



# SREE RAMA ENGINEERING COLLEGE (AUTONOMOUS)

Approved by AICTE, New Delhi – Affiliated to JNTUA, Ananthapuramu  
Accredited by NAAC with 'A' Grade  
Rami Reddy Nagar, Karakambadi road, Tirupati-517507

Principal, SRET | Date: 1<sup>st</sup> January 2025

## JNTUA – Monthly report of Activities –

### Submission of information to Governor's office – Data requested

Email : principal.4c@jntua.ac.in  
Name of the College : Sree Rama Engineering College  
College Code : 4C  
District : Tirupati

#### 1. Introductory remarks of the Month:

For the month of December 2024, Sree Rama Engineering College has conducted the following activities:

- BS&H department has organized National Mathematics Day on 21.12.2024.
- CSE department has organized One Expert Lecture
- **Dr. N. Vasu**, Associate Professor of ECE received “**Best Academician Award**” from CJST-IJ Research Awards 2024, Academia, Industry and Research Networking Conclave Tirupathi Chapter during 22<sup>nd</sup> and 23<sup>rd</sup> December, 2024 organized by Sri Padmavathi School of Pharmacy, Tiruchanoor, Tirupathi.
- **Mr. B. Anil Kumar**, Assistant Professor of EEE, has successfully participated & completed AICTE Training and Learning (ATAL) Academy Faculty Development Program on Advancing Sustainable Engineering: Innovations, Practices, and Pedagogies for Faculty Excellence at K.S.R.M. COLLEGE OF ENGINEERING from 26/08/2024 to 31/08/2024.
- **Mr. P. Ramanjaneyulu**, Assistant Professor of EEE, has participated & completed AICTE Training And Learning (ATAL) Academy Faculty Development Program on Integrating Electric Vehicles with Smart Grids: Innovations for Sustainable Mobility Solutions at Sri Venkateswara College of Engineering and Technology from 16/12/2024 to 21/12/2024
- **Mr. M. Jagadish**, Assistant Professor of CE, has participated in One Week ATAL FDP on “Innovative Approaches to Disaster Management and Resilient Infrastructure” during 09.12.2024 to 14.12.2024.

- **Mr. K. Roop Sagar**, Assistant Professor of CE, has participated in One Week ATAL FDP on “Innovative Approaches to Disaster Management and Resilient Infrastructure” during 09.12.2024 to 14.12.2024.
- **Mr. Shabbeer Ahmed**, Assistant Professor of ME has successfully completed WIPRO certified Faculty Program conducted during 18.11.2024 to 06.12.2024.
- **Dr. M. Hemalatha**, Professor of ECE awarded with certificate of Appreciation in reviewing a papers in IEEE International Conference on Intelligent Systems, Smart and Green Technologies(ICISSGT-2024) held on November 2<sup>nd</sup> to 3<sup>rd</sup> 2024 organized by IEEE Vizag Bay Section.
- **Dr. M. Hemalatha**, Professor of ECE successfully completed FDP on Fundamentals of AI, NPTEL-AICTE July-October, 2024.
- **Dr. M. Hemalatha**, Professor of ECE awarded with certificate of Appreciation in reviewing a paper in Journal of Experimental Agriculture International, December 11<sup>th</sup> 2024.
- **Dr. K. Harsha Vardhana Reddy**, Associate Professor of ECE successfully completed FDP on Digital Image Processing, NPTEL-AICTE July-October
- **Dr. K. Harsha Vardhana Reddy**, Associate Professor of ECE successfully completed FDP on Fundamentals of AI on, NPTEL-AICTE, July-October 2024.
- **Dr. K. Harsha Vardhana Reddy**, Associate Professor of ECE successfully completed FDP on Computer Vision, NPTEL-AICTE July-October 2024.
- **Dr. K. Harsha Vardhana Reddy**, Associate Professor of ECE successfully completed FDP on Introduction to Machine Learning, NPTEL-AICTE July-October 2024.
- **Dr. K. Harsha Vardhana Reddy**, Associate Professor of ECE successfully completed FDP on Robotics, NPTEL-AICTE July-October 2024.
- **Dr. K. Harsha Vardhana Reddy**, Associate Professor of ECE successfully completed FDP on Phyton for Data Science, NPTEL-AICTE July-October 2024.
- **Dr. S. Thulasee Krishna**, Professor of CSE, successfully completed FDP on Introduction to Internet of Things, NPTEL-AICTE July-October 2024.
- **Dr. S. Thulasee Krishna**, “A Hybrid Optimal Approach for Efficient Remote Monitoring and Avoidance of Train Collisions”, International Journal of Safety and Security Engineering, Vol. 14, No. 5, October, 2024, pp. 1569-1575.
- **Ms. G. Chandra Kala**, Assistant professor of CSE has participated in the Faculty Development Program / Training Program on “PhD Course Work – Research Assistance” from 23<sup>rd</sup> to 28<sup>th</sup> December, 2024

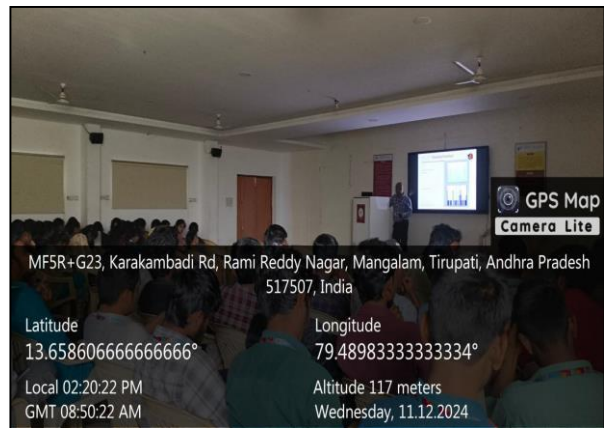
- **Ms. K. Praveena**, Assistant Professor of CSE, has successfully completed FDP on Cloud Computing, NPTEL-AICTE July-October 2024.
- **Ms. T. Haritha**, Assistant Professor of CSE, has successfully completed FDP on Introduction to Machine Learning, NPTEL-AICTE July-September 2024.

**Important Day Celebrations @ Sree Rama Engineering College**



On the Occasion of Mathematics day, BS&H department has organized an elocution competition on Wonders of Mathematics In Daily Life

**Guest Lectures, Expert Lectures, Workshops & other co-curricular activities organized by various departments of SRET**



A Five Days Add-on Course on “ MATLAB for Image Processing and Computer Vision”



Mr. Jitendra Tiwari delivering expert lecture on “How To prepare for GATE and ESE Examination” 26-10-2024(FN)

**2. Number of National Conferences/Seminars organized with details:**

S. No.	Name of the Training Programme	Dates	Target audience	No. of participants	purpose
		NIL			

**3. Number of International Conferences/Seminars organized with details:**

-NIL-

**4. Activities related to Governance:**

-NIL-

**5. Number of training programs/workshops organized during this month with details in brief:**

S. No.	Name of the Training Programme	dates	Target audience	No. of participants	purpose
1.	A Five Days Add-On Course on “ MATLAB for Image Processing and Computer Vision”	10.12.24 to 14.10.24	III B.TECH ECE	164	To Have Knowledge On Computer Vision Using MATLAB Software

**6. Number of FDPs organized during this month with details in brief:**

-NIL-

**7. Number of Co-curricular activities conducted with details in brief:**

S. No.	Name of the Training Programme	dates	Target audience	No. of participants	purpose
1.	National Mathematics Day	21/12/2024	B.TECH STUDENTS	40	Students know the importance about Mathematics equips individuals with problem-solving skills that are invaluable in various aspects of life. Whether calculating expenses, planning a budget, or solving complex real-world issues, the ability to



S. No.	Name of the Training Programme	dates	Target audience	No. of participants	purpose
					approach problems logically and methodically directly results from mathematical training

**8. Number of NSS/NCC/Service programmes organized with details in brief:**

S. No.	Name of the Programme	Dates	Target audience	No. of participants	Purpose
	NIL				

**9. Research activities conducted with details in brief:**

-NIL-

**10. Research projects sanctioned in this month:**

-NIL-

**11. Research projects completed in this month:**

-NIL-

**12. Number of Research publications (National/International Journals) in this month with details as per standard format:**

- Dr. S. Thulasee Krishna, "A Hybrid Optimal Approach for Efficient Remote Monitoring and Avoidance of Train Collisions", International Journal of Safety and Security Engineering, Vol. 14, No. 5, October, 2024, pp. 1569-1575.

**13. Number of Research publications (National/International conferences) in this month with details as per standard format:**

-NIL-

**14. Number of Book/Book chapters published in this month with details as per standard format:**

-NIL-

**15. Number of patents published in this month with details as per standard format:**

-NIL-

**16. Students support activities (provide details of any initiatives taken during this month):**

-NIL-

**17. Number of extension/community-oriented activities (provide details of activities conducted during this month in brief):**

-NIL-

**18. Creative & Innovative initiatives in curriculum, teaching learning practices, student evaluation, student progression etc., (provide details of any initiatives taken during this month in brief):**

-NIL-

**19. Awards & Recognitions (mention only state/national/international level of recognitions with details in brief):**

1. Dr. N. Vasu, Associate Professor of ECE received "Best Academician Award" from CJST-IJ Research Awards 2024, Academia, Industry and Research Networking Conclave Tirupathi Chapter during 22<sup>nd</sup> and 23<sup>rd</sup> December, 2024 organized by Sri Padmavathi School of Pharmacy, Tiruchanoor, Tirupathi.

2. Dr. S. Thulasee Krishna, Professor of CSE, has participated and presented a paper, "Artificial Intelligence's Machine Learning Approach" PAPER ID: ICRICEIT-24-71 in 4th International Conference on Recent Innovations in Computer Engineering and Information Technology on 17th & 18th December 2024, Organized by Department of Information Technology, St. Martin's Engineering College, Dhulapally, Secunderabad, Telangana.
3. V. Sravan Kumar, Assistant Professor, has Presented a paper in VI International Conference on Applications of Fluid Dynamics Organized by Kalasalingam University, Madurai from 05-12-2024 to 07-12-2024.
4. V. Sravan Kumar, Assistant Professor, Sree Rama Engineering College, Tirupati, has Participated in National Conference On Mathematics and its Applications-2024, Organized by Sri Venkateswara University, Tirupati from 22-12-2024 to 23-12-2024.
5. Mrs. S. Mounica Sowjanya and Dr. K. Jayachandra has presented a paper with title, "Experimental Investigation on removal of hardness and salinity of water using camellia sinensis" at International Conference on Environmental Science and Technology-Sardar Vallabhbhai National Institute of Technology-Surat on 19 to 21 December, 2024.

**20. Projects initiated or completed (only at state/national/international level):**

**-NIL-**

**21. Any other remarks/suggestions:**

We are requesting you to provide a portal for uploading Monthly activities for all Colleges

**NPTEL and Other Certifications:**

**Sri Padmavathi School of Pharmacy**  
Tiruchanoor, Tirupati - 517503



**CJST-IJ Research Awards - 2024**  
Academia, Industry and Research Networking Conclave  
Tirupati Chapter  
22<sup>nd</sup> - 23<sup>rd</sup> December 2024

**BEST ACADEMICIAN AWARD**

Proudly Presented to



Dr. N. Vasu



Sri Rama Engg., College,  
Tirupathi

**Organized By**  
**Sri Padmavathi School of Pharmacy**  
Tiruchanoor, Tirupati - 517503  
in association with  
**Caribbean Journal of Science and Technology(CJST) and Inside Journal**



Sri. P Praneeth  
Program Convener



Smt. P. Sulochana  
Program Convener



Sri. T. Kranthi Kumar  
Organizing Secretary



Smt. Bommisetty Usharani  
CJST - IJ Convener







ATAL/2024/1723265538



**ALL INDIA COUNCIL FOR TECHNICAL EDUCATION**

Nelson Mandela Marg, Vasant Kunj, New Delhi -110070

AICTE Training and Learning (ATAL) Academy

**Certificate**

It is certified that **Mr. BADVELU ANIL KUMAR**, Assistant Professor of **Sree Rama Engineering College, tirupati** has successfully participated & completed **AICTE Training And Learning (ATAL) Academy Faculty Development Program on Advancing Sustainable Engineering: Innovations, Practices, and Pedagogies for Faculty Excellence at K.S.R.M. COLLEGE OF ENGINEERING** from 26/08/2024 to 31/08/2024.

Mariprasath  
Assistant Professor Level  
(AICTE Institute), Coordinator  
**K.S.R.M. COLLEGE OF  
ENGINEERING**

Dr. Sunil Luthra  
Director & Bureau Head  
**Training and Learning Bureau,  
AICTE**

ATAL/2024/1734176197



**ALL INDIA COUNCIL FOR TECHNICAL EDUCATION**

Nelson Mandela Marg, Vasant Kunj, New Delhi -110070

AICTE Training and Learning (ATAL) Academy

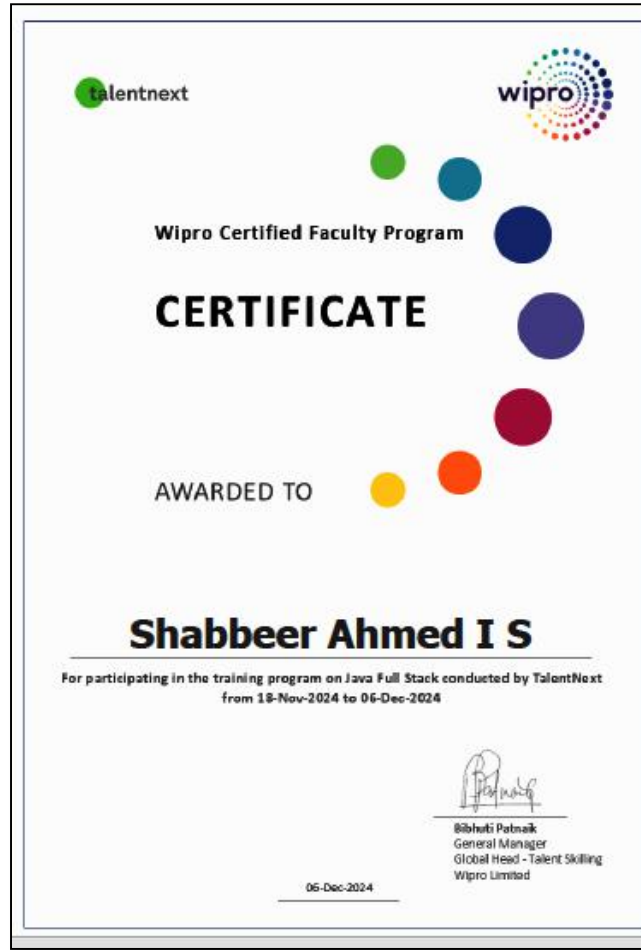
**Certificate**

It is certified that **Mr. P RAMANJANEYULU**, Faculty members of the **AICTE approved institutions of SREE RAMA ENGINEERING COLLEGE** has successfully participated & completed **AICTE Training And Learning (ATAL) Academy Faculty Development Program on Integrating Electric Vehicles with Smart Grids: Innovations for Sustainable Mobility Solutions at SRI VENKATESWARA COLLEGE OF ENGINEERING AND TECHNOLOGY** from 16/12/2024 to 21/12/2024.

Y N VIJAYAKUMAR  
Professor Level (AICTE Institute), Coordinator  
**SRI VENKATESWARA COLLEGE OF  
ENGINEERING AND TECHNOLOGY**

Dr. Sunil Luthra  
Director & Bureau Head  
**Training and Learning Bureau, AICTE**





ATAL/2024/1732535620



**ALL INDIA COUNCIL FOR TECHNICAL EDUCATION**

Nelson Mandela Marg, Vasant Kunj, New Delhi -110070

AICTE Training and Learning (ATAL) Academy

**Certificate**

It is certified that **Mr. M. JAGADISH**, Assistant Professor of Sree Rama Engineering College has successfully participated & completed AICTE Training And Learning (ATAL) Academy Faculty Development Program on **INNOVATIVE APPROACHES TO DISASTER MANAGEMENT AND RESILIENT INFRASTRUCTURE** at **ATME COLLEGE OF ENGINEERING** from 09/12/2024 to 14/12/2024.

Suneeth Kumar S M  
Professor (Other Institute), Coordinator  
ATME COLLEGE OF ENGINEERING

Dr. Sunil Luthra  
Director & Bureau Head  
Training and Learning Bureau, AICTE



**NPTEL-AICTE  
Faculty Development Programme**

(Funded by the MoE, Govt. of India)



This certificate is awarded to

**HARSHA VARDHANA REDDY**

for successfully completing the course

**Digital Image Processing**

with a consolidated score of **90 %**

Prof. Andrew Thangaraj  
NPTEL Coordinator  
IIT Madras

Activate Win  
Go to Settings to



(Jul-Oct 2024)



# NPTEL-AICTE Faculty Development Programme

(Funded by the MoE, Govt. of India)



This certificate is awarded to

**HEMA LATHA MADDI**

for successfully completing the course

**Fundamentals of Artificial Intelligence**

with a consolidated score of **61 %**

  
Prof. Andrew Thangaraj  
NPTEL Coordinator  
IIT Madras



(Jul-Oct 2024)

Roll No: NPTEL24GF475450801556

Duration of NPTEL course : 12 Weeks

The candidate has studied the above course through MOOCs mode, has scored well on the assignments and passed practical exams.  
This certificate is valid as evidence for promotions under CAS up to pay A-10 (not below) w.e.f. 10th Nov. 2023, in terms of the release/extension of pay band.  
F.No. AICTE / RFD / FDP through MOOCs / 2223



# NPTEL-AICTE Faculty Development Programme

(Funded by the MoE, Govt. of India)



This certificate is awarded to

**HARSHA VARDHANA REDDY**

for successfully completing the course

**Introduction to Machine Learning**

with a consolidated score of **79 %**

  
Prof. Andrew Thangaraj  
NPTEL Coordinator  
IIT Madras



(Jul-Oct 2024)

Roll No: NPTEL24CS1015550800060

Duration of NPTEL course : 12 Weeks



ICISSGT 2024



## Certificate of Appreciation

This is awarded to

Mr. / Ms. HEMALATHA MADDI

of

Sree Rama Engineering College

in recognition of an outstanding contribution in Peer-Reviewing the papers submitted to 2024 - IEEE International Conference on Intelligent Systems, Smart and Green Technologies (ICISSGT-2024) held on 2<sup>nd</sup> and 3<sup>rd</sup> November, 2024 organized by IEEE Vizag Bay Section at Dr. Y V S Murthy Auditorium, Andhra University, Visakhapatnam, India.

General Chair

Organizing Chair / Secretary

TPC Chair

Certificate No: PRJEAH28203M.H

## Journal of Experimental Agriculture International Certificate of Excellence in Reviewing

awarded to

**Dr. M.Hemalatha**

Sree Rama Engineering College, India

in recognition of an outstanding contribution to the quality of the journal.

Date: 11.12.2024

Validation Link:

<https://dashboard.peerreviewcentral.com>

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Password: 6pFzL78u1mp5

Please use your login and password to check the authenticity.



Dr. M. B. Mondal  
Chief Managing Editor

Reg. Offices

India: Guest House Road, Street no. - 1/6, Hoochly, West Bengal, India. Tele: +91 8617752708





# NPTEL-AICTE Faculty Development Programme

(Funded by the MoE, Govt. of India)



This certificate is awarded to

**S THULASEE KRISHNA**

for successfully completing the course

**Introduction to Internet of Things**

with a consolidated score of **69 %**

Prof. Andrew Thangaraj  
NPTEL Coordinator  
IIT Madras



(Jul-Oct 2024)

Roll No: NPTEL24CS115S150802855

Duration of NPTEL course : 12 Weeks



## St. MARTIN'S ENGINEERING COLLEGE UGC AUTONOMOUS

A NON MINORITY COLLEGE, AFFILIATED TO JNTUH, APPROVED BY AICTE, ACCREDITED BY NBA & NAAC A+, ISO 9001:2008 CERTIFIED, SIRO RECOGNITION BY MINISTRY OF SCIENCE & TECHNOLOGY, GOVT. OF INDIA, DHULAPALLY, NEAR KOMPALLY, SECUNDERABAD - 500 100, TELANGANA STATE, INDIA, WWW.SMEC.AC.IN



# CERTIFICATE

ISBN: 978-93-94246-55-3

PAPER ID: ICRIEIT-24-71

This certificate is awarded to

*Dr.S.Thulasee Krishna of Sree Rama Engineering College*

He has participated and presented a paper in **4<sup>th</sup> International Conference on Recent**

**Innovations in Computer Engineering and Information Technology** on 17<sup>th</sup> & 18<sup>th</sup> December

2024, Organized by **Department of Information Technology, St. Martin's Engineering College,**

Dhulapally, Secunderabad, T.S, India.

Title: **Artificial Intelligence's Machine Learning Approach**



Dr. N Krishnaiah  
Convener & HOD / IT

Dr. P. Santosh Kumar Patra  
Patron & Program Chair



www.smeac.ac.in



## A Hybrid Optimal Approach for Efficient Remote Monitoring and Avoidance of Train Collisions

Sangaraju Hrushikesava Raju<sup>1\*</sup>, Uruturu Sesadri<sup>2</sup>, Sama Thulasi Krishna<sup>3</sup>, Yesupadam Sreeraman<sup>4</sup>, Venkatesan Balaji<sup>5</sup>, Gunikhan Sonowal<sup>6</sup>

<sup>1</sup> Department of Computer Science and Engineering, Koneru Lakshmaiah Education Foundation, Guntur 522302, India

<sup>2</sup> Vardhaman College of Engineering, Hyderabad 501218, India

<sup>3</sup> Department of CSE, Sree Rama Engineering College, Tirupati 517507, India

<sup>4</sup> Department of CSE, School of Technology, The Apollo University, Chittoor 517127, India

<sup>5</sup> School of Technology, GITAM University, Bengaluru 561203, India

<sup>6</sup> Faculty of Computer Technology, Assam Down Town University, Guwahati 781026, India

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<https://doi.org/10.18280/ijsee.140524>

### ABSTRACT

**Received:** 19 July 2024  
**Revised:** 26 September 2024  
**Accepted:** 11 October 2024  
**Available online:** 31 October 2024

**Keywords:**  
*trains, IoT, network support, remote controlling, proactive assessment, accuracy, efficiency*

Almost all categories of people would travel in trains, loads of material were to be transported, and various industry-related loads were carried for their business-oriented purposes including government goods to distribute to the state-wise needy of the people. This scenario requires the safety of train travel. In recent scenarios the world and India, have been experiencing train accidents that have led to the loss of many innocent people, as well as loss to specific organizations, and governments. There may be many ways to avoid accidents, but an effective and accurate system is needed. The significant approaches used are Positive Train Control (PTC), Collision Avoidance Systems (CAS), Automated Train Operation (ATO), and Advanced Signaling Systems along with traditional approaches. These scenarios demand a novel approach with maximum accuracy by overcoming the difficulties such as identifying potential equipment failures, and enhanced communication systems for seamless coordination of trains and control centers. The key benefits are comparison against existing methods, proactive risk assessment, and predictive maintenance to enhance safety standards, optimize operations, and ensure sustainability. In this, IoT devices like sensors, with network support are key functionalities in avoiding of train accidents.

### 1. INTRODUCTION

Nowadays, there are scenarios that illustrate the danger of traveling in trains, such as accidents occurring due to a lack of technology, a lack of appropriate methods, and inappropriate monitoring. To detect early dangers, a novel approach is to be designed, and would ensure accuracy, and optimal compared to other existing models.

The integration of layered models one after other and the usage of those models would provide a strong safety railway system that eliminates train collisions. This system utilizes a layered safety approach, combining advanced technologies and human oversight to minimize train collision risks.

Key Components that are currently or previously used are demonstrated in Table 1 with purpose and advantages, the railway maintenance system is using are following principles till today:

**PTC:** Acts as the foundation, automatically enforcing speed limits, preventing unauthorized movements, and ensuring safe stopping distances.

**CAS:** Uses onboard sensors (radar, lidar, cameras) to detect obstacles on the tracks and initiate emergency braking if

necessary.

**GPS Monitoring:** Continuously tracks train location in real-time.

**Remote control centers:** Monitor the entire network, intervene in case of emergencies or PTC malfunctions, and communicate with train crews.

The safety of railway maintenance system is enhanced further by considering of below modules for better decision making and up-skilling of operators' jobs:

**Virtual Reality (VR) training:** Provides engineers with realistic simulations to develop better decision-making and response skills in emergencies.

**Augmented Reality (AR) maintenance:** Streamlines maintenance procedures, improves accuracy, and allows for remote expert assistance.

**Artificial Intelligence (AI):** Analyzes data from various sources to identify trends, predict potential issues, and improve overall system effectiveness (future integration).

The identified advantages achieved by this system are Automated Enforcement in which PTC ensures adherence to safety protocols, Real-time Obstacle Detection in which CAS provides an extra layer of protection by detecting unforeseen

Faculty Development Program / Training Program On  
**Ph.D Course Work-Research Assistance**  
 23-28 December 2024

Organized By Association with Sponsored By

**CERTIFICATE OF PARTICIPATION**

This is to Certify that  
**CHANDRAKALA G**  
 ASSISTANT PROFESSOR, SREE RAMA ENGINEERING COLLEGE

Participated in the Faculty Development Program / Training Program On  
 "Ph.D Course Work - Research Assistance" from 23-28 December 2024.

Dr. Manish Dubey, President, Central India Board, Research Foundation of India  
 Dr. Ajay Jain, National Coordinator, Research Foundation of India  
 Prof. Dr. Ashish Kumar Gupta, Chief Managing Director, Research Foundation of India, RFI-GATE  
 Dr. Sourabhi Jain, Chairman & CEO, Research Foundation of India, RFI-GATE

**Elite**  
**NPTEL ONLINE CERTIFICATION**  
 (Funded by the MoE, Govt. of India)

This certificate is awarded to  
**KADIVETI PRAVEENA**  
 for successfully completing the course

**Cloud Computing**

with a consolidated score of **68** %

Online Assignments	22.6/25	Proctored Exam	45.32/75
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Total number of candidates certified in this course: **30816**

Jul-Oct 2024  
 (12 week course)

**Prof. Haimanti Banerji**  
 Coordinator, NPTEL  
 IIT Kharagpur

Indian Institute of Technology Kharagpur

Skill India  
 कौशल भारत - कुशल भारत

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Roll No: NPTEL24CS1185950800658 To verify the certificate No. of credits recommended: 3 or 4

**Elite**  
**NPTEL ONLINE CERTIFICATION**  
 (Funded by the MoE, Govt. of India)

This certificate is awarded to  
**T HARITHA**  
 for successfully completing the course

**Introduction to Machine Learning**

with a consolidated score of **67** %

Online Assignments	24.17/25	Proctored Exam	42.86/75
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Total number of candidates certified in this course: **6812**

Jul-Sep 2024  
 (8 week course)

**Prof. Haimanti Banerji**  
 Coordinator, NPTEL  
 IIT Kharagpur

Indian Institute of Technology Kharagpur

Skill India  
 कौशल भारत - कुशल भारत

swayam  
 THE ONLINE EDUCATION SWAYAM

Roll No: NPTEL24CS81S348500089 To verify the certificate No. of credits recommended: 2 or 3

**PRINCIPAL**