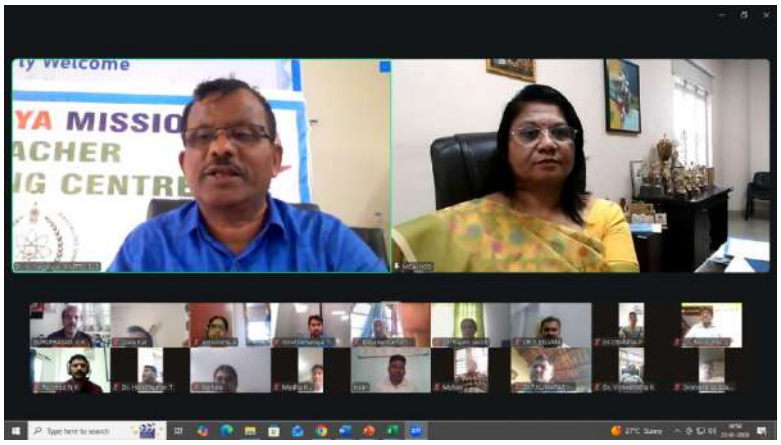
FACULTY ACHIEVEMENTS - 2026

Dr. Manjula Sanjay, **HOD-MCA** was invited as a Panelist for the International Regional Asia-Pacific Conference organised by INTI International university, on Jan 12-13, 2026 at Malaysia

Dr. Manjula Sanjay Koti, **HOD-MCA** , was a resource person for the Refresher Course in Information and Communication Technology organised by Bangalore University and UGC-Malaviya Mission Teachers Training Centre, on 22nd Jan 2026.



Dr. Manjula Sanjay Koti, HOD-MCA , has published a Patent on "An IOT Enabled Intelligent Energy Optimization Framework For Electric Vehicle Operation and Charging Management" on 27th Feb , 2026.

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :19/02/2026

(21) Application No.202641019252 A

(43) Publication Date : 27/02/2026

(54) Title of the invention : AN IOT-ENABLED INTELLIGENT ENERGY OPTIMIZATION FRAMEWORK FOR ELECTRIC VEHICLE OPERATION AND CHARGING MANAGEMENT

(51) International classification	:G06N 20/00, G06F 17/27, G06N 99/00, G06F 40/205, G06F 16/33	(71)Name of Applicant : 1)Santhosh Krishna B V Address of Applicant :Bengaluru Karnataka India 2)Ramesh Kumar V 3)Naga Pratyusha B 4)Manjula Sanjay Koti 5)Krishnaraj Rao N.S 6)Dayananda Sagar Academy of Technology and Management
(31) Priority Document No	:NA	(72)Name of Inventor : 1)Ramesh Kumar V 2)Naga Pratyusha B 3)D. Satyanarayana 4)Manjula Sanjay Koti 5)Sony M Kuriakose 6)Sangeetha C 7)Sudharshan M K 8)Swapnil S. Ninawe 9)Bhagyashree Rahul Patil 10)Krishnaraj Rao N.S
(32) Priority Date	:NA	
(33) Name of priority country	:NA	
(86) International Application No Filing Date	:01/01/1900	
(87) International Publication No	: NA	
(61) Patent of Addition to Application Number Filing Date	:NA :NA	
(62) Divisional to Application Number Filing Date	:NA :NA	

(57) Abstract :

The invention discloses a system and method for machine learning–based assistive text analysis and correction for dyslexia support. The system includes a text preprocessing module, a dyslexia pattern analysis engine, a machine learning–based correction module, a readability optimization unit, and a user feedback module. The method includes analyzing text for dyslexia-specific patterns, generating context-aware corrections, optimizing readability, and adapting correction behavior based on user feedback. The invention enhances accessibility and writing accuracy for individuals with dyslexia.

No. of Pages : 18 No. of Claims : 3

Dr. Manjula Sanjay Koti, HOD-MCA , has published a conference paper entitled “Real-Time Data Integration in Training and Fine- Tuning Large Language Models (LLMs) ” in the IEEE Xplore on 24th March, 2026.

Real-Time Data Integration in Training and Fine-Tuning Large Language Models (LLMs)

Manjula Sanjay Koti
Department of MCA,
Dayananda Sagar Academy of Technology and Management
Bangalore, India
manjula.dscc@gmail.com
ORCID: 0000-0003-4514-0624

Samarth Warad
Department of MCA,
Dayananda Sagar Academy of Technology and Management
Bangalore, India
samarthwarad28@gmail.com

Nandini Prasad K S
Department of ISE,
Dayananda Sagar Academy of Technology and Management,
Bangalore,India
dean-fa@dsatm.edu.in
ORCID: 0000-0002-9578-8085

Spandana B
Department of MCA,
Dayananda Sagar Academy of Technology and Management
Bangalore, India
spandanababu26@gmail.com

Vinutha C
Department of MCA,
Dayananda Sagar Academy of Technology and Management
Bangalore, India
vinuthac63@gmail.com

Jagadeesh M R
Department of MCA,
Dayananda Sagar Academy of Technology and Management
Bangalore, India
chethujagadeesh@gmail.com

Abstract— The increasing use of Large Language Models (LLMs) for various tasks has created a strong need for efficient, precise, and scalable methods for training and fine-tuning. Real-time data integration offers a promising way to improve the flexibility of LLMs by including the latest information during both initial training and ongoing updates. However, this approach poses challenges, such as data preprocessing delays, retraining overhead, and consistency in distributed systems. This paper presents a framework for real-time data ingestion, preprocessing, and model updates, which aims to reduce latency while maintaining accuracy. The proposed design employs streaming data pipelines, adaptable learning rates, and incremental fine-tuning strategies to support ongoing model improvement. Experimental results indicate that real-time integration helps reduce model drift, boosts domain-specific performance, and enhances responsiveness in dynamic areas like conversational AI, recommendation systems, and decision-support tools.

motivated by the need for a comprehensive approach that minimizes update latency while preserving model accuracy in dynamic environments.

By combining streaming data engineering techniques—such as real-time ingestion, event-driven processing, micro-batching, data normalization, schema evolution, and fault-tolerant stream synchronization with LLM fine-tuning workflows, we aim to close the operational gap between model development and deployment.

Large Language Models like GPT-4 and LLaMA have already demonstrated remarkable capabilities in language understanding, reasoning, and generation, largely due to their extensive pretraining on massive datasets. However, because their training data is static, these models can become outdated in fast-changing or domain-specific contexts. To maintain their relevance and accuracy, LLMs must be continuously updated with new data, domain knowledge, and user feedback.

Dr. Manjula Sanjay Koti, HOD-MCA , has published a conference paper entitled "Security Integration and Risk Management in Modern DevOps: Tools, Frameworks, and Emerging Trends" in the IEEE Xplore on 24th March, 2026.

Security Integration and Risk Management in Modern DevOps: Tools, Frameworks, and Emerging Trends

Manjula Sanjay Koti
Department of MCA,
Dayananda Sagar Academy of Technology and Management
Bangalore, India
manjula.dsce@gmail.com
ORCID: 0000-0003-4514-0634

Ankit Kumar
Department of MCA,
Dayananda Sagar Academy of Technology and Management
Bangalore, India

Rageshwari J
Department of ISE,
Dayananda Sagar College of Engineering,
Bangalore,India

S. Satheesh Kumar
School of Information Science,
Presidency University
Bangalore, India
satheesh.sampath@gmail.com

Khalid Anjum
Department of MCA,
Dayananda Sagar Academy of Technology and Management
Bangalore, India
khalidanjum.work@gmail.com

Gautam S Langoti
Department of MCA,
Dayananda Sagar Academy of Technology and Management
Bangalore, India
gautamlangoti@gmail.com

***Abstract*— The emergence of DevOps has pushed teams to release updates more quickly than ever before, genuinely revolutionizing the speed of software delivery. Our study delves deeply into this important issue by examining how strong security measures, also known as DevSecOps, can be seamlessly integrated into DevOps procedures. We have combed through the most recent scholarly research to create a comprehensive picture of the frameworks, tools, and approaches that effectively integrate security into each stage of the software development process. Our analysis shows that there is an urgent need for automated security testing, cutting-edge risk models like the Preference Ranking Organization Method for Enrichment Evaluation (PROMETHEE), and cutting-edge solutions like Blockchain to produce reliable audit trails. Future developments are probably going to concentrate on deeper governance integration, AI-powered threat intelligence, and the creation of standardized security maturity models for big businesses.**

***Keywords*— Cloud-Native Infrastructure, Risk Assessment, DevOps Security, Secure CI/CD Pipelines, PROMETHEE Decision-Making, Security Automation, and Blockchain Applications.**

I. INTRODUCTION

must deal with complex tools, cultural resistance, limited expertise, and the intricacies of modern cloud environments. This paper offers a detailed examination of contemporary DevSecOps, synthesizing findings from a review of recent studies to explore effective tools, frameworks, and emerging path addresses existing gaps, such as the absence of risk prioritization through an established structure, a deficiency of governance models, and the need for automated, transparent security enforcement. The intention of the information given is to help practitioners develop a proactive, scalable, and resilient security stance. while they carry out their DevOps work.

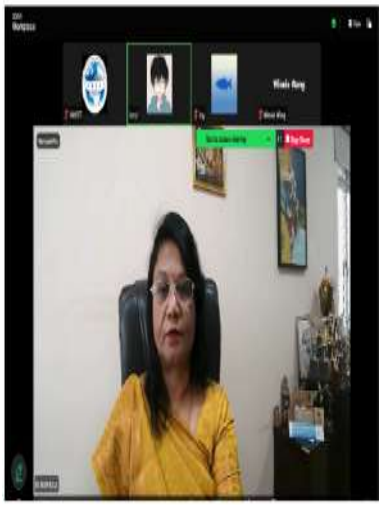
II. RELATED WORK

In their work [1], S. Manoorani and A. Mahris tackle the problem of security alert overload in DevOps by introducing a categorical taxonomy of security challenges that are prioritized using the PROMETHEE algorithm, a multi-criteria decision-making technique. This method helps organizations focus their efforts on the most important weaknesses, but it only works if the initial risk weights are

Dr. Manjula Sanjay Koti, HOD-MCA , was invited for "The AI world Talent, Tech and GCC Summit 2026" held on March 29, 2026 at IIT Alumni Centre, Bangalore

Dr. Manjula Sanjay Koti, HOD-MCA , was invited as a Speaker for the Round Table Discussion on " AI Framework for Universities of Tomorrow" organised by Rabbitt AI and AI World Organisation on March 27, 2026 at BHIVE, Bangalore.

Dr. Manjula Sanjay, HOD-MCA, was the keynote speaker for the International Conference on "Big Data Computing and Modeling" organised by the International Association of Management Science and Engineering Technology. On 09th April, 2026



Dr. Manjula Sanjay, HOD-MCA, has published a research paper entitled “Edge-Driven Multimodal Fusion Framework for Real-Time Emotion – Aware Vehicular Networks” in the WILEY, on April, 2026.

WILEY Online Library

Search

Login / Register

Chapter 13

Edge-Driven Multimodal Fusion Framework for Real-Time Emotion-Aware Vehicular Networks

Manjula Sanjay Koti, S. Satheesh Kumar, S. Janani, A. Arun, Mahmoud Ahmad Al-Khasawneh

Book Editor(s): Balamurugan Balusamy, Sandeep Kumar Mathivanan, Prabhu Jayagopal, S.K.B. Sangeetha, Ali Kashif Bashir

First published: 03 April 2026 | https://doi.org/10.1002/9781394311729.ch13

PDF CITE TOOLS SHARE

Autonomous Systems in the Internet of Vehicles

References Related Information

Hu , L. , Li , W. , Yang , J. , Fortino , G. , Chen , M. , A sustainable multi-modal multi-layer emotion-aware service at the edge . *IEEE Trans. Sustainable Comput.* , **7** , 2 , 324 – 333 , 2019 .

Google Scholar

Sun , L. , Yang , H. , Li , B. , Multimodal Dataset Construction and Validation for Driving-Related Anger: A Wearable Physiological Conduction and Vehicle Driving Data Approach . *Electronics* , **13** , 19 , 3904 , 2024 .

Google Scholar

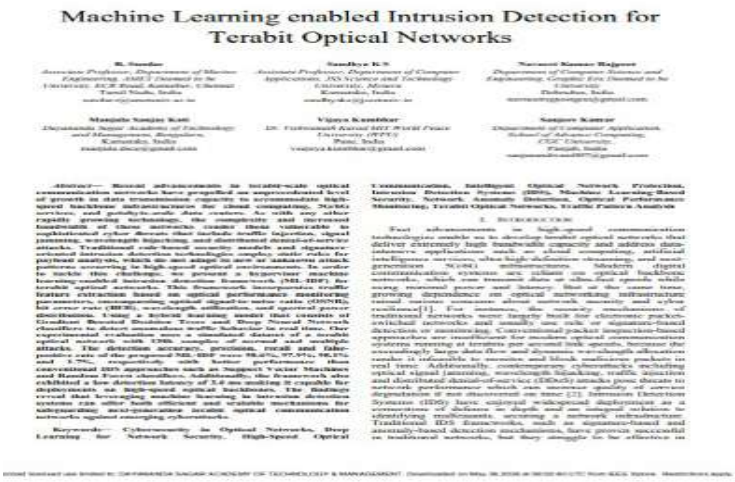
Järvinen , S. , Kallio , J. , Peltola , J. , Mäkelä , S.M. , A Behavior, and Emotion Recognition

Summary

To incorporate driver emotional state recognition into smart vehicular decision-making, in this study, an Emotion-Aware Multimodal Fusion Framework (EAMFF) for the Internet of Vehicles (IoV) is presented. The methodology used involves a distributed edge-cloud architecture and incorporates vocal stress analysis, facial expressions, and in-vehicle biosignals (heart rate, electroencephalogram). This method classifies driver stress, fatigue, or hostility in real time using a dynamic multisource emotional cues weighing and fusion through deep spatiotemporal attention. The resulting fused emotional information is combined with environmental and vehicle sensor information such as LiDAR, global positioning system, cameras, and V2X to enhance adaptive cruise control, hazard warning, and route guidance. With experimental evidence on a specially crafted

Dr. Manjula Sanjay Koti, HOD-MCA has participated in the "AWS Summit-Innovators Edition" held at KTPO, Bengaluru on 22nd April, 2026.

Dr. Manjula Sanjay Koti, HOD-MCA , has published a IEEE paper entitled “Machine Learning enabled Intrusion Detection for Terabit Optical Networks ” in the IEEE explore on 26th May, 2026.



Machine Learning enabled Intrusion Detection for Terabit Optical Networks

Dr. Manjula Sanjay Koti, HOD-MCA , has published a IEEE paper entitled “Deep Learning based Anomaly Detection in HighThroughput Data Center Networks” in the IEEE explore on 26th May, 2026.

Deep Learning based Anomaly Detection in High-Throughput Data Center Networks

Dr. Chitra K, Associate Professor, Dept. of MCA , participated in the FDP on “Advanced Artificial Intelligence and Machine Learning: Models, Applications and Research Perspectives” conducted by SURANA college of Autonomous, Bangalore, on 9th to 13th March 2026 .

SURANA COLLEGE
AUTONOMOUS

Department of MCA (Accredited by NBA)

CERTIFICATE OF PARTICIPATION

This is to certify that

Dr. Chitra K

Dayananda Sagar Academy of Technology and Management,Bangalore

has successfully participated & completed

Five-days Online Faculty Development Programme (FDP) on

"Advanced Artificial Intelligence & Machine Learning: Models, Applications and Research Perspectives"

organized by Department of MCA in association with Research & Consultancy Cell from 9th March 2026 to 13th March 2026

Dr Bharathi M P, FDP Coordinator | Dr Vanishree M R, Dean - Research & Consultancy | Dr Balaji K, Director - MCA

www.suranacollege.edu.in

Dr. Chitra K, Associate Professor, Dept. of MCA , participated in the FDP on “Advanced in Research and Technologies in Education” Organised by CLG Institute of Engineering and Technology, Pali Rajasthan, on 15th to 19th April 2026 .

CLG INSTITUTE OF ENGINEERING AND TECHNOLOGY

Approved by AICTE, New Delhi & Affiliated to Bikaner Technical University, Bikaner

CLG CAMPUS, JAWAI BANDH ROAD, SUMERPUR, PALI, RAJASTHAN-306126

CERTIFICATE

OF PARTICIPATION

VERITAZ

THIS CERTIFICATE IS PROUDLY PRESENTED TO

Chitra K

Master of Computer Applications

Dayananda Sagar Academy of Technology and Management

who has actively participated in the **FIVE DAY NATIONAL LEVEL FDP** on **"Advances in Research and Technologies in Education"** organized by **"CLG Institute of Engineering and Technology, Pali, Rajasthan"** in association with Veritaz Interinational,held from 15th April 2026 to 19th April 2026.

Prof. Vikash Kumar, HoD, Event Coordinator | Dr. R.S.Chhatrawat, Principal | Sangeetha Subramaniam, Managing Director of Veritaz

Dr. Chitra K, Associate Professor, Dept. of MCA, has published a Patent on "Machine Learning–based Predictive Air Pollution Control System Using Cloud-enabled IOT-Integrated Solar Hybrid Vehicles In Smart Cities" on 17th April, 2026.

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application 29/03/2026
(21) Application No:202641038893 A
(43) Publication Date : 17/04/2026

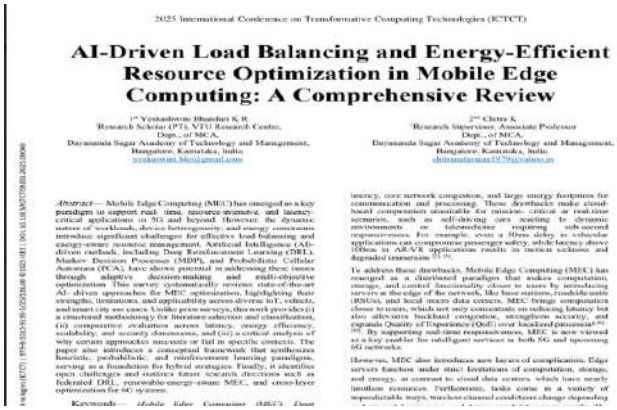
(54) Title of the invention : MACHINE LEARNING–BASED PREDICTIVE AIR POLLUTION CONTROL SYSTEM USING CLOUD-ENABLED IOT-INTEGRATED SOLAR HYBRID VEHICLES IN SMART CITIES

(51) International classification: G06N 20/00, G01N 33/00, G06Q 50/26, G06N 3/08, G06N 5/04
(31) Priority Document No: :NA
(32) Priority Date: :NA
(33) Name of priority country: :NA
(86) International Application No: –
Filing Date: :01/01/1900
(87) International Publication No: : NA
(61) Patent of Addition to Application Number: :NA
Filing Date: :NA
(62) Divisional to Application Number: :NA
Filing Date: :NA

(71) Name of Applicant :
1)Dr.Afroze Ansari
Address of Applicant :Assistant Professor, Department of Computer Science & Engineering, Faculty of Engineering & Technology, KBN University, Kalaburagi, 585102 Kalaburagi Karnataka India
2)Angelin Stefi A
3)Kiran Kumar Gorrepati
4)Dr.K.Arpitha
5)Dehendra Shadangi
6)Dayananda sagar academy of tehnology and management
7)Dr. Chitra K
8)Dr. S. Arunkumar
9)Madanu Thambi Joseph
10)R.Anand
11)Hemant Kumar Dewangan
12)dl Suresh Kumar
(72) Name of inventor :
1)Dr.Afroze Ansari
2)Angelin Stefi A
3)Kiran Kumar Gorrepati
4)Dr.K.Arpitha
5)Dehendra Shadangi
6)Dr. Chitra K
7)Dr. S. Arunkumar
8)Madanu Thambi Joseph
9)R.Anand
10)Hemant Kumar Dewangan
11)dl Suresh Kumar

(57) Abstract :
Machine Learning–Based Predictive Air Pollution Control System Using Cloud-Enabled IoT-Integrated Solar Hybrid Vehicles in Smart Cities is the proposed invention. The proposed invention is an intelligent air pollution management system that combines machine learning, cloud computing, IoT devices, and solar-assisted hybrid vehicles to address urban air quality challenges in smart cities. The system gathers real- time environmental data through a network of sensors deployed on vehicles and fixed locations, capturing key indicators such as pollutant concentration and weather conditions. This information is transmitted to a cloud platform, where it is processed and analysed using predictive algorithms to estimate future pollution levels and identify potential risk zones. The system enables early intervention by supporting measures such as adaptive traffic control optimized routing, and emission reduction strategies.
No. of Pages : 11 No. of Claims : 3

Dr. Chitra K, Associate Professor, Dept. of MCA, has published a paper entitled "AI-Driven Load Balancing and Energy-Efficient Resource Optimization in Mobile Edge Computing: A Comprehensive Review" in 2025 International Conférence on Transformative Computing Technologies (ICTCT), on April, 2026.



2025 International Conference on Transformative Computing Technologies (ICTCT)

AI-Driven Load Balancing and Energy-Efficient Resource Optimization in Mobile Edge Computing: A Comprehensive Review

1st Yeshashvini Bhandari K R
Research Scholar (PT), VTU Research Centre, Dept., of MCA,
Dayananda Sagar Academy of Technology and Management, Bangalore, Karnataka, India

2nd Chitra K
Research Supervisor, Associate Professor Dept., of MCA,
Dayananda Sagar Academy of Technology and Management, Bangalore, Karnataka, India.

Abstract— Mobile Edge Computing (MEC) has emerged as a key paradigm to support real- time, resource-intensive, and latency-critical applications in 5G and beyond. However, the dynamic nature of workloads, device heterogeneity, and energy constraints introduce significant challenges for effective load balancing and energy-aware resource management. Artificial Intelligence (AI)-driven methods, including Deep Reinforcement Learning (DRL), Markov Decision Processes (MDP), and Probabilistic Cellular Automata (PCA), have shown potential in addressing these issues through adaptive decision-making and multi-objective optimization. This survey systematically reviews state-of-the-art AI- driven approaches for MEC optimization, highlighting their strengths, limitations, and applicability across diverse IoT, vehicle, and smart city use cases. Unlike prior surveys, this work provides (i) a structured methodology for literature selection and classification, (ii) comparative evaluation across latency, energy efficiency, scalability, and security dimensions, and (iii) a critical analysis of why certain approaches succeeds or fail in specific contexts. The paper also introduces a conceptual framework that synthesizes heuristic, probabilistic, and reinforcement learning paradigms, serving as a foundation for hybrid strategies. Finally, it identifies open challenges and outlines future research directions such as federated DRL, renewable-energy-aware MEC, and cross-layer optimization for 6G systems.

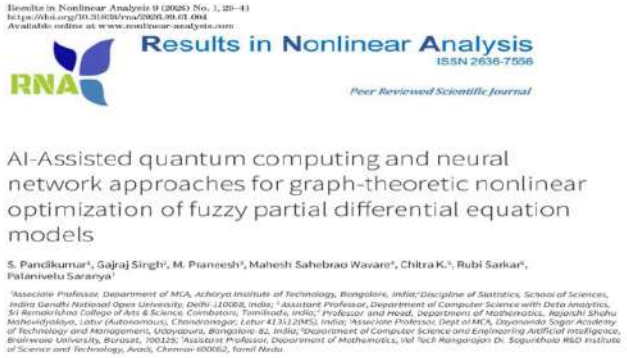
Keywords— *Mobile Edge Computing (MEC), Deep*

latency, core network congestion, and large energy footprints for communication and processing. These drawbacks make cloud-based computation unsuitable for mission- critical or real-time scenarios, such as self-driving cars reacting to dynamic environments or teleoperative requiring sub-second responsiveness. For example, even a 50ms delay in vehicular applications can compromise passenger safety, while latency above 100ms in AR/VR applications results in motion sickness and degraded immersion [1] [2].

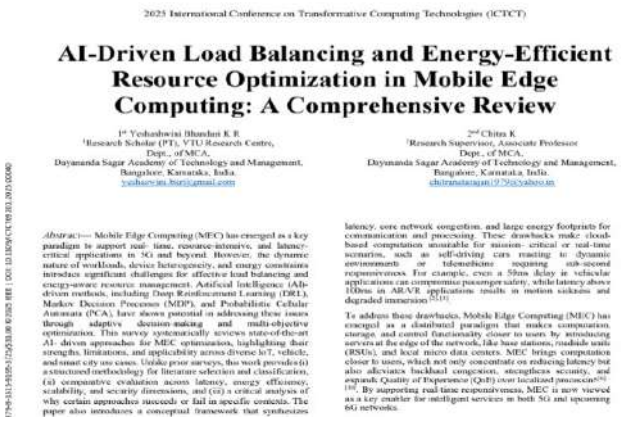
To address these drawbacks, Mobile Edge Computing (MEC) has emerged as a distributed paradigm that makes computation, storage, and control functionality closer to users by introducing servers at the edge of the network, like base stations, roadside units (RSUs), and local micro data centers. MEC brings computation closer to users, which not only concentrate on reducing latency but also alleviates backhaul congestion, strengthens security, and expands Quality of Experience (QoE) over localized proximity [3] [4]. By supporting real-time responsiveness, MEC is now viewed as a key enabler for intelligent services in both 5G and upcoming 6G networks.

However, MEC also introduces new layers of complication. Edge servers function under strict limitations of computation, storage, and energy, in contrast to cloud data centers, which have nearly limitless resources. Furthermore, tasks come in a variety of unpredictable ways, wireless channel conditions change depending

Dr. Chitra K, Associate Professor Dept. of MCA , has published a paper entitled “AI-Assisted Quantum computing and neural network approaches for graph theoretic nonlinear optimisation of fuzzy partial differential equation models” in the Scopus Indexed Journal – Results in Nonlinear Analysis(Q2) on 4th May, 2026.



Dr. Chitra K, Associate Professor Dept. of MCA , has published a IEEE paper entitled “AI-Driven Load Balancing and Energy-Efficient Resource Optimization in Mobile Edge Computing: A Comprehensive Review ” in the IEEE explore and Indexed in Scopus on 8th May, 2026



Dr. Chitra K, Associate Professor, Dept. of MCA, has published a IEEE paper entitled "Leveraging advanced deep learning algorithms to combat fake news in Arabic media landscape" in the IEEE explore indexed on Scopus on 01st May, 2026.

Leveraging advanced deep learning algorithms to combat fake news in Arabic media landscape

Authors: K. Chitra, E. Srimathi, R. Rajpriya, Edwin Shalom Soji, R. Balamurugan, S. Silvia Priscila Authors Info & Claims

International Journal of Electronic Security and Digital Forensics, Volume 18, Issue 3 • Pages 348 - 369
https://doi.org/10.1504/ijesdf.2026.153331

Published: 01 May 2026 Publication History

99 0 0

Abstract

The increasing presence of false information online in today's digital era can lead to societal issues such as political upheavals and the circulation of incorrect data. This study introduces a unique method to identify untrue reports in Arabic utilising advanced deep learning methods. We review existing literature on fake news detection and

Dr. Chitra K, Associate Professor, Dept. of MCA, has published a Patent on "Cloud-Integrated Intelligent IoT System with Machine Learning for Automated Student Attendance in Higher Education" on 15th May, 2026.

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of Filing of Application :22/05/2026
(21) Application No.202621034585 A
(43) Publication Date : 15/05/2026

(54) Title of the invention : Cloud-Integrated Intelligent IoT System with Machine Learning for Automated Student Attendance in Higher Education

(51) International classification: G06Q 50/20, G06N 20/00, H04L 29/08, G06Q 10/06
(31) Priority Document No: NA
(32) Priority Date: NA
(33) Name of priority country: NA
(86) International Application No: Filing Date: 01/01/1900
(87) International Publication No: NA
(61) Patent of Addition to Application Number: NA
Filing Date: NA
(62) Divisional to Application Number: NA
Filing Date: NA

(71)Name of Applicant :
1)Rashmi verma
Address of Applicant :Assistant Professor, Department of CSE, Medicaps University, Indore, Madhya Pradesh, 453331, India Indore Madhya Pradesh India
2)Dr. Sundararajan S
3)Dr K Krishna Jyothi
4)Venkata Appaji Sirangi
5)Dr. Pankaj Kunwar Yadav
6)Dayananda Sagar Academy of Technology and Management
7)Dr.Chitra K
8)Dr.G.Saravanan
9)Dr. G. Balaji
10)Kamna Singh
11)V Divya jyothi
12)Carryl Sharel Pereira
(72)Name of Inventor :
1)Rashmi verma
2)Dr. Sundararajan S
3)Dr K Krishna Jyothi
4)Venkata Appaji Sirangi
5)Dr. Pankaj Kunwar Yadav
6)Dr.Chitra K
7)Dr.G.Saravanan
8)Dr. G. Balaji
9)Kamna Singh
10)V Divya jyothi
11)Carryl Sharel Pereira

(57) Abstract :
The present invention relates to the development of a cloud-based intelligent Internet of Things-based system that leverages the capabilities of machine learning for the automated management of student attendance in higher learning institutions. The system is composed of IoT gateways that connect to various devices such as cameras and RFID or NFC readers that collect images of students and their identification tokens. The images and identification information of students are then relayed to the cloud-based platform that hosts a multi modal machine learning engine that is capable of identifying students and checking for proxy attendance. The system is able to ensure the accuracy of attendance records and is able to integrate with other systems through its role-based and application programming interface-based architecture. The system is able to leverage the capabilities of edge intelligence to ensure that it is able to function even in the event of network disruptions. FIG.1

Dr. Chitra K, Associate Professor, Dept. of MCA, has presented the paper entitle "Reinforcement and Federated Learning Based Self Healing Architecture for Smart City" in the 8th International Conference of Inventive Material Science and Applications(ICIMA-2026) held at Muthayammal Engineering College, Rasipuram, Tamil Nadu during 13th-15th May 2026.

MUTHAYAMMAL ENGINEERING COLLEGE
An Autonomous Institution
Approved by AICTE | Affiliated to Anna University

IEEE PES

Certificate of Presentation

This is to certify that

Chitra K

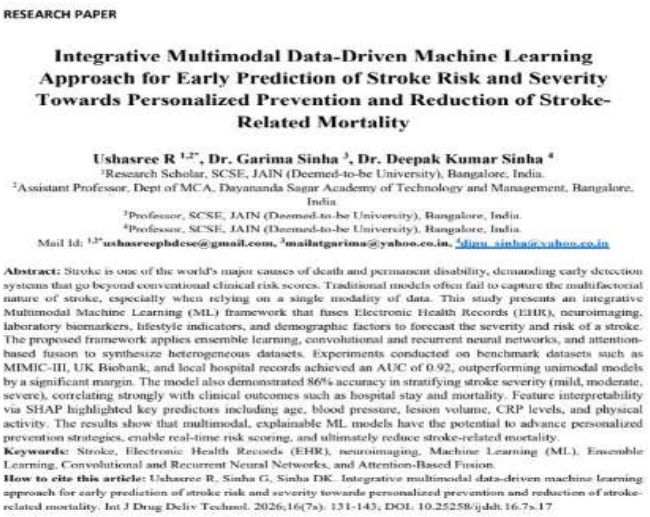
has participated and successfully presented the paper entitled

Reinforcement and Federated Learning Based Self Healing Architecture for Smart City

at the
8th International Conference on Inventive Material Science and Applications (ICIMA-2026) held during 13-15, May 2026 at Muthayammal engineering college, Rasipuram, Tamil Nadu, India.

Session Chair | Dr. P. Suresh, Conference Chair | Dr. P. Senthilkumar, Principal

Ushasree R, Assistant Professor, Dept. of MCA , has published a research paper entitled "Integrative Multimodal Data-Driven Machine Learning Approach for Early Prediction of Stroke Risk and Severity Towards Personalized Prevention and Reduction of Stroke- Related Mortality" on April, 2026.



RESEARCH PAPER

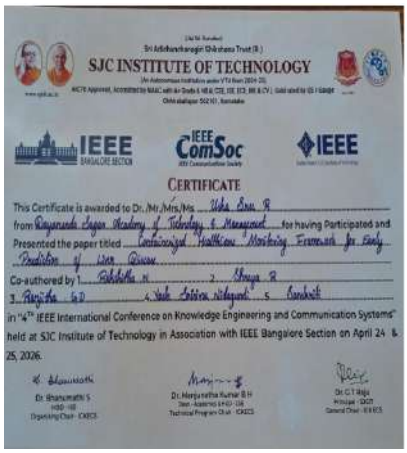
Integrative Multimodal Data-Driven Machine Learning Approach for Early Prediction of Stroke Risk and Severity Towards Personalized Prevention and Reduction of Stroke-Related Mortality

Ushasree R [1,2*], Dr. Garima Sinha [3], Dr. Deepak Kumar Sinha [4]
[1]Research Scholar, SCSE, JAIN (Deemed-to-be University), Bangalore, India.
[2]Assistant Professor, Dept of MCA, Dayananda Sagar Academy of Technology and Management, Bangalore, India.
[3]Professor, SCSE, JAIN (Deemed-to-be University), Bangalore, India.
[4]Professor, SCSE, JAIN (Deemed-to-be University), Bangalore, India.
Mail Id: [1,2*]**ushasreephdcse@gmail.com, [3]mailtgarima@yahoo.co.in**, [4]dipu_sinha@yahoo.co.in

Abstract: Stroke is one of the world's major causes of death and permanent disability, demanding early detection systems that go beyond conventional clinical risk scores. Traditional models often fail to capture the multifactorial nature of stroke, especially when relying on a single modality of data. This study presents an integrative Multimodal Machine Learning (ML) framework that fuses Electronic Health Records (EHR), neuroimaging, laboratory biomarkers, lifestyle indicators, and demographic factors to forecast the severity and risk of a stroke. The proposed framework applies ensemble learning, convolutional and recurrent neural networks, and attention-based fusion to synthesize heterogeneous datasets. Experiments conducted on benchmark datasets such as MIMIC-III, UK Biobank, and local hospital records achieved an AUC of 0.92, outperforming unimodal models by a significant margin. The model also demonstrated 86% accuracy in stratifying stroke severity (mild, moderate, severe), correlating strongly with clinical outcomes such as hospital stay and mortality. Feature interpretability via SHAP highlighted key predictors including age, blood pressure, lesion volume, CRP levels, and physical activity. The results show that multimodal, explainable ML models have the potential to advance personalized prevention strategies, enable real-time risk scoring, and ultimately reduce stroke-related mortality.

Keywords: Stroke, Electronic Health Records (EHR), neuroimaging, Machine Learning (ML), Ensemble Learning, Convolutional and Recurrent Neural Networks, and Attention-Based Fusion.
How to cite this article: Ushasree R, Sinha G, Sinha DK. Integrative multimodal data-driven machine learning approach for early prediction of stroke risk and severity towards personalized prevention and reduction of stroke-related mortality. Int J Drug Deliv Technol. 2026;16(7s): 131-143; DOI: 10.25258/ijddt.16.7s.17

Mrs. Ushasree. R, Assistant Professor, Dept. of MCA, along with 4th semester students, has presented a paper titled “Containerized Healthcare Monitoring Framework for early Prediction Liver Disease" in 4th IEEE International Conference on Knowledge Engineering and Communication Systems held at SJC Institute of Technology in Association with IEEE Bangalore on April 24 & 25th 2026



Mrs. Ushasree. R, Assistant Professor, Dept. of MCA , along with 4th semester students has presented a paper titled “Smart Disease Prediction and Medicine Recommendation System" in 4th IEEE International Conference on Knowledge Engineering and Communication Systems held at SJC Institute of Technology in Association with IEEE Bangalore on April 24 & 25th 2026.

Ushasree R, Assistant Professor, Dept. of MCA, has published a Patent on “Digital Twin Based Smart Farm Simulation and Optimization Platform Using Real-Time IOT Feedback” on 24th April, 2026.

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :12/04/2026

(21) Application No.202641046808 A
(43) Publication Date : 24/04/2026

(54) Title of the invention : Digital Twin Based Smart Farm Simulation and Optimization Platform Using Real-Time IoT Feedback

(51) International classification	:G06Q 50/02, G05B 17/02, G06Q 10/04, G06Q 10/06, G06F 30/20	(71)**Name of Applicant :** **1)Santhosh Krishna B V** Address of Applicant :Bengaluru Karnataka India **2)Dayananda Sagar Academy of Technology and Management** **3)Ballari Institute of Technology and Management** (72)**Name of Inventor :** **1)Ushasree R** **2)Sharath Babu C G** **3)Dr. Kavitha R J** **4)Sujatha S Ari** **5)Supriya Sampat Tambire** **6)Chaitra Nayak J** **7)M. Arunadevi Thirumalraj** **8)Spandana Bai**
(31) Priority Document No	:NA	
(32) Priority Date	:NA	
(33) Name of priority country	:NA	
(86) International Application No Filing Date	:01/01/1900	
(87) International Publication No	:NA	
(61) Patent of Addition to Application Number Filing Date	:NA :NA	
(62) Divisional to Application Number Filing Date	:NA :NA	

(57) Abstract :
The invention discloses a digital twin-based smart farm simulation and optimization platform using real-time IoT feedback. The system integrates IoT-based sensing, digital twin modeling, predictive simulation, and optimization algorithms to enable intelligent decision making in agriculture. The platform continuously synchronizes a virtual farm with real-world conditions, allowing simulation of multiple scenarios and generation of optimized recommendations for irrigation, fertilization, and resource management. The invention improves agricultural productivity, enhances resource efficiency, and enables sustainable farming through real-time monitoring and adaptive control.

Mrs. Ushasree R, Assistant Professor Dept. of MCA , has published a IEEE paper entitled "Evaluating the Robutness of LLM Against Data Posioning Attacks in Cybersecurity Datasets " in the IEEE explore on 19th May, 2026.

Evaluating the Robutness of LLM Against Data Posioning Attacks in Cybersecurity Datasets

Mrs. Ushasree R, Assistant Professor, Dept. of MCA has completed a Workshop on "AI Tools" from be10X on 17th May 2026.

Mrs. Aruna M, Assistant Professor, Dept. of MCA , has participated in International FDP on "Empowering Educators: AI Tools for Innovative Teaching and research" conducted by Vellalar College for Women of Tamil Nadu ,from 05th Jan – 09th Jan, 2026.

Dr. Aruna M, Assistant Professor , has published a Patent on "A Computer-Aided Breast Cancer Detection Framework Using Hybrid Machine Learning And Feature Optimization Techniques" On Feb, 2026.

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :03/02/2026

(21) Application No.202641011666 A

(43) Publication Date : 13/02/2026

(54) Title of the invention : A COMPUTER-AIDED BREAST CANCER DETECTION FRAMEWORK USING HYBRID MACHINE LEARNING AND FEATURE OPTIMIZATION TECHNIQUES

(51) International classification	:A61B 5/055, G06N 3/08, G06T 11/00, G01R 33/56, G06N 3/04	(71)Name of Applicant : 1)Dayananda Sagar Academy of Technology and Management Address of Applicant :Kanagapura Main Road, Bangalore- 560082 Karnataka India
(31) Priority Document No	:NA	(72)Name of Inventor : 1)Dr. Aruna M 2)Amsa Selvaraj 3)Senthilkumar Subramani 4)Jawaharbabu Jeyaraman 5)Yeswanth Surampudi 6)Lavanya Shanmugam 7)Sharmila Ramasundaram Sudharsanam 8)Thiruvalluvarasu Pichaimani
(32) Priority Date	:NA	
(33) Name of priority country	:NA	
(86) International Application No Filing Date	:01/01/1900	
(87) International Publication No	: NA	
(61) Patent of Addition to Application Number Filing Date	:NA :NA	
(62) Divisional to Application Number Filing Date	:NA :NA	

(57) Abstract :

The present invention discloses an AI-assisted framework for high-resolution image reconstruction in ultrasound and Magnetic Resonance Imaging (MRI). The system employs deep learning models, including super-resolution networks, generative models, and noise-reduction modules, to enhance the clarity, diagnostic quality, and spatial resolution of low-resolution medical scans. The invention integrates domain-specific priors, adaptive noise filtering, and anatomical structure preservation mechanisms to ensure medically reliable outputs suitable for clinical use. The method enables real-time or near-real-time reconstruction while significantly improving visualization of soft tissues, anatomical boundaries, and pathological features, thereby supporting improved diagnosis, reduced scan time, and enhanced imaging efficiency.

No. of Pages : 13 No. of Claims : 4

Dr. Aruna M, Assistant Professor, Dept. of MCA , has published a paper entitled "Artificial Intelligence Empowered Data Analytics To Enhance The Detection and Prevention of Security Breaches In IOT Networks " in National Journal of Antennas and Propagation ,on 10th March 2026.

Research Article

WWW.ANTENNAJOURNAL.COM

Artificial Intelligence Empowered Data Analytics To Enhance The Detection And Prevention Of Security Breaches In Iot Networks

Dr. Aruna M, Assistant Professor, Dept. of MCA , has participated in International FDP on "Generative AI and Large Language Models" conducted by Spurthy College of Science & Management Studies ,on 28th February 2026.

Spurthy
COLLEGE OF SCIENCE & MANAGEMENT STUDIES
INSPIRING LIVES

CERTIFICATE
OF PARTICIPATION

Dr. Aruna M
MASTER OF COMPUTER APPLICATIONS
DAYANANDA SAGAR ACADEMY OF TECHNOLOGY AND MANAGEMENT

has successfully participated in the One Day Faculty Development Program (FDP) on **"Generative AI and Large Language Models"** organized by the Department of Computer Applications, **Spurthy College of Science & Management Studies**,held on 28th February 2026.

SANDHYA K
Event Co-ordinator

PROF. RAVI SHANKAR N
Principal

SANGEETHA SUBRAMANIAN
Managing Director of Penclibitz

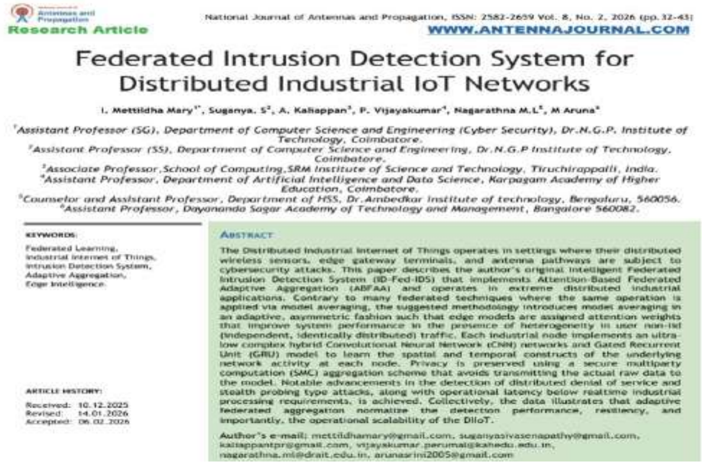
Dr. Aruna M, Assistant Professor, Dept. of MCA , has published a paper entitled "Quantum Integrated Deep Learning Framework for Large Scale Gene Expression Analysis and Predictive modeling of Parkinson's and Alzhemier's Disease" in Genetics and Molecular Research (Scopus Q4) March 2026.

GMR

Quantum-Integrated Deep Learning Framework for Large-Scale Gene Expression Analysis and Predictive Modeling of Parkinson's and Alzheimer's disease

Dr. Aruna M, Assistant Professor, presented a Research Paper entitled "Deep Learning Model for Deforestation Detection using Satellite Images" in the 6th International Conference on Trends in Material Science and Inventive Materials[ICTMIM-2026],from 8th to 10th April, 2026 at Rohini College of Engineering & Technology,Tamil Nadu.

Dr. Aruna M, Assistant Professor, Dept. of MCA, has published a paper entitled "Federated Intrusion Detection System for Distributed Industrial IOT Networks" in the National Journal of Antennas and Propagation, ISSN: 2582-2659, on April, 2026.



National Journal of Antennas and Propagation, ISSN: 2582-2659 Vol. 8, No. 2, 2026 (pp.32-43)
WWW.ANTENNAJOURNAL.COM
Research Article

Federated Intrusion Detection System for Distributed Industrial IoT Networks

I. Mettildha Mary[1*], Suganya. S[2], A. Kaliappan[3], P. Vijayakumar[4], Nagarathna M.L[5], M Aruna[6]

[1]Assistant Professor (SG), Department of Computer Science and Engineering (Cyber Security), Dr.N.G.P. Institute of Technology, Coimbatore.
[2]Assistant Professor (SS), Department of Computer Science and Engineering, Dr.N.G.P Institute of Technology, Coimbatore.
[3]Associate Professor, School of Computing, SRM Institute of Science and Technology, Tiruchirappalli, India.
[4]Assistant Professor, Department of Artificial Intelligence and Data Science, Karpagam Academy of Higher Education, Coimbatore.
[5]Counselor and Assistant Professor, Department of HSS, Dr.Ambedkar Institute of technology, Bengaluru, 560056.
[6]Assistant Professor, Dayananda Sagar Academy of Technology and Management, Bangalore 560082.

KEYWORDS:
Federated Learning,
Industrial Internet of Things,
Intrusion Detection System,
Adaptive Aggregation,
Edge Intelligence.

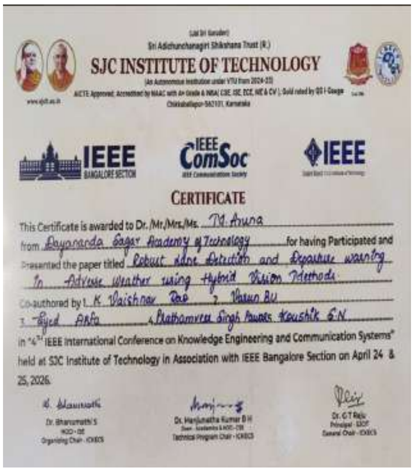
ARTICLE HISTORY:
Received: 10.12.2025
Revised: 14.01.2026
Accepted: 06.02.2026

ABSTRACT

The Distributed Industrial Internet of Things operates in settings where their distributed wireless sensors, edge gateway terminals, and antenna pathways are subject to cybersecurity attacks. This paper describes the author's original Intelligent Federated Intrusion Detection System (ID-Fed-IDS) that implements Attention-Based Federated Adaptive Aggregation (ABFAA) and operates in extreme distributed industrial applications. Contrary to many federated techniques where the same operation is applied via model averaging, the suggested methodology introduces model averaging in an adaptive, asymmetric fashion such that edge models are assigned attention weights that improve system performance in the presence of heterogeneity in user non-iid (independent, identically distributed) traffic. Each industrial node implements an ultra-low complex hybrid Convolutional Neural Network (CNN) networks and Gated Recurrent Unit (GRU) model to learn the spatial and temporal constructs of the underlying network activity at each node. Privacy is preserved using a secure multiparty computation (SMC) aggregation scheme that avoids transmitting the actual raw data to the model. Notable advancements in the detection of distributed denial of service and stealth probing type attacks, along with operational latency below realtime industrial processing requirements, is achieved. Collectively, the data illustrates that adaptive federated aggregation normalize the detection performance, resiliency, and importantly, the operational scalability of the DIIoT.

Author's e-mail: mettildhamary@gmail.com, suganyasivasenapathy@gmail.com, kaliappantpr@gmail.com, vijayakumar.perumal@kahedu.edu.in, nagarathna.ml@drait.edu.in, arunasrini2005@gmail.com

Dr. Aruna M, Assistant Professor, Dept. of MCA , along with 4th semester students has presented a paper titled "Robust Lane Detection and Departure Warning in Adverse Weather using Hybrid Vision Methods" at te 4th IEEE International Conference on Knowledge Engineering and Communication Systems held at SJC Institute of Technology in Association with IEEE Bangalore on April 24 & 25th 2026.



Dr. Aruna M, Assistant Professor, Dept. of MCA, has presented a paper titled "Generative AI for Automated RTL to GDSII Design Space Exploration and PPA Optimization" at the 9th International Conference on trends in Electronics and Informatics(ICOEI-2026) held from 21-23rd April, 2026 at SCAD College of Engineering and Technology, Tirunelveli Tamilnadu India.

Certificate of Presentation

This is to certify that

M Aruna

has presented a paper titled

Generative AI for Automated RTL to GDSII Design Space Exploration and PPA Optimization

at the 9th International Conference on Trends in Electronics and Informatics (ICOEI-2026) held from 21-23,April 2026 at SCAD College of Engineering and Technology, Tirunelveli, Tamil Nadu, India.

IEEE

Session Chair

Dr.R.Karthik Ganesh
Organizing Chair

Dr. K. Ganesan
Principal

ELECTRON DEVICES SOCIETY

Dr. Aruna M, Assistant Professor, Dept. of MCA, has attended FDP on "Advanced Pedagogy on Effective Teaching, Learning and Assessment" from 09/03/2026 to 21/03/2026 organized by EICTA consortium.

Dr. Aruna M, Assistant Professor, Dept. of MCA , has published a Patent on "Tale Generative ai in healthcare: revolutionizing diagnosis, treatment, and patient care" on 1st May , 2026..

MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY

EICTA Consortium

A joint initiative of MeitY and IITs, NITs and IIITs

EICTA Consortium

(A Joint Initiative of MeitY and IITs, NITs and IIITs)

Certificate

This is to certify that
Dr. / Mr. / Ms. **Aruna M** of
Dayananda Sagar Academy of Technology and Management
has completed the **Faculty Development Program** on
Advanced Pedagogy for Effective Teaching, Learning & Assessment
from 09-03-2026 to 21-03-2026

Date of Issue: 27-04-2026

Prof B. V. Phani
Chief Investigator, E&ICT Academy, IIT Kanpur

EICT Academies: IIT Kanpur, IIT Guwahati, IIT Roorkee, MNIT Jaipur, IIITDM Jabalpur, NIT Patna, NIT Warangal

(10) Publication No: **IN202641051434 A1**
(22) Date of Filing: 22-04-2026

(43) Publication Date: 01-05-2026
Journal No: 18/2026

(19) Intellectual Property Office, India

(12) INDIAN PATENT APPLICATION

(54) Title: **Generative ai in healthcare: revolutionizing diagnosis, treatment, and patient care**

(51) International Classification:
G16H 50/20, G16H 30/20, G16H 10/60, G06N 3/08 G06N 3/04
(21) Application No: **202641051434**
(31) Priority Document No: --
(32) Priority Date: --
(86) International Application No: --
Filing Date: --
(87) International Publication No: --
(61) Patent of Addition to Application No: --
Filing Date: --

(71) Name of Applicant(s):
1. Dr.m.praveena,
2. Dr.sridhar D,
3. Mrs K Pandi Meena,
4. Dr E Saranya Devi,
5. Dr.v.baby Shalini,
6. Mrs.tamil Selvi S,
7. Dayananda Sagar Academy Of Technology And Management,
8. Dr. Aruna M,
9. Dr. Priyanka Jayaraj,
10. Dr Geetha Raj Prakash,

Dr. Enoch Arulprakash, Assistant Professor, Dept. of MCA was awarded with the Best Paper for his paper entitled "Automated Diagnosis of Pneumonia and COVID-19 from Chest X-Rays Using Deep Learning" in ICCIST 2025 organized by the Department of Computer Science, CHRIST (Deemed to be University), held on 18-19 December, 2025.

IEEE

CHRIST

CERTIFICATE

OF BEST PAPER AWARD

THIS IS TO CERTIFY THAT

Dr. Enoch Arulprakash, Biswarup Deb, Darshan C, Abhisek

From Dayananda Sagar Academy of technology and management, Bangalore are hereby awarded the Best Paper Award for their outstanding research paper titled "Automated Diagnosis of Pneumonia and COVID-19 from Chest X-Rays Using Deep Learning" presented at the IEEE International Conference on Computational Innovations and Sustainable Technologies (ICCIST 2025), organized by the Department of Computer Science, CHRIST (Deemed to be University), Bangalore Yeshwanthpur Campus, held on 18 -19 December, 2025

Dr Siva Balan R V

Dr Vinay M

Dr Joby Thomas

Dr Fr Benny Thomas

Dr. Enoch Arul Prakash, Assistant Professor, Dept. of MCA has completed the FIP on "Identity and Access Management IAM" from Infosys springboard ,on 29th Jan 2026.

Infosys

Navigate your next

COURSE COMPLETION CERTIFICATE

The certificate is awarded to

ENOCH ARULPRAKASH

for successfully completing the course

Identity Governance and Administration

on January 29, 2026

Infosys | Springboard

Congratulations! You make us proud!

Satheesha B. Nanjappa

Dr. Enoch Arul Prakash, Assistant Professor, Dept. of MCA has completed the FIP on "Introduction to Cyber Security" from Infosys springboard ,on 29th Jan 2026.

Dr. Enoch Arul Prakash, Assistant Professor, Dept. of MCA has completed the FIP on "Identity and Access Management IAM" from Infosys springboard ,on 29th Jan 2026.

Dr. Enoch Arul Prakash, Assistant Professor, Dept. of MCA has completed the FIP on "Fundamentals of Information Security" from Infosys springboard ,on 29th Jan 2026.

Dr. Enoch Arul Prakash, Assistant Professor, Dept. of MCA, has completed the Video Proctoring certificate on "Cyber Security Foundation Certification" from Infosys springboard, on 21st Feb 2026.

Dr. Enoch Arul Prakash, Assistant Professor, Dept. of MCA has completed the FIP on "Networking and Web Technology" from Infosys springboard ,on 29th Jan 2026.

Dr. Enoch Arul Prakash, Assistant Professor, Dept. of MCA has completed the FIP on "Fundamentals of Data Networking" from Infosys springboard ,on 29th Jan 2026.

Dr. Enoch Arul Prakash, Assistant Professor, published a Conference Paper entitled "An Intelligent framework Using Neural Networks and Genetic Algorithms for Student Performance Prediction in Educational Systems", in the 2025 IEEE 6th Global Conference for Advancement in Technology (GCAT).

An Intelligent Framework Using Neural Networks and Genetic Algorithms for Student Performance Prediction in Educational Systems

Dr. Enoch Arul Prakash, Assistant Professor, Dept. of MCA, has completed the Video Proctoring certificate on "Cyber Security Fundamentals Certification" from Infosys springboard, on 09th March 2026.

Infosys
Navigate your next

CERTIFICATE OF ACHIEVEMENT

The certificate is awarded to

ENOCH ARULPRAKASH

for successfully completing

Cyber Security Fundamentals Certification

on March 9, 2026

Infosys | Springboard

Congratulations! You make us proud!

Satheesha B. N.
Senior Vice President and Head
Education, Training and Assessment
Infosys Limited

Issued on: Monday, March 9, 2026
To verify, scan the QR code at https://verify.onwingspan.com

Dr. Enoch Arul Prakash, Assistant Professor, published a Conference Paper entitled "Artificial Intelligence In Robotics: Enhancing Human–robot Interaction Through Emotion-aware And Multilingual NLP" in the IEEE Xplore [6th Global Conference for Advancement in Technology (GCAT)]

ARTIFICIAL INTELLIGENCE IN ROBOTICS: ENHANCING HUMAN–ROBOT INTERACTION THROUGH EMOTION-AWARE AND MULTILINGUAL NLP

Dr. Enoch Arul Prakash[1]
Assistant Professor, Department of Master Of Computer Applications,
Dayananda Sagar academy of Technology and Management
Bengaluru, Karnataka, India

Bhumika TS[2]
Final Year Student
Department of Master Of Computer Applications,
Dayananda Sagar academy of Technology and Management
Bengaluru, Karnataka, India

Chandana B[3]
Final Year Student
Department of Master Of Computer Applications,
Dayananda Sagar academy of Technology and Management
Bengaluru, Karnataka, India

Nagaraj Krishna[4]
Final Year Student
Department of Master Of Computer Applications,
Dayananda Sagar academy of Technology and Management
Bengaluru, Karnataka, India

ABSTRACT

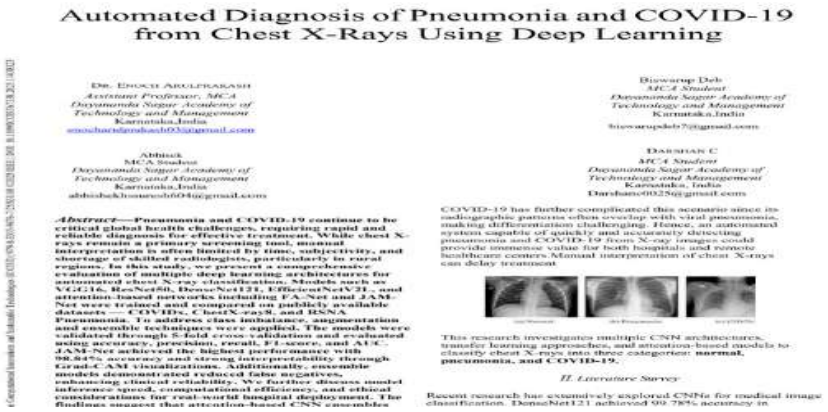
Human-Robot Interaction (HRI) is one of the most significant fields of robotics and artificial intelligence, which consists of Natural Language Processing (NLP). It has enabled the robots to communicate with human beings in a human way. There are two major problems in most robotic systems in the current state of NLP and HRI in spite of its impressive development speed. These restrictions complicate the implementation of robots in multicultural, multilingual communities, where trust, compassion, and inclusivity play an important role. This paper presents a new framework that combines the notion of affect recognition systems with multilingual natural language processing (NLP) to deal with such issues. The framework is made up of multilingual models using transformers that are able to comprehend and process a broad variety of different languages

(NLP), Emotion Recognition, Multilingual Systems, Robotics

INTRODUCTION

Robotics has been transformed by artificial intelligence to allow the machines to communicate with people in more human and significant forms. As robots continue to infiltrate medical, educational, domestic and government service settings, the topic of Human-Robot Interaction (HRI) has become one of the most significant amongst tens of critical intelligence areas. In order to be adopted successfully, such robots should be in a position to communicate in a linguistically inclusive, intuitively and empathetically. Natural language processing or NLP has played a significant role in improving man to robot communication. The development of large language models (LLMs) has made it possible to discuss contextually and communicate in a more task-oriented manner, whereas first-generation systems accepted orders based on keywords. Despite these developments, however, there are still two eminent constraints of the HRI systems that are commonly to other

Dr. Enoch Arul Prakash, Assistant Professor, published a Conference Paper entitled "Automated Diagnosis of Pneumonia and COVID-19 from Chest X-Rays Using Deep Learning ", in the 2025 IEEE Xplore [6th Global Conference for Advancement in Technology (GCAT)].



Automated Diagnosis of Pneumonia and COVID-19 from Chest X-Rays Using Deep Learning

Ms. Amsaveni M, Assistant Professor, Dept. of MCA, has published a paper entitled "Performance analysis of 10 Gbps underwater optical wireless communication system using NRZ, duobinary, and AMI modulation under diverse water types" in the Journal of Optical Communication indexed in Scopus Q1 Journal on December, 2025.

Performance analysis of 10 Gbps underwater optical wireless communication system using NRZ, duobinary, and AMI modulation under diverse water types

Dr. Amsaveni M, Assistant Professor, Dept. of MCA, has been awarded Ph.D in Computer Science in Bharthiar University, Coimbatore on 29th Jan 2026 **.**

பாரதியார் பல்கலைக்கழகம்
BHARATHIAR UNIVERSITY
அறிவியல் புலம்
FACULTY OF SCIENCE

The Syndicate of the Bharathiar University hereby makes known that **AMSAVENI M,** has been admitted to the Degree of **DOCTOR OF PHILOSOPHY** having been certified by duly appointed Examiners to be qualified to receive the same on 29th JANUARY 2026.

Title of the Thesis : An Energy-Aware Clustering and Attack Detection Protocol Using Advanced Optimization for Wireless Sensor Networks

Subject : **COMPUTER SCIENCE**

Given under the seal of the University

Controller of Examinations — Registrar

Coimbatore
Dated: 14th February 2026

for Vice-Chancellor

Dr. Amsaveni M, Assistant Professor, Dept. of MCA , has published a Patent on "Enhanced Hybrid elliptic curve cryptography in next generation cloud ATM architecture" on 03rd March , 2026.

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application: 24/02/2026
(21) Application No.202641023539 A
(43) Publication Date: 06/03/2026

(54) Title of the invention : Enhanced hybrid elliptic curve cryptography in next generation cloud ATM architecture

(51) International classification: H04L 9/30, H04L 9/32, G06Q 20/10, H04L 9/08, G07F 19/00
(31) Priority Document No: NA
(32) Priority Date: NA
(33) Name of priority country: NA
(86) International Application No: NA
Filing Date: 01/01/1900
(87) International Publication No: NA
(61) Patent of Addition to Application Number: NA
Filing Date: NA
(62) Divisional to Application Number: NA
Filing Date: NA

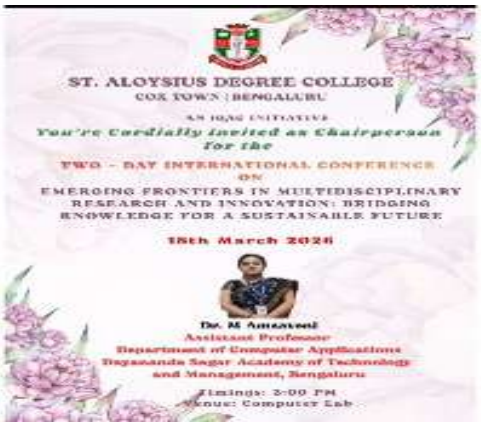
(71)Name of Applicant :
1)M. Dhavanani
Address of Applicant :Assistant Professor, Department of Artificial Intelligence and Data Science Sudharsan Engineering College, Pudukkottai,Tamilnadu 622501 Tamil Nadu India
2)Dr. S. Pourani Mithila
3)Mr. Balakiran S
4)Ms.Mythili D
5)Mr.Siva .P
6)Dayananda Sagar Academy of Technology and Management (DSATM)
7)Dr. M.Amsaveni
8)Dr. Baby Shalini Vijaya Kumar
9)Dr.M.Kanaga
10)Dr.M.Manida
(72)Name of Inventor :
1)M. Dhavanani
2)Dr. S. Pourani Mithila
3)Mr. Balakiran S
4)Ms.Mythili D
5)Mr.Siva .P
6)Dayananda Sagar Academy of Technology and Management (DSATM)
7)Dr. M.Amsaveni
8)Dr. Baby Shalini Vijaya Kumar
9)Dr.M.Kanaga
10)Dr.M.Manida

(57) Abstract
Enhanced hybrid elliptic curve cryptography in next generation cloud ATM architecture Abstract: The development of the Automated Teller Machine (ATM) has significantly enhanced efficiency, convenience, and accessibility for bank customers. However, ATM skimming attacks create a major risk in the banking sector, leading to significant losses for banks and account holders while negatively impacting the global economy. This hybrid approach is used to design cyber-Safe cloud ATM architecture for eradicating skimming attacks in the hybrid cloud environment to protect ATM PINs and ensure safe banking transactions. The proposed system contributes by generating an Instant PIN based on the ATM session key using the Enhanced Hybrid Elliptic Curve Cryptography (EHECC) algorithm to enhance the

Dr. Amsaveni M, Assistant Professor, Dept. of MCA , has published a paper entitled "Dynamic Fuzzy-Rough Sets for Uncertainty – Aware Knowledge Extraction from Large Datasets " in IEEE Conference Explorer, on 09th March 2026.

Dynamic Fuzzy-Rough Sets for Uncertainty-Aware Knowledge Extraction from Large Datasets

Dr. Amsaveni M, Assistant Professor, Dept. of MCA, was the Chairperson for Two-Day IEEE International Conference organized by ST. Aloysius Degree College , on 18th March 2026



Dr. Amsaveni M, Assistant Professor, Dept. of MCA, has participated in International FDP on "Generative AI and Large Language Models" conducted by Spurthy College of Science & Management Studies ,on 28th February 2026.

Dr. Amsaveni M, Assistant Professor, Dept. of MCA, has completed the Course in SWAYAM Plus for AI Educators with a score of 82% on 08th February 2026.

SWAYAM Plus

IITM PRAVARTAK CATALYSING INNOVATION

Course Completion Certificate

This certificate is awarded to **Dr. M AMSAVENI**
for successfully completing the course **AI for Educators,**
aligned to NCrF level 4.5, offered by IITM Pravartak Technologies Foundation,
with a consolidated score of 82%
(proctored examination held on 08-02-2026)

Prof R. Sarathi
Project Coordinator, SWAYAM Plus
IIT Madras

Dr. M.J. Shankar Raman
CEO,
IITM Pravartak Technologies Foundation

Dr. Amsaveni M, Assistant Professor, Dept. of MCA, has participated in Five days FDP on "Gen AI and Agentic AI" conducted by Dayananda Sagar College of Arts, Science and Commerce, on 23rd -27th March 2026**.**

DAYANANDA SAGAR COLLEGE OF ARTS, SCIENCE AND COMMMERCE
SHAVIGE MALLESHWARA HILLS, KUMARASWAMY LAYOUT

Department of Computer Applications

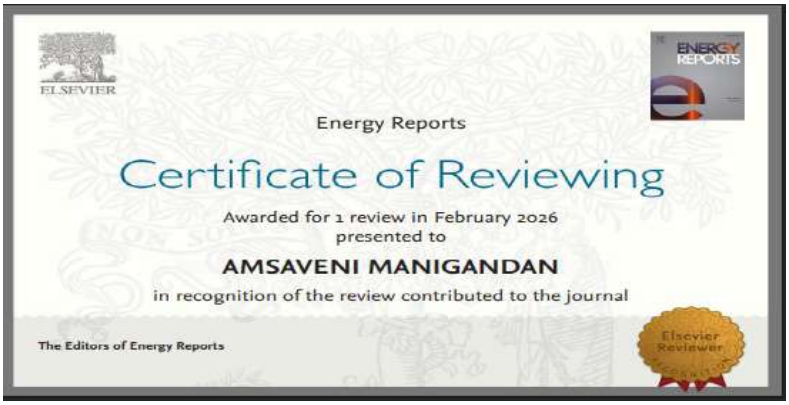
PARTICIPATION CERTIFICATE

This is to certify that **Dr.M.AMSAVENI** of Dayananda Sagar Academy of Technology and Management has participated in the Five Days Faculty Development Program (FDP) on **"Gen AI and Agentic AI"** conducted during 23rd to 27th March 2026. She/He has successfully completed all the requirements for the completion of the programme.

HOD | Deputy Director | Vice Principal | Principal

Dr. Amsaveni M, Assistant Professor, presented a Research Paper entitled “Cross Layer Co-Optimization using Foundation Models in VLSI Design” in the 6th International Conference on Trends in Material Science and Inventive Materials[ICTMIM-2026],from 8th to 10th April, 2026 at Rohini College of Engineering & Technology, Kanyakumari, Tamil Nadu.

Dr. Amsaveni M, Assistant Professor, reviewed on Energy Reports “ Certificate of Reviewing” Awarded for 1 review in February 2026, in recognition of the review contributed to the journal**.**



Dr. Amsaveni M, Assistant Professor, Dept. of MCA, along with 4th semester students has presented a paper titled “Smart Kinetic Envelope: Modeling and Empirical Testing of IoT Systems for Tropical Climates" in 4th IEEE International Conference on Knowledge Engineering and Communication Systems held at.

Dr. Amsaveni M, Assistant Professor, Dept. of MCA, has presented the paper entitle "Block chain-Enabled Deep Learning Framework for Secure Data Mining" in the 2nd International Conference on AI and Robotics (AIR 2026) held at The Center of Excellence in Medical Robotics and Research, Nazarbayev University Kazakhstan during 8th-9th May 2026.

Dr. Amsaveni M, Assistant Professor Dept. of MCA , has published a IEEE paper entitled "Cross Layer Co Optimization using Foundation Models in VLSI Design" in the IEEE explore on 23rd May, 2026**.**

Cross Layer Co Optimization using Foundation Models in VLSI Design

Mrs. Pushpanjali, Assistant Professor, Dept. of MCA, has completed the FIP on "Network Fundamentals" from Infosys springboard ,on Jan 12, 2026.

Infosys
Navigate your next

COURSE COMPLETION CERTIFICATE

The certificate is awarded to

Pushpanjali S

Infosys
Navigate your next

COURSE COMPLETION CERTIFICATE

The certificate is awarded to

Pushpanjali S

for successfully completing the course

Fundamentals of Information Security

on January 23, 2026

Infosys | Springboard

Congratulations! You make us proud!

Satheesha B. Nanjappa
Senior Vice President and Head
Education, Training and Assessment
Infosys Limited

Satheesha B. Nanjappa
Senior Vice President and Head
Education, Training and Assessment
Infosys Limited

Mrs. Pushpanjali, Assistant Professor, Dept. of MCA, has completed the FIP on "Fundamentals of Information Security" from Infosys springboard ,on 23rd Jan 2026**.**

Mrs. Pushpanjali, Assistant Professor, Dept. of MCA, has completed the FIP on "Introduction to Cyber Security" from Infosys springboard ,on 23rd Jan 2026.

Mrs. Pushpanjali, Assistant Professor, Dept. of MCA, has completed the FIP on "Fundamentals of Cryptography" from Infosys springboard ,on Jan 28, 2026.

Mrs. Pushpanjali, Assistant Professor, Dept. of MCA, has completed the FIP on "Cyber Security Fundamentals Certification" from Infosys springboard ,on 07th Feb 2026.

Mrs. Pushpanjali, Assistant Professor, Dept. of MCA, has completed the FIP on "Network Security" from Infosys springboard ,on 07th Feb 2026.

Infosys
Navigate your next

COURSE COMPLETION CERTIFICATE

The certificate is awarded to

Pushpanjali S

for successfully completing the course

Network Security

on February 7, 2026

Infosys | Springboard

Congratulations! You make us proud!

Sathesha B. N.
Senior Vice President and Head
Education, Training and Assessment
Infosys Limited

Issued on: Monday, February 9, 2026
To verify, scan the QR code at https://verify.onwingspan.com

Mrs. Pushpanjali, Assistant Professor, Dept. of MCA, has completed the FIP on "Identity Governance and Administration" from Infosys springboard ,on 07th Feb 2026**.**

Infosys
Navigate your next

COURSE COMPLETION CERTIFICATE

The certificate is awarded to

Pushpanjali S

for successfully completing the course

Identity Governance and Administration

on February 7, 2026

Infosys | Springboard

Congratulations! You make us proud!

Sathesha B. N.
Senior Vice President and Head
Education, Training and Assessment
Infosys Limited

Issued on: Saturday, February 7, 2026
To verify, scan the QR code at https://verify.onwingspan.com

Mrs. Pushpanjali, Assistant Professor, Dept. of MCA, has completed the FIP on "Identity and Access Management IAM" from Infosys springboard ,on 07th Feb 2026**.**

Mrs. Pushpanjali, Assistant Professor, Dept. of MCA, has completed the FIP on "ITIL Awareness" from Infosys springboard ,on 07th Feb 2026.

Mrs. Pushpanjali, Assistant Professor, Dept. of MCA, has completed the FIP on "Cyber Security Foundation Certification" from Infosys springboard ,on 12th Feb 2026

Infosys
Navigate your next

CERTIFICATE OF ACHIEVEMENT

The certificate is awarded to

Pushpanjali S

for successfully completing

Cyber Security Foundation Certification

on February 12, 2026

Infosys | Springboard

Congratulations! You make us proud!

Satheesha B. N

Satheesha B. Nanjappa
Senior Vice President and Head
Education, Training and Assessment
Infosys Limited

Issued on: Thursday, February 12, 2026
To verify, scan the QR code at https://verify.onwingspan.com

Mrs. Pushpanjali, Assistant Professor, Dept. of MCA, has published a paper entitled "A Hybrid AI System for Smart E-Waste Collection, Classification, and Resource Recommendation Using IoT and ML" in the IEEE Explore on 19th February,2026.

A Hybrid AI System for Smart E-Waste Collection, Classification, and Resource Recommendation Using IoT and ML.

Mrs. Pushpanjali, Assistant Professor, Dept. of MCA, has published a IEEE paper entitled "Co Optimization of Algorithms and Semiconductor Architectures for AI Acceleration" in the IEEE explore indexed in Scopus on 05th May, 2026.

Co Optimization of Algorithms and Semiconductor Architectures for AI Acceleration

Priyadarshini S, Assistant Professor, Dept. of MCA, presented a Paper entitled "Adaptive Route Optimization with Predictive Weather Insights via Machine Learning" in the "IEEE International Conference on Computational Innovations and Sustainable Technologies (ICCIST 2025)" organized by the Department of Computer Science, CHRIST (Deemed to be University), from 18-19 December, 2025.

Priyadarshini S, Assistant Professor, Dept. of MCA , has participated in International FDP on “Generative AI and Large Language Models” conducted by Spurthy College of Science & Management Studies ,on 28th February 2026**.**

Spurthy
COLLEGE OF SCIENCE & MANAGEMENT STUDIES
INSPIRING LIVES

CERTIFICATE
OF PARTICIPATION

PRIYADARSHINI S
MASTER OF COMPUTER APPLICATIONS
DAYANANDA SAGAR ACADEMY OF MANAGEMENT AND TECHNOLOGY

has successfully participated in the One Day Faculty Development Program (FDP) on **"Generative AI and Large Language Models"** organized by the Department of Computer Applications, **Spurthy College of Science & Management Studies**,held on 28th February 2026.

SANDHYA K
Event Co-ordinator

PROF. RAVI SHANKAR N
Principal

SANGEETHA SUBRAMANIAN
Managing Director of Pencilbitz

Priyadarshini S, Assistant Professor, Dept. of MCA , has published a Patent on “An Iot-connected Smart Classroom Model For Automated Efl Skill Evaluation Using Ml Algorithms” On 27th Mar, 2026.

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :18/03/2026

(21) Application No:202641032480 A
(43) Publication Date : 27/03/2026

(54) Title of the invention : AN IOT-CONNECTED SMART CLASSROOM MODEL FOR AUTOMATED EFL SKILL EVALUATION USING ML ALGORITHMS

(51) International classification	:G06Q 50/20, G09B 19/06, G09B 5/06, G06N 20/00, G09B 5/14	(71)Name of Applicant : 1)Dr. A.A.Jayashree Prabhakar Address of Applicant :Professor, Department of English, Vels Institute of Science, Technology and Advanced Studies(VISTAS), Pallavaram, Chennai, 600117 Chennai Tamil Nadu India 2)Dr. C.Manju 3)Dr.C.Karpagavalli 4)Dr.R.Roshini 5)Dr. Julius Irudayasamy 6)Dr.R.Reka 7)Bollu Jyothi 8)Thejoroy Dasari 9)M. Venkata Sudhakar 10)Dr. Sohel Ibrahim Shaikh 11)Dayananda Sagar Academy of Technology and Management 12)Priyadarshini S
(31) Priority Document No	:NA	
(32) Priority Date	:NA	
(33) Name of priority country	:NA	
(86) International Application No Filing Date	: :01/01/1900	(72)Name of Inventor : 1)Dr. A.A.Jayashree Prabhakar 2)Dr. C.Manju 3)Dr.C.Karpagavalli 4)Dr.R.Roshini 5)Dr. Julius Irudayasamy 6)Dr.R.Reka 7)Bollu Jyothi 8)Thejoroy Dasari 9)M. Venkata Sudhakar 10)Dr. Sohel Ibrahim Shaikh 11)Priyadarshini S
(87) International Publication No	: NA	
(61) Patent of Addition to Application Number Filing Date	:NA :NA	
(62) Divisional to Application Number Filing Date	:NA :NA	

(57) Abstract :
An IoT-Connected Smart Classroom Model for Automated EFL Skill Evaluation Using ML Algorithms is the proposed invention. The proposed invention focuses integrates connected classroom devices, cloud-based data processing, and intelligent analytical techniques to monitor and assess students' language performance in a continuous and efficient manner. IoT-enabled devices such as microphones, digital learning boards, and tablets collect data related to speaking, reading, writing, and classroom participation during learning activities. The collected data is transmitted to a centralized platform where machine learning algorithms like SVM and random forest to analyze pronunciation, fluency, grammar usage, vocabulary patterns, and writing structure. Based on this analysis, the system determines student proficiency levels and generates detailed performance reports. The framework also provides instructors with analytical dashboards and offers automated feedback to support personalized learning. By combining real-time data collection with intelligent evaluation methods, the proposed system improves the accuracy, consistency, and efficiency of EFL skill assessment in higher education environments while supporting technology-driven language learning.
No. of Pages : 14 No. of Claims : 3

Priyadarshini S, Assistant Professor, Dept. of MCA , has published a conference paper entitled “Dynamic Route Optimization with Predictive Weather conditions” in the IEEE Xplore on March, 2026.

Dynamic Route Optimization with Predictive Weather conditions

Priyadarshini S, Assistant Professor, Dept. of MCA , has published a conference paper entitled “Genetic Algorithm-Tuned CNN–SVM Hybrid Model for Early and Accurate Detection of Breast Cancer” in the Asian Conference on Intelligent Technologies (ACOIT) on March, 2026.

Genetic Algorithm–Tuned CNN–SVM Hybrid Model for Early and Accurate Detection of Breast Cancer

Priyadarshini S, Assistant Professor, Dept. of MCA , has published a conference paper entitled “Hybrid Deep Learning and Ensemble Approach for Detecting Fake Reviews on E-Commerce Platforms” in the Asian Conference on Intelligent Technologies (ACOIT) on March, 2026.

Hybrid Deep Learning and Ensemble Approach for Detecting Fake Reviews on E-Commerce Platforms

Priyadarshini S, Assistant Professor, Dept. of MCA, has attended FDP on "Advanced Pedagogy on Effective Teaching, Learning and Assessment" from 09/03/2026 to 21/03/2026 organized by EICTA consortium.

MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY

EICTA Consortium
A joint initiative of MeitY and IITs, NITs and IIITs

EICTA Consortium
(A Joint Initiative of MeitY and IITs, NITs and IIITs)

Certificate

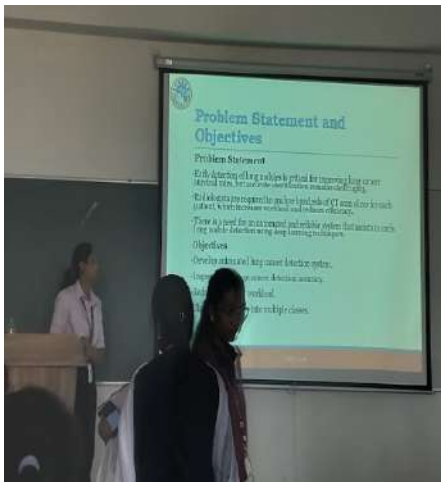
This is to certify that
Dr. / Mr. / Ms. **Priyadarshini S** of
Dayanada Sagar Academy of Technoloy and Management
has completed the **Faculty Development Program** on
Advanced Pedagogy for Effective Teaching, Learning & Assessment
from 09-03-2026 to 21-03-2026

Date of Issue: 27-04-2026

Prof B. V. Phani
Chief Investigator, E&ICT Academy, IIT Kanpur

EICT Academies: IIT Kanpur, IIT Guwahati, IIT Roorkee, MNIT Jaipur, IIITDM Jabalpur, NIT Patna, NIT Warangal

Priyadarshini S, Assistant Professor, Dept. of MCA , along with 4th semester students has presented a paper titled “An Intelligent ML-Based Design Support System for Waste Trade and Recycling" in 4th IEEE International Conference on Knowledge Engineering and Communication Systems held at SJC Institute of Technology in Association with IEEE Bangalore on April 24 & 25th 2026.



Sri Adichunchanagiri Shikshana Trust (R.)

SJC INSTITUTE OF TECHNOLOGY

IEEE BANGALORE SECTION | IEEE ComSoc | IEEE

CERTIFICATE

This Certificate is awarded to Dr. /Mr./Mrs./Ms. PRIYADARSHINI. S
from DSATM for having Participated and
Presented the paper titled AN INTELLIGENT ML-BASED DESIGN SUPPORT
SYSTEM FOR WASTE TRADE AND RECYCLING
Co-authored by 1. BHAVANA 2. SAMRUDDHI. P
3. 4. 5.
in "4th" IEEE International Conference on Knowledge Engineering and Communication Systems" held at SJC Institute of Technology in Association with IEEE Bangalore Section on April 24 & 25, 2026.

Priyadarshini S, Assistant Professor, Dept. of MCA , has published a conference paper entitled “A Scalable Digital Twin Architecture for Intelligent Cyber Physical Systems” in the IEEE Xplore on indexed in Scopus on 05th May, 2026**.**

A Scalable Digital Twin Architecture for Intelligent Cyber Physical Systems

Mr. Bharath Kumar J, Assistant Professor, Dept. of MCA has completed the course “ Introduction to Artificial Intelligence” from Infosys springboard ,on Jan 06, 2026.

Infosys
Navigate your next

COURSE COMPLETION CERTIFICATE

The certificate is awarded to

Bharath Kumara J

for successfully completing the course

Introduction to Artificial Intelligence

on January 6, 2026

Infosys | Springboard

Congratulations! You make us proud!

Satheesha B. Nanjappa
Senior Vice President and Head
Education, Training and Assessment
Infosys Limited

Issued on: Tuesday, January 6, 2026
To verify, scan the QR code at https://verify.onwingspan.com

Mr. Bharath Kumar J, Assistant Professor, Dept. of MCA has participated in Five days FDP on "Gen AI and Agentic AI" conducted by Dayananda Sagar College of Arts, Science and Commerce, on 23rd -27th March 2026.

DAYANANDA SAGAR COLLEGE OF ARTS, SCIENCE AND COMMMERCE

SHAVIGE MALLESHWARA HILLS, KUMARASWAMY LAYOUT

Department of Computer Applications

PARTICIPATION CERTIFICATE

This is to certify that **Mr. BHARATH KUMARA J** of Dayananda Sagar Academy of Technology and Management has participated in the Five Days Faculty Development Program (FDP) on **"Gen AI and Agentic AI"** conducted during 23rd to 27th March 2026. She/He has successfully completed all the requirements for the completion of the programme.

HOD Deputy Director Vice Principal Principal

Mr.Bharath Kumar J, Assistant Professor, Dept. of MCA, has published a Patent on "Hybrid Machine Learning-IOT-Drone Framework for Real-time Earthquake Prediction and Intelligent Early Warning System" on 23rd March, 2026**.**

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :23/03/2026

(21) Application No.202641035120 A
(43) Publication Date : 03/04/2026

(54) Title of the invention : HYBRID MACHINE LEARNING-IOT-DRONE FRAMEWORK FOR REAL-TIME EARTHQUAKE PREDICTION AND INTELLIGENT EARLY WARNING SYSTEM

(51) International classification	:G06N 20/00, G01V 1/00, G08B 21/10, B64C 39/02, G01V 1/30
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(86) International Application No Filing Date	:01/01/1900
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

(71)**Name of Applicant :**
1)B.DivyaJyothi
Address of Applicant :Assistant Professor, Department of CSE, CVR College of Engineering, Hyderabad, 501510 Hyderabad Telangana India
2)Dr. Vikram Madhukar Agone
3)Irfana I
4)M Laxmi
5)S.Dharanika
6)Vipul Dubey
7)S.Archanadevi
8)Dayananda Sagar Academy of Technology and Management
9)Bharath Kumara J
10)Shanthi P
11)Dr Mohd Umar Farooq
12)Nagasuma Channarayapatna Venugopal

(72)**Name of Inventor :**
1)B.DivyaJyothi
2)Dr. Vikram Madhukar Agone
3)Irfana I
4)M Laxmi
5)S.Dharanika
6)Vipul Dubey
7)S.Archanadevi
8)Bharath Kumara J
9)Shanthi P
10)Dr Mohd Umar Farooq
11)Nagasuma Channarayapatna Venugopal

Mr. Bharath Kumar J, Assistant Professor, Dept. of MCA has awarded Elite Gold Certification in "Programming in Java" with score of 96% during April 2026.

Elite

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India

This certificate is awarded to

BHARATH KUMARA J

for successfully completing the course

Programming in Java

with a consolidated score of 96 %

Online Assignments	23.56/25	Proctored Exam	72/75

Total number of candidates certified in this course: 19306

Jan-Apr 2026

(12 week course)

Prof. Haimanti Banerji

Coordinator, NPTEL IIT Kharagpur

Indian Institute of Technology Kharagpur

swayam

Roll No: NPTEL26CS36S1150200278 To verify the certificate No. of credits recommended: 4