

Cybersecurity Essentials

For completing the Cisco Networking Academy® Cybersecurity Essentials course, and demonstrating the following abilities:

- Describe the tactics, techniques and procedures used by cyber criminals.
- Describe the principles of confidentiality, integrity, and availability as they relate to data states and cybersecurity countermeasures.
- Describe technologies, products and procedures used to protect confidentiality, ensure integrity and provide high availability.
- Explain how cybersecurity professionals use technologies, processes and procedures to defend all components of the network.
- Explain the purpose of laws related to cybersecurity.

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Date

Laura Quintana
Laura Quintana
VP & General Manager, Cisco Networking Academy

Certified Registrar

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Abhay Kumar Saini

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AKASH KUMAR PAUL

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Cisco Networking Academy

For completing the Cisco Networking Academy® Introduction to Cybersecurity course, and demonstrating the ability to explain the following:

- Cisco's approach to threat detection and defense
- Why cybersecurity is a growing profession
- Opportunities available for pursuing network security certifications

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Corporate

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Certificate of Course Completion

Cisco Networking Academy

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Introduction to Cybersecurity

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- Global implications of cyber threats
- Ways in which networks are vulnerable to attack
- Impact of cyber attacks on industries
- Cisco's approach to threat detection and defense
- Why cybersecurity is a growing profession
- Opportunities available for pursuing network security certifications

Anuj Yadav

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- Cisco's approach to threat detection and defense
- Why cybersecurity is a growing profession
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Ashish Prajapat

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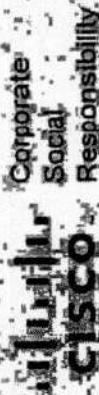
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Ashish Saini

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Bhuwan Jataw

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Bliswayan Datta Chaudhury

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Amit Kumar

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Deepanshi Chaudhary

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Anuj Yadav

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Chaudhary Yadupal singh

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Rahul kumar shah

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Sanjana Kharetiya

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Introduction to Cybersecurity

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- Why cybersecurity is a growing profession
- Opportunities available for pursuing network security certifications

Yash Singh Chauhan

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Cybersecurity Essentials

For completing the Cisco Networking Academy's Cybersecurity Essentials course, and demonstrating the following abilities:

- Describe the tactics, techniques and procedures used by cyber criminals.
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Rajesh Kumar Das

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Certificate of Course Completion

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Kuldeep Singh

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Kuldeep Verma

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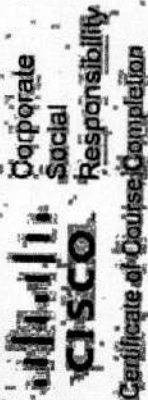
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Palak Raghuwanshi

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- Describe technologies, products and procedures used to protect confidentiality, ensure integrity and provide high availability.
- Explain how cybersecurity professionals use technologies, processes and procedures to defend all components of the network.
- Explain the purpose of laws related to cybersecurity.

Praveen Sharma

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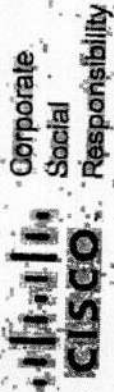
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Cisco Networking Academy

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Introduction to Cybersecurity

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Shalini Kumari

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Sanda Susheel Yadav

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Priyanshu Raj

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Akash

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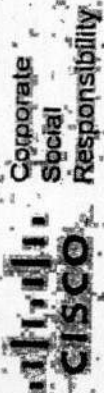
Dr. Jagan Nath
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Cisco Networking Academy

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Introduction to Cybersecurity

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CISCO Corporate Social Responsibility
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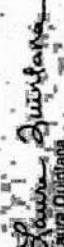
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- Cisco's approach to threat detection and defense
- Why cybersecurity is a growing profession
- Opportunities available for pursuing network security certifications

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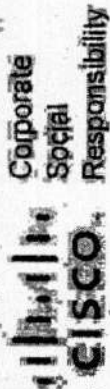
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- Describe the principles of confidentiality, integrity, and availability as they relate to data states and cybersecurity control measures.
- Describe technologies, products and procedures used to protect confidentiality, ensure integrity and provide high availability.
- Explain how cybersecurity professionals use technologies, processes and procedures to defend all components of the network.
- Explain the purpose of laws related to cybersecurity.

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Department of Computer Science and Engineering

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"Spam Email Detection System"

A

Project Report

Submitted

In partial fulfillment

For the award of the Degree of

Bachelor of computer Applications



**Jagannath
University**

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Dr. Hukum Saini.

Associate Professor

Submitted By:

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Session 2023-2024

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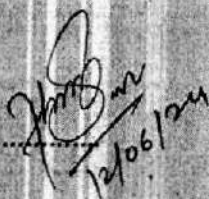
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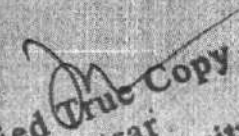
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Session 2023-2024

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Deepak Prajapati
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"STUDENT MANAGEMENT SYSTEM"

A

Project Report

Submitted

In partial fulfillment

**For the award of the Degree of
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"STUDENT MANAGEMENT SYSTEM"

A

Project Report

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"STUDENT MANAGEMENT SYSTEM"

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Department of Computer Science and Engineering

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**Design and Development: A Medical Image Segmentation
System for Early Disease Diagnosis & Detection**

*A
Dissertation
submitted
in partial fulfilment
for the award of the Degree of
Master of Technology
In the Department of Computer Science and Engineering*

MEENU PRADHAN

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Under the supervision of

Dr. RenuBagoria

Professor



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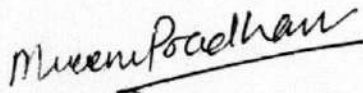
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Candidate Declaration

I, **Meenu Pradhan** hereby declare that the work presented in this dissertation entitled "**Design and Development: A Medical Image Segmentation System for Early Disease Diagnosis & Detection**" in partial fulfillment of the requirements for the award of Degree of Master of Technology, submitted in the **Department of Computer Science and Engineering** at **Jagan Nath University, Jaipur** is an authentic record of my own research work under the supervision of **Dr. Renu Bagoria and Ms. Sakshi Sharma**.

I also declare that the work embodied in the present thesis is my original work/extension of the existing work and has not been copied from any Journal/thesis/book, and has not been submitted by me for any other Degree/Diploma.



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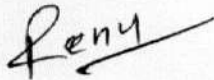
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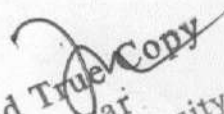


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The Research included in the Dissertation could not have been Performed if not for the assistance, patience, and support of many individuals. I would like to extend my sincere gratitude first and foremost to my thesis supervisor, **Dr. Renu Bagoria, Professor, and Co-**

~~guide Ms. Sakshi Sharma, Assistant Professor, Jagannath University, Jaipur~~ for the continuous support for my M.Tech. study and research, for her patience, motivation, enthusiasm, and immense knowledge. Her guidance helped me in all the time of research and writing of this dissertation. I sincerely acknowledge her for supporting for literature, critical review of report and above all for a hope and assurance for achieving goals. I could not have imagined having a better advisor and mentor for my work.

It is an honour for me to pay my gratitude to **Head of the Computer Science and Engineering Department Dr. Om Prakash Sharma (Professor), Jagannath University** for sharp and strict vigilance to provide zero error study environment. I sincerely acknowledge him for extending his valuable guidance, support for literature.

I sincerely acknowledge **Dr. Hukum Chand Saini (Associate Professor) M.Tech Coordinator** for always ready to support their students. As a result, research life became smooth and rewarding for me.

I express my sincere thanks to the whole Department of Computer Science and Engineering, faculties and management for immense support whenever and where ever required. From the deep of my heart, I thank to my God, Parents and Family.

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Abstract

The state-of-the-art DL approaches are crucial in the medical image analysis subfield of deep learning (DL). In healthcare, medical image analysis stands out as a field where DL has shown remarkable achievements among others. Combining DL with medical image analysis allows for the real-time examination of large and complex datasets, which in turn improves healthcare results and industrial efficiency. This comprehensive literature review delves into the latest deep learning (DL) methods for medical image analysis, with a specific emphasis on how these methods have been used to solve problems in healthcare. We have evaluated all of the articles that were considered by classifying them into five distinct groups based on the methods they used. This study examines the principles, benefits, limitations, methodologies, simulation environments, and datasets of state-of-the-art DL techniques through a systematic classification of these models, including Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), Short-term Memory (LSTM) models, and hybrid models. In the publications we looked at, Python was the language of choice for implementing the approaches that were suggested. The study was conducted at the same time as the bulk of the examined publications, which was published in 2021. Additionally, the most recent developments in DL methods and their practical uses in medical image analysis are highlighted in this review, along with the obstacles that prevent DL from being widely used in medical image analysis. Insights like this should motivate researchers to keep pushing the boundaries of image analysis in healthcare research. Many different factors are used to evaluate the evaluated papers. These features include generalizability, computational complexity, robustness, sensitivity, specificity, F-score, and accuracy.

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**An Innovative Deep Learning Approach to Depression Detection
Using EEG**

A

Dissertation .

submitted

in partial fulfilment

for the award of the Degree of

Master of Technology

in the Department of Computer Science and Engineering

by

RITESH CHOUDHARY

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Under the supervision of

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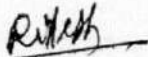
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I also declare that the work embodied in the present thesis is my original work/extension of the existing work and has not been copied from any Journal/thesis/book, and has not been submitted by me for any other Degree/Diploma.



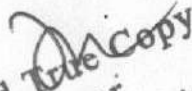
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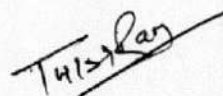

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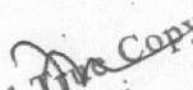
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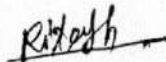
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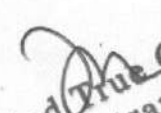
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Abstract

Depression is a common mental health problem that needs to be identified early for effective treatment. EEG, a method that records brain activity, can help detect depression. This research introduces a new way to use deep learning, an advanced type of machine learning, to analyze EEG data and identify depression. Proposed method starts by cleaning the EEG data to remove any noise. We then focus on capturing important patterns in the brain activity. We use a deep learning model, which can recognize complex patterns in large sets of data, to make predictions about whether someone is experiencing depression. We trained our model using a large dataset of EEG recordings from both people with depression and those without. The results show that our deep learning approach is very accurate at detecting depression, better than traditional methods. This model can also be used for real-time monitoring, making it a useful tool for doctors.

This dissertation presents KNN based machine learning and LSTM based deep learning technique for detecting depression using EEG. The algorithm first extracts features from EEG signals and classifies emotions using machine and deep learning techniques, in which different parts of a trial are used to train the proposed model and assess its impact on emotion recognition results. The simulation is performed using the Python spyder software.

The precision of the proposed work is 99 % while in the previous work it is 91.00 %. Similarly the other parameters like Recall and F_Measure is 94 % and 97 % by the proposed work and 88.00 % and 89.00 % by the previous work. The overall accuracy achieved by the proposed work is 96.48 % while previous it is achieved 91.00 %. The error rate of proposed technique is 3.52 % while 9.008 % in existing work. Therefore it is clear from the simulation results; the proposed work is achieved significant better results than existing work.

Keywords: EEG, KNN, LSTM, Signal, Depression, Classification, E-healthcare, Recall

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**“A Hybrid Cryptography Technique of Security for Data Sharing in
Clouds”**

A

Dissertation

submitted

in partial fulfilment

for the award of the Degree of

Master of Technology

In

in Department of Computer Science and Engineering

by

Raj Kumar Bairwa

Enrolment No. 202220003

Under the supervision of

Mr. Sudhanshu Vashistha

Assistant Professor



Department of Computer Science and Engineering

JaganNath University

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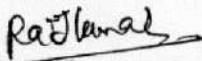
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I, **Raj Kumar Bairwa** hereby declare that the work presented in this dissertation entitled "**A Hybrid Cryptography Technique of Security for Data Sharing in Clouds**" in partial fulfillment of the requirements for the award of Degree of Master of Technology, submitted in the **Department of Computer Science and Engineering** at JaganNath University, Jaipur, is an authentic record of my own research work under the supervision of **Mr. Sudhanshu Vashistha, Mrs. Pratibha Soni**

I also declare that the work embodied in the present thesis is my original ~~work/extension of the existing work and has not been copied from any~~ Journal/thesis/book, and has not been submitted by me for any other Degree/Diploma.


Raj Kumar Bairwa

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This is to certify that the dissertation entitled "**A Hybrid Cryptography Technique of Security for Data Sharing in Clouds**" submitted by **Raj Kumar Bairwa** for the award of Degree of Master of Technology in the Department of Computer Science and Engineering of JaganNath University, Jaipur, is a record of authentic work carried out by him/her under my/our supervision.

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Mr. Sudhanshu Vashistha

(Supervisor)

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Mrs. Pratibha Soni

Co-Supervisor

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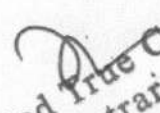
Acknowledgment

The Research included in the Dissertation could not have been performed if not for the assistance, patience, and support of many individuals. I would like to extend my sincere gratitude first and foremost to my thesis supervisor, **Dr. Sudhanshu Vashitha, Assistant Professor, and Co-guide Mr. Pratibha Soni, Assistant Professor, Jagannath University, Jaipur** for the continuous support for my M.Tech. study and research, for her patience, motivation, enthusiasm, and immense knowledge. Her guidance helped me in all the time of research and writing of this dissertation. I sincerely acknowledge her for supporting for literature, critical review of report and above all for a hope and assurance for achieving goals. I could not have imagined having a better advisor and mentor for my work.

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I sincerely acknowledge **Dr. Hukum Chand Saini (Associate Professor) M.Tech Coordinator** for always ready to support their students. As a result, research life became smooth and rewarding for me.

I express my sincere thanks to the whole Department of Computer Science and Engineering, faculties and management for immense support whenever and where ever required. From the deep of my heart, I thank to my God, Parents and Family.


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Abstract

Nowadays, Cloud computing has been evolved as the best solution to the space-related issues for the users as well as the various IT Enterprises. Cloud and Internet of things application are growing day by day. Most of the organization are using the cloud storage services for own application. IOT application are building under the 5G wireless communication technologies. Security is the major concern for data security and safety. The basic techniques start from using the watermarking with advancement of the cryptography algorithm. Most of the online and cloud application are using the cryptography based data security. The most common and high secure cryptography algorithms are AES, RSA, Hash etc.

This research proposed security algorithm based on Hash function and visual cryptography approach, in hash function the user compute the hash value/hash digest of file and then upload the file for storage to the cloud. The data on the cloud side is encrypted and stored. If both the hash values are same, it indicates that the integrity of data has been maintained. The simulation is performed using the MATLAB 8.3 software. Providing data store services is one of the key services, which is offering by Cloud. A cloud storage service generally keeps large storage capacity at their end and the same is offered to user end. Data store access has to be consistent in providing good access all the time and should be easy to use.

This dissertation presents an efficient approach for security in cloud data storage for IOT applications using hybrid cryptography technique. Using this approach user can securely store the data on the cloud server and also retrieve the data easily whenever required. The application-based system runs on the client system, which user can use to upload a variety of file formats. Many services are readily accessible on a pay-per-use basis and offer great alternatives to businesses that need the flexibility to rent infrastructure on a temporary basis or to reduce capital costs. Security issues in the area of cloud computing are active area of research and experimentation. Various issues are identified one of which is the security of user data and applications. This work proposed security algorithm based on VCS encryption and hash function for data storage in cloud server. In future, these algorithms must be tested on a real environment or on a dedicated simulator.

Keywords: Hash, VCS, Hybrid, Data, Cryptography, Security, Cloud, Server.


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**DATA EMBEDDING ALGORITHM:
BLIND AND REVERSIBLE**

*A
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submitted
in partial fulfilment
for the award of the Degree of
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in Department of Computer Science & Engineering*

by

Deependra Kumar Agrahari

Enrollment No: 0202220005

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Department of Computer Science & Engineering

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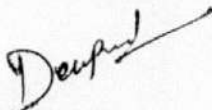
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Candidate Declaration

I, Deependra Kumar Agrahari hereby declare that the work presented in this dissertation entitled **"Data embedding Algorithm: Blind and Reversible"** in partial fulfillment of the requirements for the award of Degree of Master of Technology, submitted in the **Department of Computer Science & Engineering** at Jagan Nath University, Jaipur, is an authentic record of my own research work under the supervision of Dr. Hukum Saini, Associate Prof. (CS)

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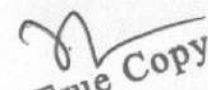


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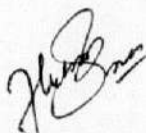


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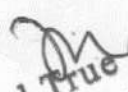


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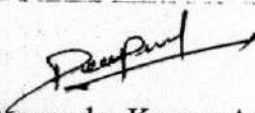
Associate Professor (CS)

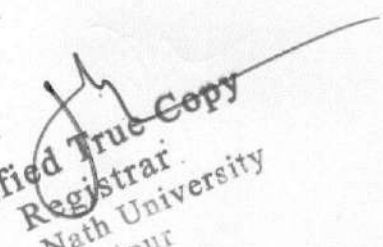
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I would like to express my sincere gratitude to my project guide "**DR. HUKUM SAINI, ASSOCIATE PROFESSOR**" for giving me the opportunity to work on this topic. It would never be possible for us to take this project to this level without his innovative ideas and his relentless support and encouragement.


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Modified Approach for Ovarian Cancer Subtype Classification

A

Dissertation

submitted

in partial fulfilment

for the award of the Degree of

Master of Technology

in the Department of Computer Science and Engineering

by

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0202220001

Under the supervision of

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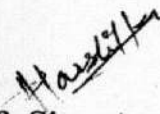
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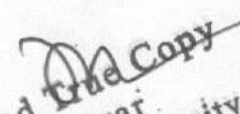

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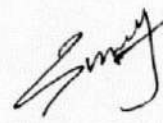
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Date: 31- 08- 2024

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Acknowledgment

The Research included in the Dissertation could not have been Performed if not for the assistance, patience, and support of many individuals. I would like to extend my sincere gratitude first and foremost to my thesis supervisor, **Dr. Hukum Chand Saini, Associate Professor, and Co-guide Mr. Suraj Yadav, Assistant Professor, Jagannath University, Jaipur** for the continuous support for my M.Tech. study and research, for her patience, motivation, enthusiasm, and immense knowledge. Her guidance helped me in all the time of research and writing of this dissertation. I sincerely acknowledge her for supporting for literature, critical review of report and above all for a hope and assurance for achieving goals. I could not have imagined having a better advisor and mentor for my work.

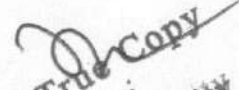
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I express my sincere thanks to the whole Department of Computer Science and Engineering, faculties and management for immense support whenever and where ever required. From the deep of my heart, I thank to my God, Parents and Family.


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Abstract

Efficient treatment planning and increased patient survival rates depend on the accurate diagnosis of ovarian cancer (OC) subtypes. However, conventional diagnostic techniques faces significant challenges due to the heterogeneity of ovarian cancer. The potential of machine learning (ML) and deep learning (DL) approaches to improve the categorization and diagnosis of ovarian cancer subtypes is studied in this thesis. In this study, various models are employed for the Classification of Ovarian Cancer Subtypes such as Convolutional Neural Network (CNN), Support Vector Classifier (SVC), and an ensemble model which is named CLASSMO Model. The efficiency of these models is calculated using different evaluation metrics. The CNN Model excels in learning spatial feature hierarchies, making it valuable for medical image analysis, while the SVC model detects nonlinear boundaries between different cancer subtypes. By combining deep feature extraction with robust classification capabilities, the CLASSMO model integrating Resnet-50 and Random Forest Classifier showed improved performance. The results indicate high performance across all models, with the CLASSMO model achieving the best overall metrics. This study highlights the application of machine learning techniques to identify and categorize distinct Ovarian Cancer subtypes effectively.

Keywords: Machine Learning, Deep Learning, Ovarian cancer, Convolutional Neural Network, Support Vector Classifier, CLASSMO Model

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An Experimental Investigation On The Performance Of Hot Mix Asphalt Using Terracotta Tile Waste And Eucalyptus Tree Ash As Surrogate Fine Aggregate

A

DISSERTATION

Submitted in partial fulfilment

For the award of degree of

MASTER OF TECHNOLOGY

In

Transportation Engineering

By

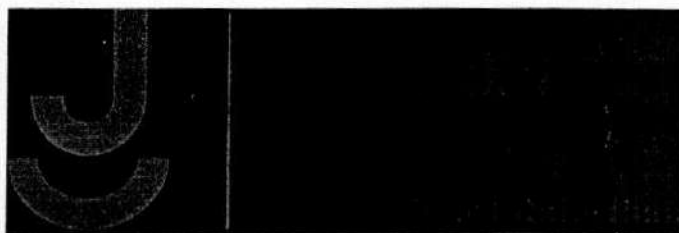
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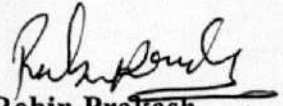
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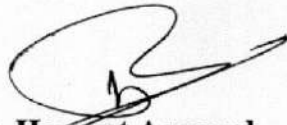
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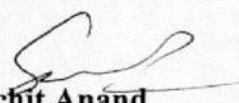
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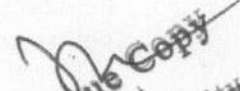

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Mr. Hemant Agarwal
(Supervisor)


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(Co-supervisor)


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Acknowledgements

A thesis is a result of teamwork and professional advice. Every research project has a unique route, and in my opinion, without the right direction and assistance, no research project can succeed in reaching its final objective.

My sincere thanks go to my distinguished supervisor, **Mr. Hemant Agarwal**, Assistant Professor, Department of Civil Engineering, Jagannath University, Jaipur and Co-supervisor **Dr. Sanchit Anand**, Associate Professor, Manipal University, Jaipur, for their unwavering support, teamwork, and excellent assistance throughout my M.Tech. journey. I owe them a great deal for his deep understanding, insightful conversations, and intellectual contributions to my work. Their kindness, patience, support, and unceasing encouragement have all been very helpful in helping me to successfully complete my Ph.D. study. I truly respect his moral fortitude and humane traits, which gave me the willpower to continue working smoothly and consistently. Conducting my study under his tutelage has been a very unique and remarkable experience, for which I am eternally grateful.

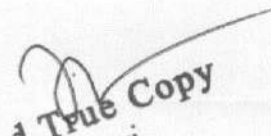
My sincere gratitude goes to Dr. Dinesh Goyal (Director, PIET Jaipur), Dr. Sama Jain, Professor and Head, Applied Sciences Department, Poornima Institute of Engineering and Technology, Jaipur, Dr. Bhanu Pratap Applied Sciences Department, Poornima Institute of Engineering and Technology, Dr. Sudhir Kumar Singh Applied Sciences Department, Poornima Institute of Engineering and Technology, Mr. Mukul Nama, HOD, Department of Civil Engineering, Poornima Institute of Engineering and Technology, Jaipur for his insightful encouragement during my M. Tech. work.

I dedicate this work to Mr. Prakash Chand. and Mrs. Suman, my dear parents. I could never have accomplished this goal without their steadfast assistance.

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Abstract

In hot mix asphalt (HMA), the applicability of Terracotta Tile Waste (TTW) and Eucalyptus tree Ash (ETA) as a fine aggregate and Polymer modified bitumen (PMB 40) as bitumen modifier was evaluated using three different variations. Pavement construction can obtain a longer design life by combining PMB-40 binders with DBM-II graded aggregates. Initially, In order to ascertain stability, flow value, unit weight, air void percentage, voids filled with bitumen (VFB), and voids in mineral aggregates (VMA), three specimens containing binder concentrations of 4.5%, 5%, and 5.5% were made and evaluated. The optimum bitumen concentration and highest Marshall Stability were obtained. Second, a portion of the fine aggregate was swapped out with 5% TTW, 5% ETA, 5% ETA and 5% TTW, 10% ETA, 10% TTW and 10% ETA and 10% TTW respectively and compared with control mix. The maximum Marshall Stability of 34.88 kN, three times greater than the control mix but still within the permissible limit for highways with modest traffic loads, was achieved by a 10% TTW substitution in this scenario, yielding the best performance.


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