

IT TRENDS

IT TRENDS

Volume-XI, Issue-IV

Department News Letter



DEPARTMENT OF INFORMATION
TECHNOLOGY

TRENDS
NEWS LETTER



Volume-11, Issue-4, April - June 2026

VISION:

To emerge as one of the most preferred departments for the budding engineers, aspiring to be successful IT professionals.

MISION:

1. To impart quality education with a well designed curriculum, consistent with industry requirements, that equips the student to face the career challenges.
2. To extend the student's learning beyond the curriculum, through workshops on cutting edge technologies.
3. To strengthen creativity and team spirit of the students by providing a conducive environment, preparing them to face the challenges posed by the IT industry.
4. To develop life-long learning, ethics, moral values and spirit of service so as to contribute to society through technology.

PROGRAM EDUCATIONAL OBJECTIVES:

Graduates of Information Technology programme will be:

PEO1: Pursue a successful career in the area of Information Technology or its allied fields.

PEO2: Exhibit sound knowledge in the fundamentals of Information Technology and apply practical experience with programming techniques to solve real world problems.

PEO3: Demonstrate self-learning, life-long learning and work in teams on multidisciplinary projects.

PEO4: Understand the professional code of ethics and demonstrate ethical behaviour, effective communication, team work and leadership skills in their job.

FACULTY DEVELOPMENT PROGRAM ORGANIZED FOR FACULTY:

- A Six Days Online Faculty Development Program Report On “AI-DRIVEN CYBERSECURITY FOR SECURE FINANCIAL TRANSACTION” on : 27-04-2026 to 02-05-2026. The resource persons from Professors, Veltech University, expert from Malaysia, AI Architect, Technical product manager from PepsiCo India, Officer Cyber advisory, DRDO.
- A Six Day Administrative Training Program for Non-Teaching Staff on “Microsoft Power BI and Canvants” on 04-05-2026 to 09-05-2026 by Mrs. M. Hemalatha, Sr. Assistant Professor, Dept. of IT, Mr. M. Rajesh Reddy, Sr. Assistant Professor, Dept. of IT, LBRCE, resource persons Mrs. M. Hemalatha, Sr. Assistant Professor, Dept. of IT, LBRCE Mr. M. Rajesh Reddy, Sr. Assistant Professor, Dept. of IT, LBRCE
- ONE WEEK FDP ON “GENERATIVE AI TOOLS FOR RESEARCH AND INNOVATION” on 22nd –27th June 2026 by Dr Ch. Malathi, Sr. Assistant Professor, Dept of CSIT, LBRCE- Mylavaram, Mr. Ch. Sambasivarao, Sr. Assistant Professor, Dept of CSIT, LBRCE, Mylavaram. The resource persons are : 1. Dr. P. Karuppanan, Associate Professor, NIT-Prayagraj 2. Dr. Mahipal Jadej, Assistant professor, MNIT-Jaipur 3. Dr. Divya Meena Sundaram, Associate Professor, VIT-Vellore 4. Dr. Sheela Jayachandran, Associate Professor, VIT-AP 5. Dr. Sreenivasulu Madichetty, Manager Data Science, Publicis Sapient 6. Mr. Mohit Agarwal, Senior Lead ML Engineer, Qualcomm.

AI-DRIVEN CYBERSECURITY FOR SECURE FINANCIAL

TRANSACTION

DAY1: 27-04-2026



LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING(A)





Resource Person

Dr.N.Vijayaraj
Assistant Professor
VelTech University

27-04-2026

Online FDP On

1:30 PM : 4:00 PM

AI-DRIVEN CYBERSECURITY FOR SECURE FINANCIAL TRANSACTIONS

Jointly Organized by Department of CSE(AI&ML), IT and MBA

21:55

Take control Chat People Raise Hand View More Camera Mic Share Leave

What is Cryptocurrency?

A cryptocurrency is not a type of currency that can be used in the real world. It can be used to perform transactions only in the digital world. So in order to buy/sell using a cryptocurrency, it has to be converted from a digital form to some existing currency that is used in the real world. For example, Dollars, Rupees, etc. Cryptocurrencies don't have a central issuing authority instead using a decentralized system to record transactions and issue new units.



Virtual Money



Cryptography Algorithm



Decentralized Network Design



Cryptocurrency

=

Fintra.co.in

MK
Michael W...

AN
Anand H...

V
vijayaraj...

DB
Dr. Rajat...

DM
Dr. Chitra...

PV
Pillu V...

NV
Narasim...

DJ
Dr. J. J...

MR
Mr. R...

D
Dr. S...

1/2

DAY2: 28-04-2026



LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING(A)





Resource Person

Dr. T. Kamaleshwar
Associate Professor
VelTech University

28-04-2026

Online FDP On

1:30 PM : 4:00 PM

AI-DRIVEN CYBERSECURITY FOR SECURE FINANCIAL TRANSACTIONS

Jointly Organized by Department of CSE(AI&ML), IT and MBA

AI Driven Cybersecurity — Sec

D3: Knowledge | AI Powered Path

Ask Gemini

localhost:5173/cv-w

New Chrome available

// SUMMARY & KEY TAKEAWAYS

The Future of Cyber-Resilient Finance



AI is Both Risk & Remedy
AI enables sophisticated attacks — but also our most powerful defense layer.



Zero Trust is Non-Negotiable
Every bank must move from perimeter to identity-centric Zero Trust architecture.



Govern Shadow AI Now
Employees are already using AI. Build governance before a breach forces your hand.



Zero-Click is Real
Traditional user training won't stop zero-click. AI behavioral monitoring is the only defense.



Automate the SOC
Human analysts can't scale. AI powered SOAR cuts response time from days to seconds.



Build AI-Sec Talent
India needs 10k cybersecurity professionals. Engineering curriculum must evolve now.

(QUESTIONS & DISCUSSION OPEN) — Thank you for attending

AI Cybersecurity Framework | CSIRT-Is Guidelines | PDS-BOL-6-8 | NISQ Cybersecurity Toolkit | NIST CSF 2.0

RV

VB

K

MK

DJ

PK

MP

PV

SR

DB

1/2

03:14

Take notesPin outRecordChatPeopleBaseReactViewMoreCameraMicShareLeave

AI in Financial Security

The infographic features a dark blue background with white text and icons. At the top, it says "BEHAVIORAL BIOMETRICS". Below this are four circular icons connected by lines, each representing a different type of behavioral biometric:

- TYPING CADENCE**: Icon shows hands typing on a keyboard. Description: "How long fingers linger".
- SWIPE PRESSURE & SCREEN NAVIGATION**: Icon shows a hand swiping across a smartphone screen. Description: "Screen navigation".
- MOUSE MOVEMENT**: Icon shows a hand moving a computer mouse. Description: "Scrolling behavior".
- DEVICE MOTION & TILT**: Icon shows a smartphone being tilted. Description: "Tilt & orientation".

Kode Know™



DAY4: 30-04-2026



LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING(A)



Resource Person



ANJA NARESH PADAVALA Enterprise AI Architect

30-04-2026

Online FDP On

1:30 PM : 4:00 PM

AI-DRIVEN CYBERSECURITY FOR SECURE FINANCIAL TRANSACTIONS

Jointly Organized by Department of CSE(AI&ML), IT and MBA



DAY5: 01-05-2026



LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING(A)





Resource Person

Mr. P. Chandra Tej
Technical Product Manager
PepsiCo India

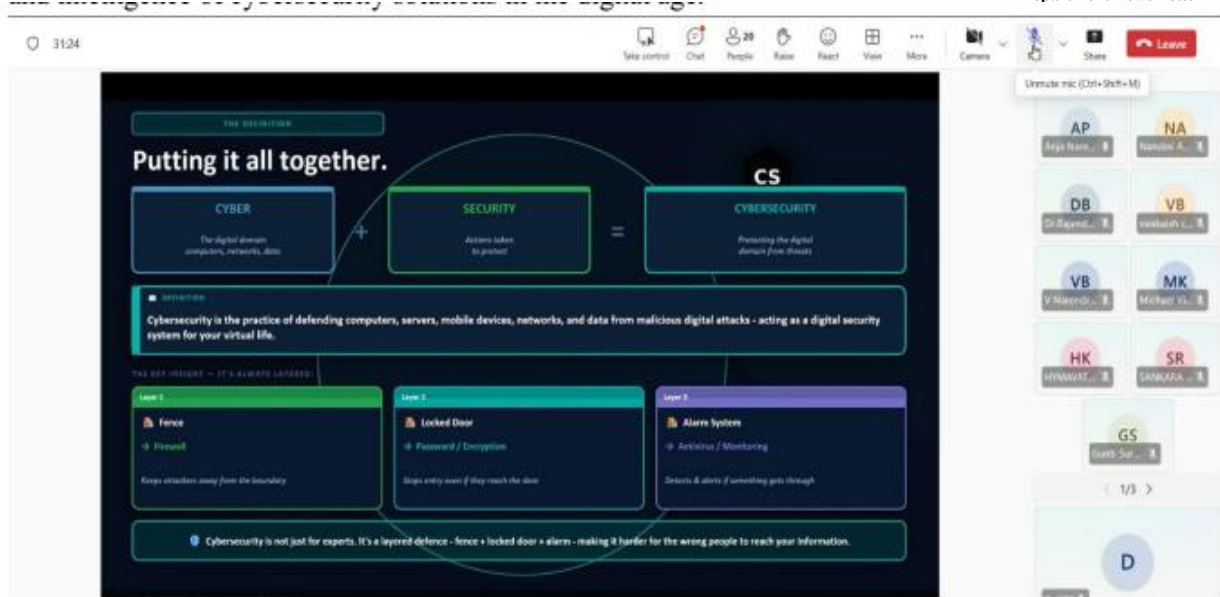
01-05-2026

Online FDP On

1:30 PM : 4:00 PM

AI-DRIVEN CYBERSECURITY FOR SECURE FINANCIAL TRANSACTIONS

Jointly Organized by Department of CSE(AI&ML), IT and MBA



DAY6: 02-05-2026



LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING(A)



Resource Person



Mr. Shravan Kumar

Scientist-C
Officer Cyber Advisory,
DRDO, New Delhi

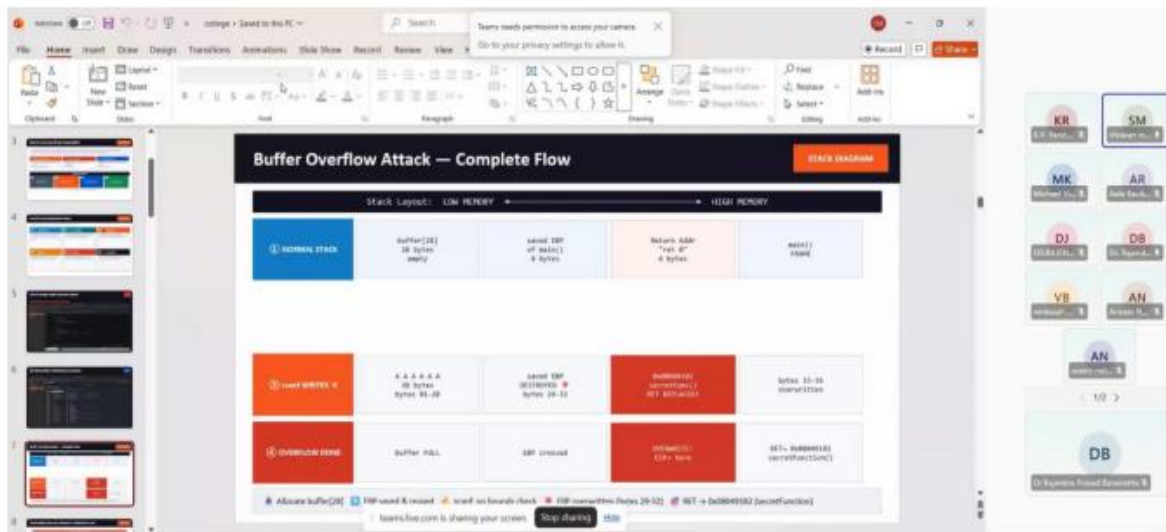

02-05-2026

Online FDP On


1:30 PM : 4:00 PM

AI-DRIVEN CYBERSECURITY FOR SECURE FINANCIAL TRANSACTIONS

Jointly Organized by Department of CSE(AI&ML), IT and MBA



A Six Day Administrative Training Program for Non-Teaching**Staff on Microsoft Power BI and Canva”****Brochure****Resource Persons:**

- Mrs. M. Hemalatha, Sr. Assistant Professor, Dept. of IT, LBRCE
- Mr. M. Rajesh Reddy, Sr. Assistant Professor, Dept. of IT, LBRCE

Eligibility:

- All Non-Teaching Staff of LBRCE

Registration Particulars:

- Registration Fee: Nil
- All the interested Staff must fill and submit the below Google Form

Google Form Link:

<https://forms.gle/8RXBAj27tKecSah77>

Important Dates:

Last Date for Registration:
02/05/2026 (Saturday)

Contact:

Mr. M. Rajesh Reddy,
Sr. Asst. Prof., Dept. of IT, LBRCE
Cell: +91-9885790601
Email: rajeshreddi.m@lbrce.ac.in

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

Accredited by NAAC & NBA

(ASE, CIVIL, CSE, IT, ECE, EEE, MECH)
Approved by AICTE, New Delhi and Affiliated
to JNTUK, Kakinada

L.B. REDDY NAGAR, MYLAVARAM.

COMMITTEE MEMBERS**Chief Patrons:**

1. Sri L. Jaya Prakash Reddy, Honorary Chairman
2. Sri L. R. N. K. Prasad Reddy, Chairman
3. Sri L. Vijay Kumar Reddy, Vice- Chairman

Patrons:

1. Sri G. Srinivasa Reddy, President
2. Dr. K. Appa Rao, Principal
3. Dr. B. Ramesh Reddy, Vice-Principal
4. Dr. M. Srinivasa Rao, Dean Academics

Conveners:

1. Dr. D. Ratna Kishore, Professor & HoD, IT
2. Dr. K. R. L. Prasad, Professor of EEE & IQAC Coordinator

Coordinators:

1. Mrs. M. Hemalatha, Sr. Asst. Prof. Dept of IT
2. Mr. M. Rajesh Reddy, Sr. Asst. Prof. Dept of IT

Organizing Committee:

All the Faculty of the Dept. of IT



**A Six Day
Administrative
Training Program for
Non-Teaching Staff**

On

Microsoft Power BI

and
Canva



(04th May – 09th May 2026)



Organized by

Department of



INFORMATION TECHNOLOGY

In Association with

IQAC

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

Accredited by NAAC with 'A' Grade
Accredited by NBA under Tier-I
(ASE, CIVIL, CSE, IT, ECE, EEE, MECH)

Approved by AICTE, New Delhi and Affiliated to JNTUK,
Kakinada
L.B. REDDY NAGAR, MYLAVARAM, N.T.R. DIST., A.P.-521 230.



LBRCE was founded through Lakireddy Bali Reddy charitable trust in 1998 which stands for quality technical education which is exemplified by the continuous strides it has taken towards excellence in the last two decades. Started with an intake of 180 and now our intake is of 1164 Students. It has got Autonomous Status in the Year 2010 from UGC, which is extended for a period of 06 years in 2016. We were accredited with NAAC and NBA (ASE, CIVIL, CSE, IT, ECE, EEE & MECH) under Tier-I valid up to 2027-28. The College has also been awarded 2(A) and 12(B) statuses, apart from the recognition as a 'College with Potential for Excellence (CPE)' from the UGC. We take pride to have large pool of well-qualified and experienced faculty.

About the Department:

The department of Information Technology was established in the year 1999 with an intake of 40 seats in UG program. Student intake is increased from 40 to 60 in the year of 2001, 120 students in the year 2019. It is the one of the most emerging programmes in LBRCE. Our department is intended to train the students in elementary courses and cutting-edge technologies like Cloud Computing, Android application, Big data, Digital marketing, Social networking and Digital communication for solving many social and business problems.

Vision of the Department:

To emerge as one of the most preferred department for the budding engineers, aspiring to be successful IT professionals.

Mission of the Department:

- To impart quality education with a well-designed curriculum, consistent with industry requirements, that equips the student to face the career challenges.
- To extend the student's learning beyond the curriculum, through workshops on cutting edge technologies.
- To strengthen creativity and team spirit of the students by providing a conducive environment, preparing them to face the challenges posed by the IT industry.
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Program Educational Objectives (PEOs):

- PEO1:** Pursue a successful career in the area of Information Technology or its allied fields.
- PEO2:** Exhibit sound knowledge in the fundamentals of Information Technology and apply practical experience with programming techniques to solve real world problems.
- PEO3:** Able to demonstrate self-learning, life-long learning and work in teams on multidisciplinary projects.
- PEO4:** Able to understand the professional code of ethics and demonstrate ethical behaviour, effective communication, team work and leadership skills in their job.

Program Specific Outcomes (PSOs):

- PSO1:** Organize, Analyse and Interpret the data to extract meaningful conclusions.
- PSO2:** Design, Implement and Evaluate a computer-based system to meet desired needs.
- PSO3:** Develop IT application services with the help of different current engineering tools.

Key Takeaways:

- Understanding of Power BI interface and tools
- Data Analysis, publishing Reports and Monitoring Dashboards
- Applications of Power BI
- Introduction to Canva Environment
- Designing using Templates in Canva
- Tools and Applications of Canva

About The Training Program:

- This program will empower the participants to gain basic understanding and working of Power BI Tool
- It will prepare the participants to pursue their Career towards Data Analytics.
- This program will empower the participants to gain basic knowledge and applications of Canva Tool
- It will prepare the participants to perform the tasks like presentations, graphic design, branding etc.

Objectives:

- To develop skills in data visualization, dashboard creation, and report publishing using Power BI.
- To develop creativity in designing presentations, posters, social media posts, certificates, and marketing materials using Canva.

Topics to be covered:

Day-1-04-05-2026 (Monday)-Power BI

- Introduction to Power BI
- Power BI Desktop Interface
- Data Loading Tools
- Power Query Interface

Day-2-05-05-2026 (Tuesday)-Power BI

- Introduction to Data Analysis in Power BI
- Preparing Data for Analysis
- Creating Analytical Visualizations
- Interactive Analysis Features
- Dashboard Creation
- Publishing Reports to Power BI Service

Day-3-06-05-2026 (Wednesday)-Power BI

- Applications of Power BI
- Education Sector Applications
- Financial Analysis
- Human Resource Analytics

Day-4-07-05-2026 (Thursday)-Canva

- Overview of Canva
- Understanding the Canva Dashboard
- Canva Workspace Interface
- Templates in Canva

Day-5-08-05-2026 (Friday)-Canva

- Image & Video Editing Tools
- Design Element Tools
- Color & Branding Tools etc.

Day-6-09-05-2026 (Saturday)-Canva

- Applications of Canva in
- Education
- Business
- Digital Marketing
- Personal Use

Photographs of the Training Program

Inauguration Session

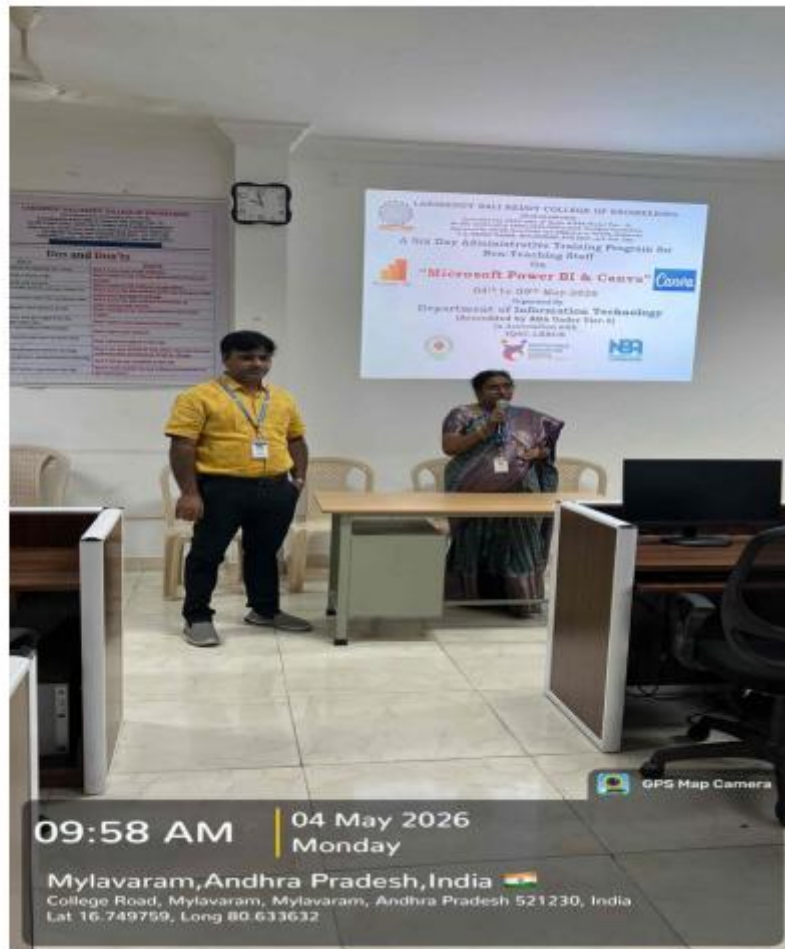


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Volume-XI, Issue-IV

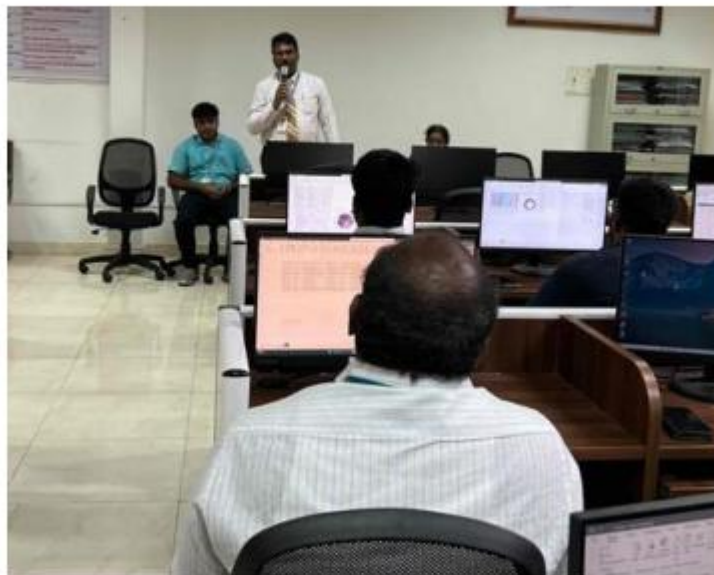
Department News Letter



Photographs of the Training Program



Valedictory Session





ONE WEEK FDP ON GENERATIVE AI TOOLS FOR RESEARCH AND INNOVATION

Brochure:

COMMITTEE MEMBERS

CHIEF PATRONS

Sri L. Jaya Prakash Reddy
Honorary Chairman

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

Sri L. Vijay Kumar Reddy
Vice- Chairman

PATRONS

Sri G. Srinivasa Reddy
President

Dr. K. Appa Rao
Principal

Dr. B. Ramesh Reddy
Vice-Principal

Dr. M. Srinivasa Rao
Dean Academics

CONVENER

Dr. D. Ratna Kishore
Professor & HoD, CSIT

CO-CONVENER'S

Dr. B. Srinivasa Rao
Professor, CSIT

Dr. S. Naganjaneyulu
Professor, CSIT

Dr. K. Venu Gopal
Professor, CSIT

ORGANIZING COMMITTEE
All the Faculty of the Dept. of CSIT

WHO CAN ATTEND?
Faculty | Scholar | Students

MODE: Online

TIME: 2:00PM - 4:00PM IST

SCAN TO REGISTER

Registration Fee: 100/-



[click here to upload details](#)

Last date for registration
18-06-2026

E-Certificates will be provided

COORDINATORS

Dr. Ch. Malathi
Senior Assistant Professor, CSIT

Mr. Ch. Sambasiva Rao
Senior Assistant Professor, CSIT

ANY QUERIES
8897731838
sambasivarao@lbrce.ac.in



**ONE WEEK
FACULTY DEVELOPMENT PROGRAM
ON
GENERATIVE AI TOOLS
FOR RESEARCH AND
INNOVATION**

(22-06-2026 To 27-06-2026)

Organized
by
**Department of
Computer Science and Information Technology
(CSIT)**

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

APPROVED BY AICTE, NEW DELHI AND AFFILIATED TO JNTUK, KAKINADA
L.B. REDDY NAGAR, MYLAVARAM, N.T.R. DIST., A.P.-521 230.

How Anyone
Can Start Using
AI Tools
Without a Technical
Background



ABOUT THE COLLEGE

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PSO2: Design, Implement and Evaluate a computer-based system to meet desired needs.

PSO3: Develop IT application services with the help of different current engineering tools.

ABOUT THE FDP

This program aims to prepare participants to integrate and utilize AI tools for advancing teaching methodologies, learning experiences, research activities, content creation, and productivity enhancement.

TOPICS TO BE COVERED

Dr. Divya Meena Sundaram
Associate professor
VIT-Vellore
Topic: AI Tools for Research and Scholarly Workflows

Dr. Mahipal Jadeja
Assistant professor
MNIT-Jaipur
Topic: Building Custom GPTs for Education and Productivity.

Dr. Sheela Jayachandran
Associate professor
VIT-AP
Topic: AI Tools for Programming

Dr. Sreenivasulu Madichetty
Manager Data Science
Publicis Sapient
Topic: Foundation Models, Prompt Engineering and RAG based Chatbot

Dr. P. Karuppanan
Associate Professor
NIT-Prayagraj
Topic: AI Tools in the Future Trends

Mr. Mohit Agrawal
Senior Lead ML Engineer
Qualcomm
Topic: Generative AI on Edge Devices








Photographs:

Day 1(22-06-2026) : AI Tools in the Future Trends by Dr. P.Karuppanan



LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING
(An Autonomous Institution Since 2010)

One Week Faculty Development Programme

ON

Generative AI Tools For Research And Innovation

Schedule

Day	Topic	Resource Person
Day 1: 22-06-2026	AI Tools in the future Trends	Dr. P. Karuppanan Associate Professor, NIT- Prayagraj
Day 2: 23-06-2026	Building Custom GPTs For Education and Productivity	Dr. Mahipal Jadeja, Assistant Professor, MNIT-Jaipur
Day 3: 24-06-2026	AI Tools for Research and Scholarly Workflows	Dr. Divya Meena Sundaram Associate Professor, VIT-Vellore
Day 4: 25-06-2026	AI Tools for Programming	Dr. Sheela Jayachandran Associate Professor, VIT-AP
Day 5: 26-06-2026	Foundation Models, Prompt Engineering and RAG based Chatbot	Dr. Sreenivasulu Madichetty Manager Data Science, Publicis Sapient
Day 6: 27-06-2026	Generative AI on Edge Devices	Mr. Mohit Agrawal Senior Lead ML Engineer, Qualcomm

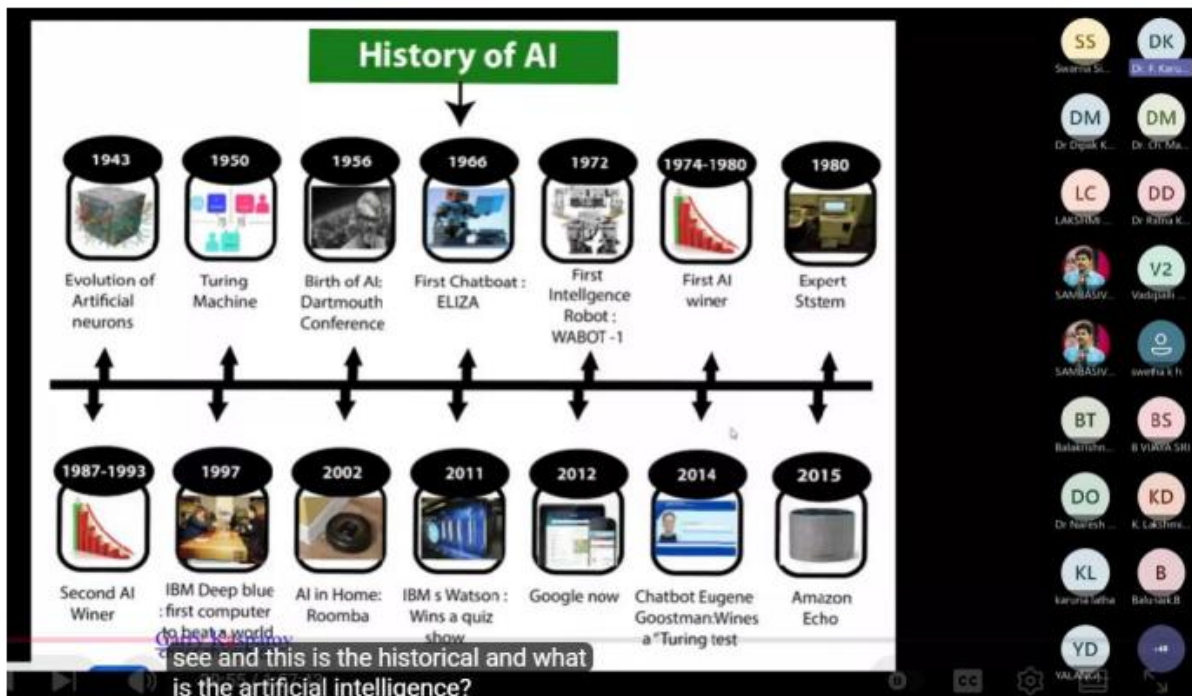
one of the outcome of uh uh FDP. So once again I would like to thank all resource

Department of Computer Science and Information Technology



INSTITUTION'S INNOVATION COUNCIL
(Office of Innovation Initiatives)





Overview of the C.R.E.A.T.E. Framework

- **C.R.E.A.T.E.¹**: A structured method for designing effective prompts
- Acronym breakdown:
 - **C**: Character
 - **R**: Request
 - **E**: Examples
 - **A**: Adjustments
 - **T**: Type of Output
 - **E**: Extras
- Examples we will explore:
 - Summarizing text (writing domain)
 - Writing a professional email (generic)
 - Explaining the Pythagorean theorem (mathematics)

The screenshot shows a web browser window with a presentation slide titled "Greedy Approximation Process". The slide lists the following steps:

- Network monitoring
- Sensor placement
- Security camera placement
- Social network influence monitoring

The diagram illustrates the Greedy Approximation Process with four stages:

- Pick Best Choice**: Select the locally optimal option.
- New updated Graph**: Remove covered edges and vertices.
- Pick Next Choice**: Choose the next best option.
- Continue Process**: Repeat until all edges are covered.

The video conference interface on the right shows a participant, Dr. Mahipal Jadeja, and a list of other participants including Sytaji Va., SAMBAS..., Bhanu, KRISHN..., Vijay Ku..., karu L., Zensha..., Dr. ADIL..., S. sandhya, and RAJESH...

The screenshot shows a Microsoft Word document titled "Research Title -". The document contains the following list:

1. Identifying papers (
2. Literature review (
3. Methodology (
4. Humanize AI (

The video conference interface on the right shows a participant, Dr. Mahipal Jadeja, and a list of other participants including M. Vijay..., SAMBAS..., MP, SK, Michael..., Srinidhi K..., Rami, BV..., Bhanu, V. Raju A..., Dr. Farida..., KS, KROTHIL..., and S. sandhya.

Training Data

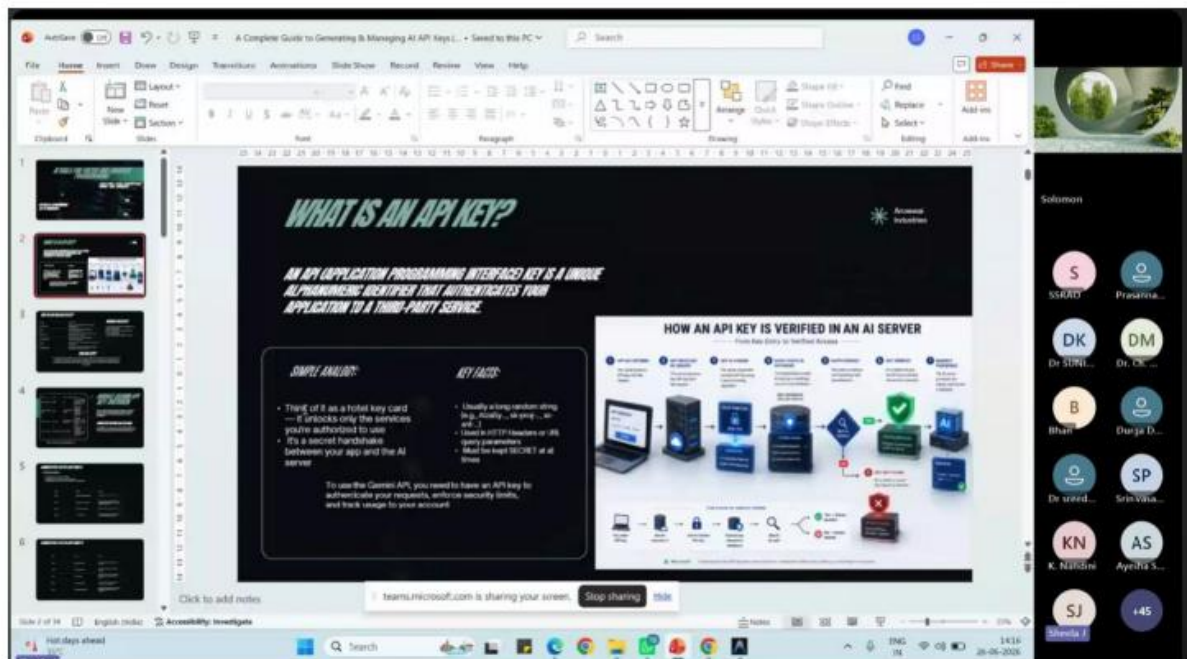
- In 2022 and 2023, the nonprofit organization organization crawled approximately 2–3 billion web pages each month
- **Common Crawl**,
- Google provides a clean subset of Common Crawl called the **Colossal Clean Crawled Corpus**, or **C4** for short

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Volume-XI, Issue-IV

Department News Letter



Sample Participation Certificates:



STUDENT ACHIVEMENTS:

Student Publications

Conference Publications

Hybrid Deep Learning Model for Skin Cancer Classification: Integrating PSO-Tuned CNN with Stacking Ensemble Learning

Publisher: IEEE

[Rajesh Reddy Muley](#); [Muralidhar Maddali](#); [Devika Naga Sai Ponnam](#)

Abstract:

Skin cancer remains a leading cause of morbidity worldwide, necessitating early detection for effective treatment. This paper presents optimized EfficientNet-PSO ensemble model (OEP-SEM), a deep learning framework for automated skin cancer classification utilizing the HAM10000 dataset. EfficientNetB1 serves as a feature extractor, while the final classification model, referred to as Optimized PSO-CNN classifier (OPC-CNN), is optimized using Particle Swarm Optimization (PSO) for hyper parameter selection. The extracted features are not directly classified by a CNN, but instead, they are used to train OPC-CNN, which is further optimized and integrated into a stacking ensemble comprising a CNN wrapper, support vector machine (SVM), and XGBoost, with logistic regression as the meta-classifier to enhance predictive accuracy. Furthermore, a real-time prediction system is integrated to facilitate practical usability. Extensive experimentation confirms that OEP-SEM surpasses conventional CNN-based models, providing an efficient and interpretable dermatological diagnosis solution. The inclusion of PSO enhances the adaptability of OPC-CNN, while ensemble learning improves classification accuracy compared to standalone CNN-based models. Our results indicate a significant improvement in classification performance, robustness, and generalization, making this approach suitable for real-world medical applications.

Published in: [2025 International Conference on Innovations in Intelligent Systems: Advancements in Computing, Communication, and Cybersecurity \(ISAC3\)](#)

<https://doi.org/10.1109/ISAC364032.2025.11156757>

Adaptive Indoor Air Quality Monitoring System using IoT Sensors And Deep Learning

Publisher: IEEE

[Rajendra Gurram](#); [Charani Sevitha N](#); [Anil B](#); [Teja M](#)

Abstract:

Air pollution is a major risk to public health and environmental sustainability. This paper introduces an IoT- based air quality monitoring system that uses deep learning to offer real-time pollution evaluation. The system incorporates several gas and particulate matter sensors, such as MQ-7, MQ-135, MQ-4, a PM2.5 dust sensor, and a temperature sensor, to gather environmental information. The ESP32 controller sends the reading from sensors to a cloud portal (Blynk), on which there exists a learned deep learning model with three output classifications: good, moderate, and bad. The determined status is updated on an LCD display screen and gives instantaneous visible feedback together with actionable tips in the form of air is clean!, stay cautious!, or avoid outdoors!. It keeps getting refreshed in real time, keeping up with the real-time pollution measurement. Experimental outcomes prove the efficiency of the model in detecting air quality status, which is an indication of its suitability for wide-scale application. This study advances the construction of low-cost, smart air monitoring systems that can support public awareness and decision-making towards healthier surroundings.

<https://doi.org/10.1109/ISAC364032.2025.11156482>

An Ensemble Deep Learning Model Using CNN, LSTM and Autoencoder for EEG-Based Parkinson's Disease Classification

Publisher: IEEE

[Mallarapu Vijay Kumar](#); [Ramamohana Rao Gudar](#); [Jagabathula Sai Sandeep](#); [Kalakonda Harshith Rao](#); [Nunavathu Kishore Nayak](#)

Abstract:

Parkinson's disease is a neurological disorder that affects the movements including shaking, stiffness, difficulty while walking and speaking. This condition will occur when the nerve cells in the brain start breakdown which

results in loss dopamine. The diagnosis of Parkinson's disease using RI is one of the costliest methods, there is an alternative method which is cost efficient called as EEG Electroencephalography). Using EEG will helpful in in detail study of brain using brain waves. Resting state EEG has shown potential cost-effective method for diagnosing Parkinson's disease. Here we constructed a Ensemble learning for diagnosing Parkinson's disease. By the help of soft voting the model will decide whether the person is affected by PD or not. e conduct experiment on publicly available datasets which consists of 71 PD patients and 37 healthy control persons. We achieved an accuracy on 98.6%, precision of 98.8% and F1-core of 0.9864. Unlike conventional ensembles, our model introduces a weighted soft voting mechanism that emphasizes Autoencoder-derived latent features, which offer robust, denoised representations of EEG signals. While CNN captures spatial patterns and LSTM models temporal dependencies, the Autoencoder uniquely enhances generalization by compressing and filtering noisy EEG data. To the best of our knowledge, this s the first hybrid model to integrate CNN, LSTM, and Autoencoder for EEG-based Parkinson's diagnosis, demonstrating superior performance validated through ablation and comparative analysis.

<https://doi.org/10.1109/ISAC364032.2025.11156572>

Deep Learning-based Student Engagement Detection using CNN, Mobile Net, ResNet50, VGG16

Publisher: IEEE

[M. Vijay Kumar](#); [Sarella Vamsi](#); [A. Twinkle Mokshagna](#); [E. Pavani](#); [G. Subba Rao](#)

Abstract:

In large classrooms, tutors or student-driven learning systems may manage or summarize what is happening more easily via the detection and measurement of student attention. Today, numerous institutions can create functional systems for aiding teachers or tutoring systems alike. Deep Learning has advanced machine learning that has proved effective in automating pupil engagement tracking. The article discusses a possible solution to the problem of procuring large volumes of labeled data by suggesting a transfer learning technique for classroom-based student behavior recognition. Using several CNN architectures, MobileNet, custom CNN, ResNet50, and VGG16, this paper proposes a deep learning method for detecting student engagement. 5000 samples, equally divided between the "Engaged" and "Not Engaged" classes, were created from a lightweight dataset of 1000 images. To overcome small sample sizes and enhance generalization, we employed cross-validation and transfer learning. While ResNet50 obtained the highest raw accuracy but displayed overfitting, MobileNet provided the best trade-off between accuracy

(92.5%) and efficiency among the tested models. Our results lend credence to the viability of automated classroom engagement monitoring through deep learning.

<https://doi.org/10.1109/ISAC364032.2025.11156385>

Speech Emotion Recognition(SER) Using CNN, Fully Connected Layers, BiLSTM, and Bayesian Optimization for Parameter Tuning

Publisher: IEEE

[Rehana Begum](#); [Suresh Gorantla](#); [Marri Jashuva](#); [A Akhileswari](#); [Adusumalli Tejaswini](#)

Abstract:

In this paper, we propose a convolutional neural network (CNN) and Bidirectional Long Short-Term Memory (Bi-LSTM) based deep learning for speech emotion classification, which uses the MFCC to extract features. Data augmentation and the merging of popular datasets, RAVDESS (Ryerson Audio-Visual Database of Emotional Speech and Song) and TESS (Toronto Emotional Speech Set) used to enhance generalization, while Bayesian Optimization tunes hyperparameters. Experimental results of the proposed model achieved 99.77% training accuracy, 97.78% validation accuracy, and 98.34% testing accuracy, demonstrating the effectiveness of the model.

<https://doi.org/10.1109/ISAC364032.2025.11156780>

AGDPM-Net: Hybrid Ensemble Framework for Genetic Disorder Prediction

Publisher: IEEE

[V.V. Krishna Reddy](#); [M. Naga Raju](#); [V. Blessy Rani](#); [V. V. S. Siva Kumar](#); [Chandra Sekhar Kolli](#)

Abstract:

Genetic disorders pose a significant challenge to human health, requiring early and precise diagnosis for effective treatment. This study introduces a hybrid machine learning framework that integrates multiple models to enhance prediction accuracy and reliability. A comprehensive dataset incorporating genetic, clinical, and demographic factors was utilized, with preprocessing

techniques such as k-nearest neighbor (KNN) imputation for handling missing values, categorical encoding, and standardization. Three traditional machine learning models—random forest, gradient boosting, and support vector machine—were trained alongside deep learning models, including convolutional neural networks (CNN) and recurrent neural networks (RNN). A stacking ensemble approach was implemented, where predictions from these models served as input for a Random Forest meta-classifier, improving generalization and reducing biases. The ensemble model outperformed individual classifiers in accuracy, precision, recall, and F1-score, with CNN and RNN excelling in complex pattern recognition. This framework effectively processes diverse medical data types, combining structured tabular data analysis with deep learning's ability to capture intricate relationships. Additionally, it addresses challenges such as data imbalance and missing values while reducing overfitting through ensemble learning. This study highlights the potential of AI driven methodologies in genetic disorder prediction, paving the way for scalable, automated, and more accurate diagnostic tools. Future research will focus on dataset expansion, refined feature selection, and advanced architectures like transformers and attention mechanisms to further enhance predictive performance and clinical applicability.

<https://doi.org/10.1109/ISAC364032.2025.11156678>

Deep Learning-based Blood Group Classification from Fingerprint Biometrics

Publisher: IEEE

[Hema Latha Munnamgi](#); [Ranjitha Reddy Avuluri](#); [Devi Priya Sugrivu](#); [Manoj Vanjarapu](#)

Abstract:

The precise classification of blood types is essential for ensuring safe transfusions and improving clinical diagnostics. Traditional methods, including those that rely on manual testing or mathematical-based simulations, are often time-consuming and susceptible to human error. To overcome these limitations, we propose an automated classification system based on deep learning architectures. This system leverages convolutional neural networks (CNN) to capture spatial features, residual neural networks (ResNet) to enhance feature extraction through residual connections and densely connected convolutional networks (DenseNet) to ensure efficient information flow. The model also incorporates visual geometry group network 19 (VGG19) for hierarchical feature learning. Our approach accurately classifies blood types based on the ABO system using fingerprint biometric patterns, thereby

reducing the need for manual interpretation. This solution minimizes diagnostic errors, streamlines laboratory workflows, and enhances medical efficiency, ultimately supporting safer patient outcomes.

<https://doi.org/10.1109/ISAC364032.2025.11156779>

Privacy-Preserving System for Image Analytics in Cloud Environment Using Autoencoders

Publisher: IEEE

[Venu Gopal K](#); [Srinivasa Sai Abhijit Challapalli](#); [Faheemullah Fathemullam](#); [Vincent Tony Blair V](#); [Sri Lakshmi V](#); [Mahesh V](#)

Abstract:

Privacy-preserving analytics of image data is important in the age of constant data breaches in cloud environments and cyber attacks. This paper introduces a new framework that makes use of an autoencoder-based convolutional neural network (CNN) to provide secure and efficient image analytics within cloud environments. The proposed system separates the model into two main parts, an encoder running on client devices as a public key and a pretrained CNN running on the cloud. The encoder extracts features with dimensionality reduction and privacy protection, ensuring raw image data is never accessible in the cloud server. This two-way benefit not only protects sensitive data but also improves storage efficiency. The cloud server carries out computationally intensive analysis on the encoded feature space with performance similar to conventional setup which requires raw data whereas this framework works without knowledge of the original image content. We benchmark our system on benchmark dataset CIFAR-10 and demonstrate that it maintains good classification accuracy while considerably enhancing privacy preservation and data compression. Our experiments prove the efficacy of this framework in balancing privacy, efficiency, and accuracy, which makes it a feasible solution for secure image-based analytics in the cloud environment.

Published in: [2025 International Conference on Advancements in Smart, Secure and Intelligent Computing \(ASSIC\)](#)

Date of Conference: 16-18 May 2025

DOI: [10.1109/ASSIC64892.2025.11158631](https://doi.org/10.1109/ASSIC64892.2025.11158631)

A Smart Dress Code Monitoring System Leveraging Transfer Learning With YOLOV11

Publisher: IEEE

[Rajesh Reddy Muley](#); [P. Ashok Reddy](#); [M. Ayyappa Chakravarthi](#); [K V S S Ramakrishna](#); [Santhi Chavala](#)

Abstract:

Upholding appropriate attire in workplaces and other environments is essential. It promotes discipline and shows the personality and professionalism of people. Many organizations, including schools and companies, require people to follow specific dress codes. Manually checking if everyone follows these rules can be time-consuming and prone to mistakes. An automated system can save time and reduce errors. This plan of action aims to build a model that automatically verifies the dress code conformity in educational institutions and workplaces. The model focuses on detecting key items like ID cards and shoes using Convolutional Neural Networks (CNNs) and YOLOv11 for object detection. YOLOv11 was selected because it offers better accuracy compared to other models. The model performs well in correctly detecting dress code conformity, with a Mean Average Precision of roughly 85 %.

<https://doi.org/10.1109/ASSIC64892.2025.11158570>

Automated Multi-Class Retinal Disease Classification Using OCT Images with Visual Interpretability Support

Publisher: IEEE

[Kanakamedala Phaneendra](#); [B. Manasa](#); [Ch. Dhanush](#); [V. Harsha Vardhan](#); [Bhanu Chander Balusa](#)

Abstract:

Retinal Disease Detection from Optical Coherence Tomography imaging is a pressing concern for effective early diagnosis and subsequent intervention to avoid permanent loss of vision. While current deep learning architectures for retinal disease diagnosis have been shown to possess great accuracy in multi-class segmentation, they are practically inefficient in a clinical setup due to high computational requirements, vast memory, size, slow inference times, poor generalization capabilities for a range of data sets, and a lack of explainability. In a bid to fill this gap for a more efficient and explainable diagnostic tool, this research work proposes a multi-class Retinal Disease Classification framework with a built-in facility for Explainable Visuality. For

this purpose, the work utilizes a neural network architecture incorporating attention and a Convolutional Block Attention Module to facilitate the selective isolation of relevant characteristics of the retina for efficient discounting of redundancy. Along with this, there is also the application of attention-based heat maps, which clarify the predictions made by the model, thus improving the transparency of model predictions. The model was trained using Residual Neural Networks (ResNet) and validated on retinal Optical Coherence Tomography images, giving an overall accuracy of 98.07 percent on both known and unknown classes. In fact, there is an excellent balance of accuracy, efficiency, as well as transparency with regards to its predictions for this model. Therefore, it would not be wrong to state that attention-based models show an accurate, efficient, as well as transparent approach for identifying the right classification of the retina.

DOI: [10.1109/ETAACT69135.2026.11542018](https://doi.org/10.1109/ETAACT69135.2026.11542018)

EMO-VIGIL: A Transformer-Based Framework for Fine-Grained Emotion Detection and Mental Health Risk Screening from Microtext

Publisher: IEEE

[GeethaRenuka Jalluri](#); [Boyalapalli.Anil Kumar](#); [Lakshmi Susmitha Thota](#); [Sagar Kondiboyina](#); [Durga Prasad Itharaju](#)

Abstract:

The task of automatically identifying mental health risk from brief text content is a difficult one because of the subtle way emotions are expressed, the prevalence of informal language use, and the common co-occurrence of multiple emotions. To overcome these difficulties, this paper presents EMO-VIGIL (Emotion Modeling for Vigilant and Interpretable Gradient-Integrated Learning for Mental Health Risk Screening), a two-stage transformer ensemble model for fine-grained emotion detection and mental health risk screening from microtext. In the first stage, the task of emotion detection is modeled as a multi-label classification problem on a subset of ten psychologically significant emotions identified from the GoEmotions dataset. A heterogeneous ensemble of Decoding-Enhanced Bidirectional Encoder Representations from Transformers (DeBERTa-v3-large), Robustly Optimized Bidirectional Encoder Representations from Transformers (RoBERTa-large), and a domain-specific Twitter-RoBERTa model, all of which are Bidirectional Encoder Representations from Transformers (BERT)-based, is used to leverage complementary semantic and contextual features. Probability-level ensemble fusion is used to improve robustness and generalization. In the second stage, the probabilities of the ensembled emotions are transformed through logit and entropy-based feature engineering and fed into a Light Gradient Boosting Machine (LightGBM) classifier for binary mental health risk classification. Risk-positive samples are further categorized into Low,

Moderate, and High risk groups through a post-hoc hybrid decision strategy. Experimental results on the GoEmotions dataset show that the proposed framework performs better than the tested ensemble settings, achieving an accuracy of 0.826 and an Area Under the Receiver Operating Characteristic (ROC) Curve (AUC) of 0.894 for binary mental health risk classification. These results confirm the effectiveness of transformer-based emotion modeling and interpretable...

Published in: [2026 1st International Conference on Emerging Trends in Advancements and Applications of Computational Intelligence Techniques \(ETA ACT\)](#)

DOI: [10.1109/ETA ACT69135.2026.11541846](https://doi.org/10.1109/ETA ACT69135.2026.11541846)

Two-Way Communication System Using Dynamic ISL Gesture Recognition and Voice Processing

Publisher: IEEE

[M. Vijay Kumar](#); [Ramamohana Rao Gudar](#); [K. Sravya](#); [Bhanu Chander Balusa](#); [N. Sai Praneetha](#); [B. Thrinadh](#)

Abstract:

Communication in sign language and normal language remains to be a big challenge for hearing-impaired and normally abled citizens due to the existing differences in both sign language and normal language communication. Most works on this problem still exist for one-way communication. On that ground, this paper shall propose a system allowing for real-time two-way communication through voice processing in reliance upon dynamic Indian Sign Language gesture recognition. This will, perhaps, ensure effective communication. It employs a webcam in capturing hand gestures. It also relies on recognizing dynamic sign language gestures corresponding to highly popular words. This study, therefore, uses a deep learning algorithm that employs a vision transformer (VIT) in the training of a preprocessed dataset containing almost two thousand classes of word-level gestures. For the purpose of attaining significant communication in this work, natural language aspects and tokenizers shall be employed to compose complete sentences corresponding to every word recognition in the interface. These are applied for the use of text and speech generation, whereas the feedback communication channel is applied for the use of user input, whether typing or speech inputs, allotted for the recognition of the gesture in the form of the gesture videos for the signing process under the context of Sign Language. The experimental results effectively show that the proposed system for gesture recognition is functional at an accurate level of 98%, thereby ensuring efficiency, reliability,

and quicker processing speed, since the processes involved are real-time. The two-way communication channel can be effectively implemented without the aid of any hardware components. Finally, the proposed system is reliable, efficient, and a pleasant experience in the context of Sign Language for Education, Sign Language for Health, or Sign Language for Service.

<https://doi.org/10.1109/ETAACT69135.2026.11541816>

Journal Publications

Binary flower pollination algorithm driven deep SE-ResNeXt framework for the identification of *Muntingia calabura*

International Journal of Information Technology

- Devineni Vijaya Sri,
- Punyala Ramadevi,
- Tavva Vamsi Priya,
- Seeda Thanmai,
- Matta Tejaswi,
- Shaik Sadhika &
- Jalluri Geetha Renuka

Abstract: India has a rich heritage of floral diversity and is well known for its medicinal plants but their identification is a major challenge in ayurvedic pharmaceuticals. Hence, automated identification of medicinal flora is pivotal for sustainable pharmacognosy and botanical conservation. *Muntingia calabura* known for its potent therapeutic properties from high-resolution images. This research presents a novel *Binary Flower Pollination Algorithm (BFPA)* driven *Deep SE-ResNeXt* framework for the automated and robust identification of *Muntingia calabura*. In this study the authors proposed a framework that synergizes the hierarchical feature extraction capability of the SE-ResNeXt architecture with the optimization power of BFPA, inspired by the natural pollination behavior of flowering plants. In this framework, the SE-ResNeXt model, embedded with squeeze-and-excitation (SE) blocks, amplifies channel interdependencies and facilitates discriminative feature learning. Further, to fine-grained the identification ability BFPA is applied, which helped in selecting optimal feature subsets by simulating the global-local pollination balance through Lévy flight-based strategies. This binary optimization approach reduces redundancy in high-dimensional feature spaces, enhancing both computational efficiency and model accuracy. The BFPA-SE-

ResNeXt with dense layer framework demonstrated better performance compared to conventional CNNs and other evolutionary optimization-based classifiers, achieving an identification accuracy of 97.50%, precision of 96.37%, and recall of 97%. This research underscores the effectiveness of bio-inspired hybrid intelligence systems for plant species identification and offers a scalable solution for real-world ecological applications.

<https://doi.org/10.1007/s41870-025-02728-1>

An ensemble transfer learning metaheuristic optimization framework for detection of glioblastoma (GBM)

International Journal of Information Technology

- Rajasekhar Kommaraju,
- Kuriseti Sai Sujith,
- Yanamadala Sri Yougananda Gopi Kishore,
- Arigala Narendra,
- Patnala Pavan Kumar,
- Arvapalli Home Harshavardhan &
- G. Maheswari

Abstract

The given paper introduces an ensemble deep learning approach for detection of patients suffering from Glioblastoma (GBM) by combining three transfer learning models, such as MobileNetV2, DenseNet121, and ResNet50. Initially, data is pre-processed and is split into 80-10-10 format for training-validation-testing. The input images are subjected to ensemble learning models (MobileNetV2 + ResNet50 + DenseNet121). MobileNetV2 is chosen as it allows for efficient deployment on mobile and embedded devices with limited computational resources. ResNet50 is chosen as it leads to improved performance and robust features extraction while DenseNet121 prevents overfitting. The identification decision is produced by combining the outputs of three transfer models using weighted averaging done by particle swarm optimization (PSO) algorithm. The proposed ensemble framework shows the highest accuracy (95.85%), highest precision (94.37%), and highest recall (94.55%) as compared to existing studies.

<https://doi.org/10.1007/s41870-025-02856-8>

A deep learning approach with data augmentation for robust SAHS classification from nasal pressure signals

International Journal of Information Technology

- M. Vijay Kumar,
- Tejaswini Matlapudi,
- Prema Srilatha Ulliboina,
- Sri Sai Susmitha Ponnamm,
- Lella Sai Sravani,
- Dinesh Reddy Gunnam &
- V N Siddardha Bhimireddy

Abstract

In our research, a deep learning-based method for autonomous evaluation of Sleep Apnea-Hypopnea Syndrome (SAHS) utilizing minimal physiological cues is presented. For better classification performance, a hybrid Convolutional Neural Network-Recurrent Neural Network (CNN-RNN) model is used, in contrast to the previous study, which employed a 3-stage support vector machine (SVM) based technique and concentrated on severe SAHS patients. Temporal modeling and feature extraction are performed using ECG (electrocardiograph) and nasal pressure (NP) data. To increase the robustness of the model, data augmentation methods like time shifting, noise injection and scaling are used. For Apnea classification, the proposed model produces precision (95.2%), recall (95.6%) and an overall accuracy of 96.3%. By resolving the limitations of existing approaches and including both OSA (obstructive sleep apnea) and CSA (central sleep apnea) event detection, this work presents a scalable and efficient alternative for real-time SAHS assessment in home-based and clinical healthcare situations.

<https://doi.org/10.1007/s41870-025-02665-z>

Cultural Achievements:

Event Type: XII CONVOCATION JNTU KAKINADA

Date / Duration: 2/04/2026

Name of Faculty Coordinator: D.VijayaSri

Name of Student: Machana Thanusri

Roll Number: 25761A1228

Student Details:

S.No	Event Name	Student Roll Number	Name Of the Student	Year
1	Folk DANCE	25761A1228	Machana Thanusri	First year

**Certificate:**



Student Best Paper Award

Best Student paper Award

Batch - 2	Thota Lakshmi Susmitha	22761A1260	EMO-VIGIL: A Transformer-Based Framework for Fine-Grained Emotion Detection and Mental Health Risk Screening from Microtext	International Conference on Emerging Trends in Advancements and Applications of Computational Intelligence Techniques (ETA ACT 2026) 03 June 2026 DOI: 10.1109/ETA ACT 2026.11541846
	Kondiboyina Sagar	22761A1234		
	Itharaju Durga Prasad	22761A1225		



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International Conference on Emerging Trends in Advancements and Applications of Computational Intelligence Techniques (ETA ACT 2026)

Certificate of Appreciation

This is to certify that

GeethaRenuka Jalluri, Boyalapalli. Anil Kumar, Lakshmi Susmitha Thota, Sagar Kondiboyina and Durga Prasad Itharaju

secured the best paper award for the paper entitled

EMO-VIGIL: A Transformer-Based Framework for Fine-Grained Emotion Detection and Mental Health Risk Screening from Microtext

presented in the IEEE International Conference on Emerging Trends in Advancements and Applications of Computational Intelligence Techniques (ETA ACT 2026), organised by Department of Computer Science & Engineering, Institute of Technical Education & Research, Siksha 'O' Anusandhan Deemed to be University, Bhubaneswar, Odisha, India during 10th -11th April, 2026.



Prof. Debahuti Mishra
General Chair

Dr. Rasmita Dash
Program Chair

Dr. Rasmita Rautray
Organizing Chair

MSME Idea Hackathon

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MICRO, SMALL & MEDIUM ENTERPRISES

MSME Idea Hackathon 5.0

S.No.	Name of the Student	Idea	Mentor	Dept	Amount (Lakhs)
1	Mathangi Gowtham	AGRO-CHAR Solar-Powered IoT-Enabled Biochar Syngas Production Unit from Agricultural Waste	Dr. Sudheer Kumar	ME	15
2	Talluri Hezyoni Nimshi	Smart Blind-Turn Alert System for Rural Safety	Mr. Mallarapu Vijay Kumar	IT	15
3	Reddyboyina Ankithasri	Smart Agricultural Drone for Automated Seed Planting and Soil Coverage	Dr. K. Rani Rudrama	ECE	15

FACULTY PUBLICATIONS:**Journals: SCI/SCIE- Information Technology: 02**

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