



# LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING (AUTONOMOUS)

Accredited by NAAC with 'A' Grade

An ISO 21001:2018, 14001:2015, 50001:2018 Certified Institution

Approved by AICTE, New Delhi and Affiliated to JNTUK, Kakinada

L.B. REDDY NAGAR, MYLAVARAM, NTR DIST., A.P.-521 230.

[hodcsm@lbrce.ac.in](mailto:hodcsm@lbrce.ac.in), [csmoffice@lbrce.ac.in](mailto:csmoffice@lbrce.ac.in), Phone: 08659-222 933, Fax: 08659-222931

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING (AI&ML)**

## Report on Explore Innovative Trends in Machine Learning and Deep Learning

" Event Type: Faculty Development Program

**Event Date & Timings:** 10.06.2024 to 14.06.2024 (Online) 9:30AM-12:30 PM Everyday

### Resource Persons:

- **Dr. D. Chandra Mohan**, Assistant Profess IIT, Sri City, Andhra Pradesh.
- **Dr. Damodar Reddy**, Associate Professor National Institute of Technology, Goa
- **Dr. Dheeraj Kodati**, Sr. Software Engineer, Apollo Computing Laboratory, Hyd.
- **Mr.R. Laxman**, Scientist-E Research Centre Imarat, DRDO, Hyderabad.

### Convener:

- **Dr. S. Jayaprada**, Professor & HoD

### Coordinators :

- **Dr. B. Rajendra Prasad**, Associate Professor
- **Dr. Sk. Jameer**, Associate Professor

**In Association with: Institution Innovative Council, LBRCE.**

**Objective:** To inculcate the effective Innovative Trends in Machine Learning and Deep Learning and empower the faculty to impart their knowledge for the well being of students and scholars.

**About the event:** The FDP program was designed to deliver and participate in online mode for the faculty only. Each day the resource person delivers lectures and hands-on online for the faculty. The faculty are from reputed organizations such as IIT's/NIT's and some of the national importance institutions.

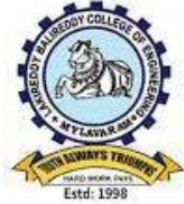
## **INVITATION**

**Lakireddy Bali Reddy College of Engineering (Autonomous)**

**L.B.Reddy Nagar, Mylavaram – 521230**

**NTR District, Andhra Pradesh.**

**Department of Computer Science & Engineering(AI&ML)**



**Cordially invites you to the**

**Inaugural Function of**

**Five Day Online Faculty Development Program on**

**“Explore Innovative Trends in Machine Learning & Deep Learning”**

**From 10-06-2024 to 14-06-2024**

**Inaugural starts at 9:30 AM on 10-06-2024**

**Chief Guest: Dr.K.Appa Rao, Principal**

**Resource Person**

**Dr.D.Chandra Mohan, IIIT, Sri City**

**Chief Patrons**

**Sri L.Jaya Prakash Reddy, Co-Founder & Honorary Chairman**

**Sri L.R.N.K Prasad Reddy, Chairman**

**Patrons**

**Sri G. Srinivasa Reddy, President,LBRCT**

**Dr.K. Appa Rao, Principal**

**Dr.B. Ramesh Reddy, Vice- Principal**

**Convener**

**Dr.S.Jayaprada, Prof.& HOD-CSE(AI&ML)**

**Coordinators**

**Dr.B.Rajendra Prasad, Assoc.Professor**

**Dr.Sk.Jameer, Assoc.Professor**

**<https://bit.ly/aimlfdp2024>**

**\*\*\*\*\***

# BROUCHER

## ABOUT THE DEPARTMENT

The Department of CSE(AI&ML) is launched at Lakireddy Bali Reddy College of Engineering, Mylavaram, NTR District, Andhra Pradesh, Pin 521230. The department of CSE-AI & ML was started in the year 2021 with an intake of 120 students in an undergraduate program with advanced learning solutions imparting knowledge of advanced innovations like Artificial intelligence, Machine learning and Data Science. Considering the interdisciplinary nature of AI&ML, a separate department helps in creating a complete ecosystem for AI&ML Academics and Research. The Department with Advanced Laboratory for Research and Academics.

## OBJECTIVES OF THE FDP

1. **Enhance Knowledge:** Provide participants with a deep understanding of the fundamental concepts and advanced techniques in machine learning and deep learning.
2. **Practical Skills:** Equip faculty with the skills to apply ML and DL techniques to solve real-world problems.
3. **Research Opportunities:** Promote research in the field by exploring current trends, challenges, and opportunities.



## ABOUT THE COLLEGE

Lakireddy Bali Reddy College of Engineering (LBRCE), approved by AICTE and affiliated to JNTUK, Kakinada is an Autonomous Institution since 2010 and has been accredited by NAAC with 'A' Grade (3.20 / 4 in Cycle-2), NBA (ASE, CE, CSE, IT, ECE, EEE, & ME) under Tier-I and ISO 21001:2018, 14001:2015, 50001:2018 Certified. It has also been awarded 2(f) and 12(B) status and Recognized as a 'Colleges with Potential for Excellence' (CPE) by UGC. It ranks in 101-150 Rank Band in NIRF India Innovation Rankings - 2023 and ranked 251-300 band (Under Engineering) in NIRF India Rankings - 2022, 201-250 band (Under Engineering) in NIRF India Rankings - 2020. At present, we offer 9 B.Tech programs in CSE, CSE (AI&ML), AI & DS, IT, ECE, EEE, CE, ASE, ME and 4 M.Tech programs in Data Science, Thermal Power Engg., Power Electronics & Electrical Drives, VLSI and Embedded Systems Design, apart from M.B.A.



## FIVE-DAY ONLINE FACULTY DEVELOPMENT PROGRAM

ON  
"EXPLORE INNOVATIVE TRENDS  
IN MACHINE LEARNING AND  
DEEP LEARNING"  
(10-06-2024 TO 14-06-2024)



### Chief Patrons

**Sri L. Jaya Prakash Reddy,**  
Co-Founder & Honorary Chairman  
**Sri L.R.N.K Prasad Reddy,** Chairman

### Patrons

**Sri G. Srinivasa Reddy,** President, LBRCT  
**Dr. K. Appa Rao,** Principal  
**Dr. B. Ramesh Reddy,** Vice-Principal  
**Convener**

**Dr. S. Jayaprada,** Prof. & HOD-CSE(AI&ML)

### Coordinators

**Dr. B. Rajendra Prasad,** Assoc. Professor  
**Dr. SK. Jameer,** Assoc. Professor

### ORGANIZED BY

**DEPARTMENT OF CSE(AI&ML)**  
**LAKIREDDY BALI REDDY**  
**COLLEGE OF ENGINEERING(A)**  
**MYLAVARAM-521230**

**NTR (DT), AP.**  
**Ph.08659 222933 Fax.09659 222931**  
**[www.lbrce.ac.in](http://www.lbrce.ac.in)**

## PROGRAM STRUCTURE

Day 1: Introduction and Fundamentals

- Session 1: Introduction to Machine Learning
  - Overview of ML concepts and types (supervised, unsupervised, reinforcement learning)..
- Session 2: Introduction to Deep Learning
  - Basics of neural networks and deep learning frameworks.
  - Differences between ML and DL.

Day 2: Tools and Techniques

- Session 3: ML Tools and Libraries
  - Introduction to popular ML libraries (e.g., scikit-learn, TensorFlow, Keras).
- Session 4: DL Frameworks
  - Deep dive into DL frameworks (TensorFlow, PyTorch). Building simple neural networks.

Day 3: Hands-On Sessions

- Session 5: Supervised Learning
  - Practical session on regression and classification problems.
  - Implementing algorithms in Python.
- Session 6: Unsupervised Learning
  - Clustering and dimensionality reduction techniques. Hands-on exercises with real datasets.

Day 4: Advanced Topics

- Session 7: CNN- Understanding CNN architecture. Applications in image processing and computer vision.
- Session 8: Recurrent Neural Networks (RNNs)
  - RNNs and LSTMs for sequence modeling.
  - Applications in natural language processing (NLP).

Day 5. AI Basic Applications in Missile Control

## RESOURCE PERSONS

**Mr. R. Laxman,** Scientist+E,  
Research Centre Imarat (RCI),  
Defence Research & Development Organisation,  
Hyderabad.

**Dr. D. Chandra Mohan,** Assistant Professor  
Indian Institute of Information Technology,  
Sri City, Tirupathi, Chittoor District - 517 646,  
Andhra Pradesh, India

**Dr. Damodar Reddy Edla,** Associate Professor,  
Department of Computer Science and Engineering,  
National Institute of Technology Goa,  
Kattamoll Plateau, Cuncolim Municipal Area,  
Salcete Taluka, South Goa District, Goa - 403703

**Dr. Dheeraj Kodati,** Senior Software Engineer,  
Apollo Computing Laboratory,  
Hyderabad, Telangana.



## REGISTRATION PARTICULAR

1. **The Registration Fee: 100/-**
2. Last date for registration is 06-06-2024
3. E-Certificate will be issued for all the 80% of Attendance is mandatory for participants on at the end of the program providing E- Certificate
4. For Any Query Contact: **9703233201**

### Registration Link

<https://forms.gle/9QAodz59t7hbHJPKA>

### After Registration Done, Pay Here

Scan & Pay Using PhonePe App



Scan & Pay @ QR

Phone Pay: **8328361743**

### Event Details

**TITLE: "EXPLORE INNOVATIVE TRENDS  
IN MACHINE LEARNING AND DEEP  
LEARNING"**



**10-JUNE-2024 TO 14-JUNE-2024**



**9:30 AM TO 12:30 PM**



**ONLINE : VIRTUAL MODE**

### ORGANIZED BY

**DEPARTMENT OF CSE(AI&ML)**





# Inaugural Ceremony

**FIVE DAY ONLINE**

**FACULTY DEVELOPMENT PROGRAM(FDP)**



10-06-2024 TO 14-06-2024



9:30 AM to 12:30 PM

**“EXPLORE INNOVATIVE TRENDS IN  
MACHINE LEARNING AND DEEP LEARNING”**



**DEPARTMENT OF CSE(AI&ML)**

**LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING(A)**

**MYLAVARAM, NTR(DIST)-521 230, AP.**



## REGISTRATION SUMMARY

- **Total Registered** : 150
- **Attended the course** : 125+

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**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING (AI&ML)**

## REGISTRATION SUMMARY

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- **Attended the course** : 125+

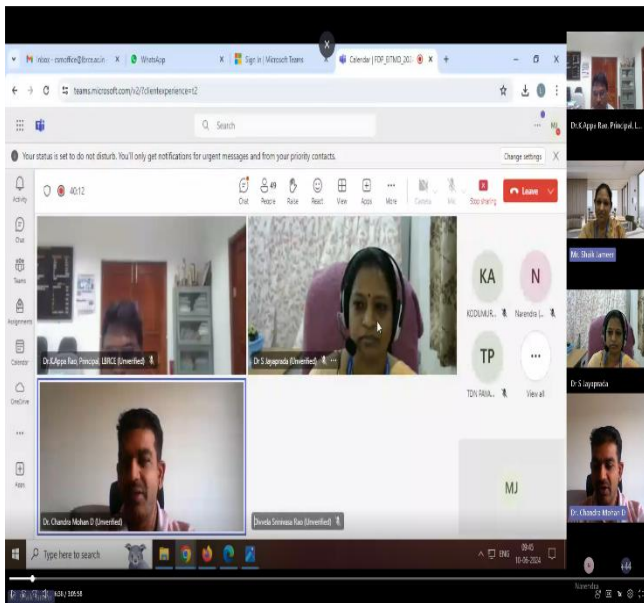
## DAY-1:: GALLERY :: FDP:: ONLINE

### Resource Person:

**Dr. D. Chandra Mohan, Assistant Profess IIIT, Sri City, Andhra Pradesh.**

### Topics Discussed :

- ❖ Neural Networks
- ❖ Multi layer perceptron
- ❖ Back Propagation



**Outline**

- **Machine Learning (10-06-2024)**
  - Supervised learning techniques
    - Classification
      - Decision Trees
    - Prediction
      - Regression
  - Unsupervised learning techniques
    - Clustering
      - K-Means
- **Deep Learning (10, 11-06-2024)**
  - Multilayer Perceptron
    - MLP with Back Propagation
  - Convolutional Neural Networks
  - Recurrent Neural Networks
  - Graph Neural Networks\*\*

June 10, 2024

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**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING (AI&ML)**

## DAY-2 :: GALLERY :: FDP:: ONLINE

### Resource Person:

Dr. D. Chandra Mohan, Assistant Profess IIT, Sri City, Andhra Pradesh.

### Topics Discussed:

- ❖ Convolution Neural Networks
- ❖ Recurrent Neural Networks
- ❖ CNN - LSTM Models

**CNN Architecture**

- The CNN architecture consist of multiple layers, typically, one input and a number of hidden and one output layers
- CNN architecture contains stack of convolution and pooling operations

Figure 13: CNN Architecture

**CNN Model Architecture**

IntersSPP CNN Model

Figure 17: Graphical representation of CNN model used for (A) Splice site prediction and (B) To find patterns that motivate splice sites.



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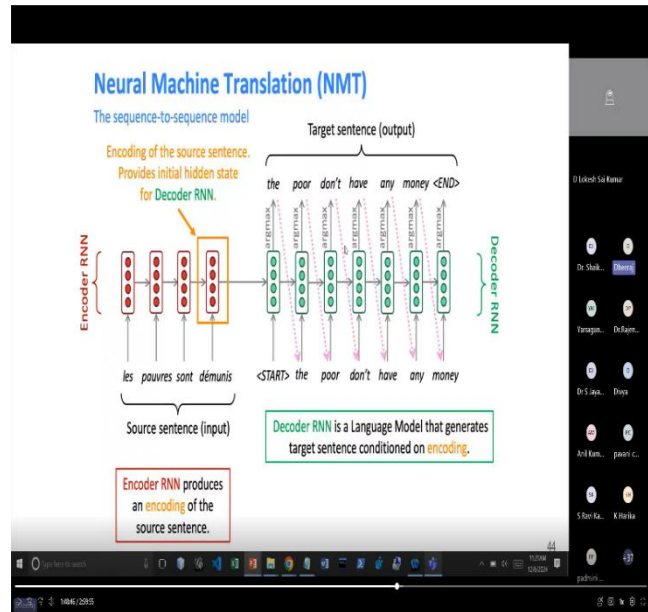
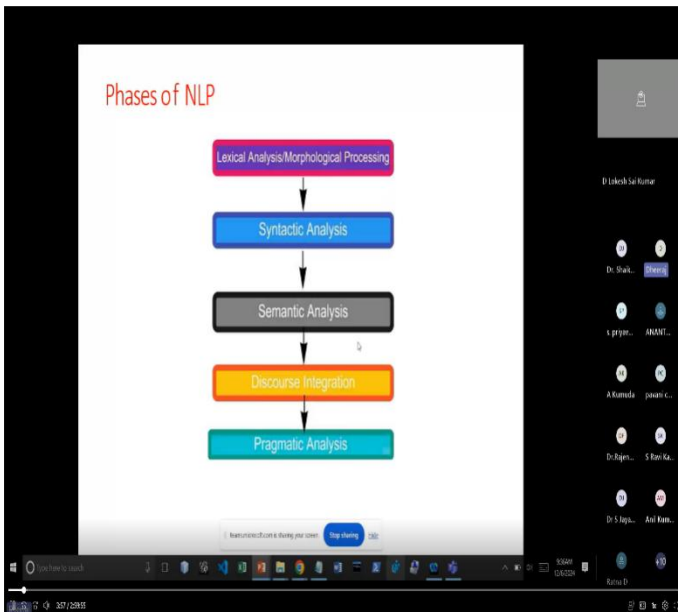
## DAY-3 :: GALLERY :: FDP :: ONLINE

### Resource Person:

Dr. Dheeraj Kodati, Sr. Software Engineer, Apollo Computing Laboratory, Hyd.

### Topics Discussed:

- ❖ Natural language processing
- ❖ RNN equation
- ❖ Bi directional RNN







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## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING (AI&ML)

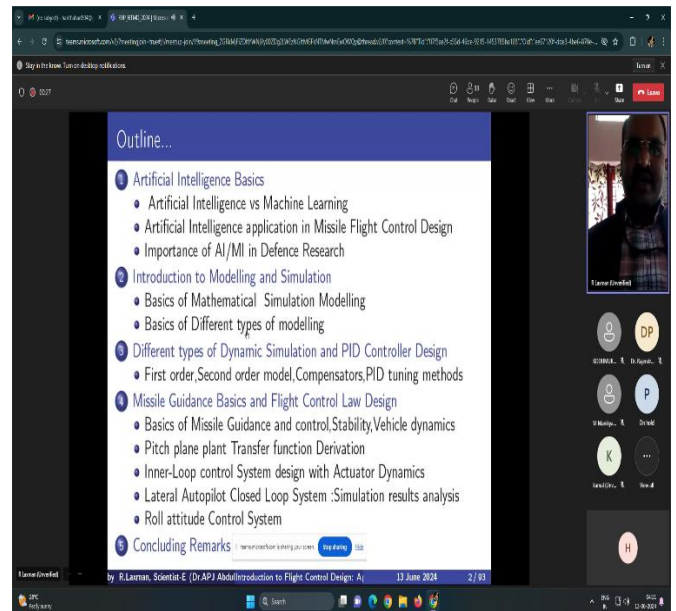
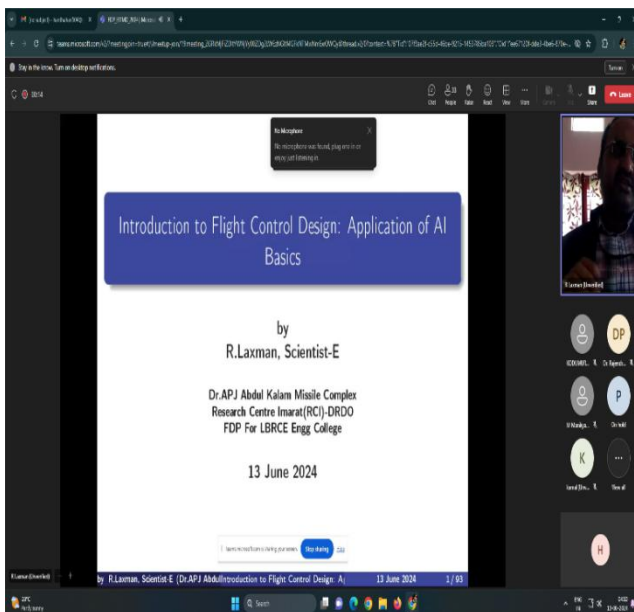
### DAY-4:: GALLERY :: FDP:: ONLINE

#### Resource Person:

Mr.R. Laxman, Scientist-E Research Centre Imarat, DRDO, Hyderabad.

#### Topics Discussed:

- ❖ Introduction to Artificial Intelligence
- ❖ PLD Controller Tuning methods
- ❖ Models of Missile plant
- ❖ Three loop controller







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**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING (AI&ML)**

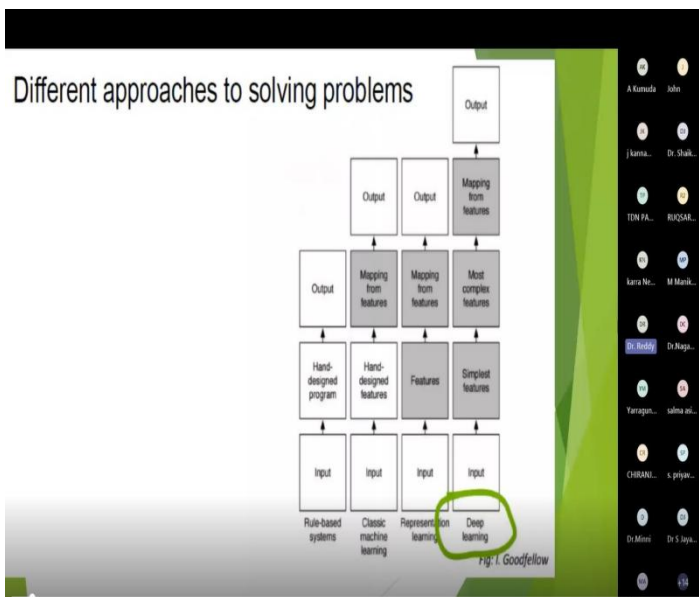
## DAY-5:: GALLERY :: FDP:: ONLINE

### Resource Person:

Dr. Damodar Reddy, Associate Professor National Institute of Technology, Goa

### Topics Discussed:

- ❖ Deep learning classification
- ❖ CNN - image Classification



Typical image-related tasks

(a) classification (b) detection (c) segmentation

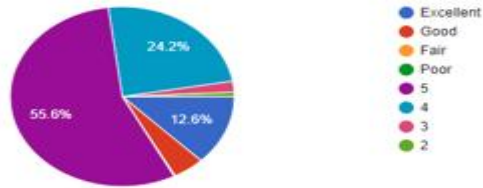
Detection task is harder than classification, but both are almost done.  
And with better-than-human quality.

# FEEDBACK

1. How would you rate the overall content of the program? \*

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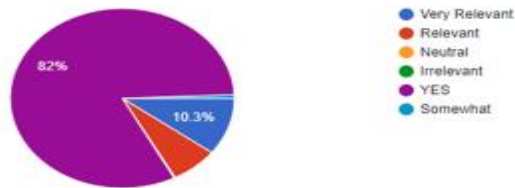
611 responses



2. How relevant was the content to your academic/professional needs?

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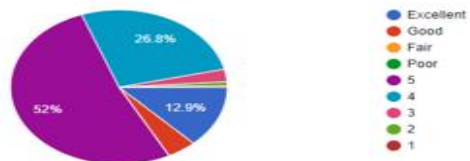
611 responses



3. How would you rate the presentation skills of the instructors for today's sessions?

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611 responses



4. Were the concepts explained clearly and comprehensively today?

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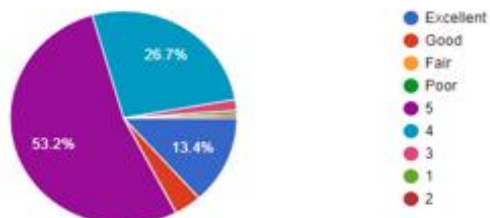
611 responses



5. How well was the program organized?

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611 responses



VALIDICTORY



# Valediction Ceremony

**FIVE DAY ONLINE**

**FACULTY DEVELOPMENT PROGRAM(FDP)**



10-06-2024 TO 14-06-2024



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## Impact Analysis

- ❖ From this FDP, the faculty gain a deeper understanding of Machine learning & Deep Learning concepts, algorithms, and applications.
- ❖ Faculty Improved in technical skills, including data preprocessing, model training, and evaluation.
- ❖ Faculty acquire knowledge in advanced research methodologies and techniques & adoption of new technologies and software tools for research.

## WORKSHOP RECORDINGS

DAY 1: FDP EITMD 2024-20240610 093827-Meeting Recording.mp4

DAY 2: FDP EITMD 2024-20240611 094117-Meeting Recording.mp4


DAY 3: FDP EITMD 2024-20240612 093243-Meeting Recording.mp4

DAY 4: FDP EITMD 2024-20240613 040810-Meeting Recording.mp4

DAY 5: FDP EITMD 2024-20240614 132404-Meeting Recording.mp4

1.   
2.   
coordinator

  
Convener

  
Head of the Department  
HEAD OF THE DEPARTMENT  
COMPUTER SCIENCE AND ENGINEERING (AI & ML)  
LAKIREDDY BALIREDDY COLLEGE OF ENGINEERING  
MYLAVARAM.-521 230. NTR DT

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