1,39,635
To Travelling & Conveyance	3,51,381
To TSCHE Fee	2,67,350
To Vehicle Insurance	11,92,518
To Vehicle Maintenance	44,30,119
To Workshop Expenses	8,27,450
To Depreciation	3,51,96,652

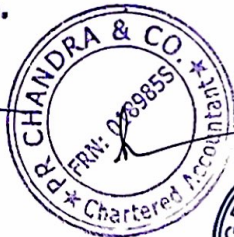
Excess of Income Over Expenditure **1,56,48,734**

51,66,83,410

51,66,83,410

For P R Chandra & Co.
Chartered Accountants
FRN: 018985S

P. Ravichandra
CA P. Ravichandra
Partner
M.No: 230754



For M.G.R. Educational Society

S. Srinivas Reddy
Secretary



S. Srinivas Reddy

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**MGR EDUCATIONAL SOCIETY
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BALANCE SHEET SCHEDULES AS ON 31.03.2023

GENERAL FUND:

Opening	5,08,40,726
Add: Surplus for the Year	1,56,48,734
	<u><u>6,64,89,460</u></u>

OUTSTANDING LIABILITIES:

Caution Deposit	33,41,000
Gratuity Payable	2,33,56,314
PF Payable	91,727
Professional Tax Payable	62,400
Salaries & Wages Payable	50,10,63,940
Scholarships Payable	30,00,000
Staff Welfare Association CMRIT	33,200
TDS Payable	20,04,248
Exam Remuneration Payable	52,721
JNTUH Affiliation Fee Payable	21,31,080
	<u><u>53,51,36,630</u></u>

SUNDRY CREDITORS:

Bhagya Lakshmi Enterprises	24,14,367
Inflibnet-Nlist	5,900
Mikrion Instruments Industries	5,25,199
SVA Security Services	3,42,461
V Ashok	24,382
	<u><u>33,12,309</u></u>

INTER TRANSFER RECEIPTS:

CMR College of Engg & Tech.	62,62,607
CMR College of Pharmacy	1,32,18,662
	<u><u>1,94,81,269</u></u>

DEPOSITS:

Electricity Deposit	4,97,153
HDFC Fixed Deposit - 50300580374400	1,11,31,200
HDFC Fixed Deposit - 50300580374946	1,12,39,984
HDFC Fixed Deposit - 50300720044880	1,01,56,030
HDFC Fixed Deposit - 50300720050682	1,01,48,304
HDFC Fixed Deposit - 50300720053419	1,01,47,290
	<u><u>5,33,19,961</u></u>



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Secretary



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MGR EDUCATIONAL SOCIETY (CMR INSTITUTE OF TECHNOLOGY)

BALANCE SHEET SCHEDULES AS ON 31.03.2023

PUR. & ADVANCES & RECEIVABLES:

Accured Interest	1,19,049
Advance to Suppliers	6,93,208
Research Funds Receivable	9,53,500
TCS Receivable	27,390
TDS Receivable	11,39,473
Tuition Fee Receivable	26,53,77,469

26,83,10,088

CASH & BANK BALANCES:

HDFC Bank - 16408640000021	32,44,475
HDFC Bank - 16402320000160	1,06,095
HDFC Bank - 50100190232243	1,29,637
HDFC Bank - 50200031367880	27,196
ICICI Bank - 279801000244	50,801
Canara Bank-110019722453	8,409
SBI - 30532849525	18,38,477
SBI - 38898623680	10,083
Cash Balance	4,82,455

58,97,628



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FIXED ASSETS SCHEDULE AS ON 31.03.2023

PARTICULARS	DEP. RATE	OP. BAL. 01-04-2022	ADDITIONS		TOTAL	DEPRECIATION	CLG. BAL. 31-03-2023	W.D.V.
			BEF. SEP. 22	AFT. SEP. 22				
LAND		1,07,75,310	-	-	1,07,75,310	-	1,07,75,310	
BUILDINGS & CIVIL WORK	10%	13,14,36,598	1,67,36,107	1,04,82,405	15,86,55,110	1,53,41,391	14,33,13,719	
VEHICLES	15%	1,27,12,321	16,26,000		1,43,38,321	21,50,748	1,21,87,573	
COMPUTERS	40%	1,42,78,748	64,26,925	8,40,250	2,15,45,923	84,50,319	1,30,95,604	
FURNITURE & FIXTURES	10%	1,27,79,314	13,41,267	1,75,22,200	3,16,42,781	22,88,168	2,93,54,613	
GENERATOR	15%	17,40,876	2,92,126	55,490	20,88,492	3,09,112	17,79,380	
LAB EQUIPMENT	15%	1,55,56,022	17,02,060	11,29,215	1,83,87,297	26,73,403	1,57,13,893	
LIBRARY	10%	54,86,411		4,17,325	59,03,736	5,69,507	53,34,228	
OFFICE EQUIPMENT	15%	1,07,71,803	15,59,781	1,53,75,432	2,77,07,016	30,02,895	2,47,04,121	
SOLAR EQUIPMENT	40%	5,27,161			5,27,161	2,10,865	3,16,297	
SPORTS & EQUIPMENT	15%	11,14,958		4,40,000	15,54,958	2,00,244	13,54,715	
		21,71,79,522	2,96,84,266	4,62,62,317	29,31,26,104	3,51,96,652	25,79,29,452	



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