Six-Day Faculty Development Programme (FDP)

"Exploring Research Horizons in Machine Learning"

Organized by the Department of Artificial Intelligence and Data Science
Aditya College of Engineering, Madanapalle
Duration: 21st October 2025 – 26th October 2025

INTRODUCTION

The **Department of Artificial Intelligence and Data Science (AI & DS)**, Aditya College of Engineering, Madanapalle, successfully organized a **Six-Day Faculty Development Programme (FDP)** on *"Exploring Research Horizons in Machine Learning"* from **21st October to 26th October 2025**. The FDP was designed with the objective of enhancing the research potential, technical understanding, and pedagogical competencies of faculty members and research scholars in the emerging domain of **Machine Learning (ML)** and its real-world applications.

In the rapidly evolving digital landscape, Machine Learning has emerged as a transformative force across disciplines — from healthcare and agriculture to finance, cybersecurity, and education. Recognizing the growing significance of AI and ML in academic and industrial research, this FDP aimed to equip faculty members with the latest developments, research tools, and analytical frameworks that can be integrated into teaching, research, and innovation.

This event was conceptualized and convened by **Dr. R. Mahammad Shafi**, Professor and Head, Department of AI & DS, under the dynamic guidance and support of **Sri. M. Nagamalla Reddy**, President; **Sri. R. Rama Mohan Reddy**, Secretary & Correspondent; **Dr. S. Ramalinga Reddy**, Director; and **Dr. Peyyala Rayudu**, Principal, Aditya College of Engineering.

The programme received an overwhelming response from faculty members representing various engineering disciplines such as Computer Science, Artificial Intelligence, Data Science, Information Technology, and Electronics, reflecting a multidisciplinary interest in the field of ML-driven research.

OBJECTIVES OF THE FDP

The Five-Day FDP was organized with the following key objectives:

1. To explore the research opportunities and challenges in the field of Machine Learning.
2. To provide hands-on exposure to advanced ML algorithms, frameworks, and tools.
3. To promote interdisciplinary research culture among faculty members.
4. To enhance participants' ability to identify research problems and develop ML-based solutions.

5. To motivate faculty members to publish quality research papers and undertake funded projects in AI and ML.
6. To establish collaborative academic and industrial linkages for future research endeavors.

INAUGURAL SESSION (21st October 2025)

The FDP began with a **formal Inaugural Session** on **21st October 2025 at 6:00 PM**. The session was graced by eminent dignitaries, including **Sri. M. Nagamalla Reddy** (President), **Sri. R. Rama Mohan Reddy** (Secretary & Correspondent), **Dr. S. Ramalinga Reddy** (Director), **Dr. Peyyala Rayudu** (Principal), and the FDP Convener **Dr. R. Mahammad Shafi**.

In his **Welcome Address**, **Dr. R. Mahammad Shafi** extended a warm welcome to all the dignitaries, resource persons, and participants. He highlighted the core vision of the FDP — to empower educators and researchers to explore the frontiers of Machine Learning and apply it meaningfully in real-world research problems. He emphasized the importance of building research competence in emerging technologies that are reshaping every sector of the global economy.

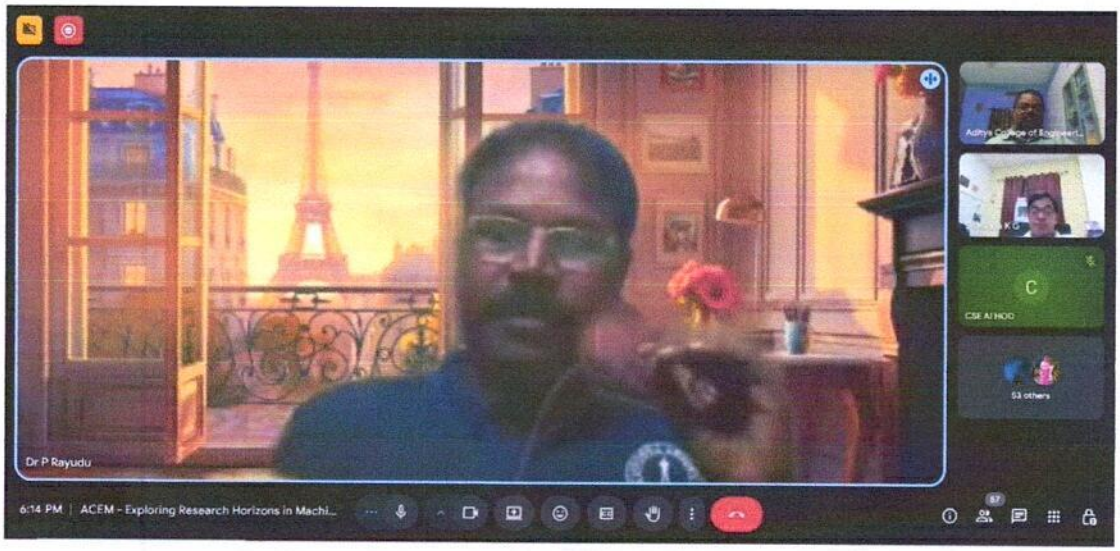
Dr. R. Mahammad Shafi, Convener of FDP Welcoming the Participants

The **Presidential Address** was delivered by **Sri. M. Nagamalla Reddy**, who appreciated the Department of AI & DS for its initiative in organizing such a forward-thinking academic programme. He encouraged faculty members to continuously upgrade themselves with new technologies to maintain academic excellence and to engage students in innovative, research-oriented learning.

Sri. R. Rama Mohan Reddy, Secretary & Correspondent, in his remarks, emphasized the integration of research and teaching. He urged participants to apply the insights gained through this FDP to improve academic delivery and contribute meaningfully to the institution's research output.

Dr. S. Ramalinga Reddy, Director, congratulated the organizing team and discussed the growing relevance of Machine Learning in diverse scientific disciplines. He encouraged faculty to adopt a data-driven approach to problem-solving and to pursue quality publications in reputed journals.

Dr. Peyyala Rayudu, Principal, in his address, emphasized the need for continual learning and highlighted the institutional commitment to research and innovation. He appreciated the active involvement of the department in promoting AI-based education.



Dr. Rayudu Peyyala addressing the Participants

The **Chief Guest**, **Dr. K. G. Srinivasa**, Professor and Head, Department of Computer Science and Engineering, International Institute of Information Technology (IIIT), Naya Raipur, Chattisgarh, delivered the **Keynote Address** on *"Research Paradigms in Machine Learning"*. He provided a comprehensive overview of the evolution of ML, highlighting areas such as supervised, unsupervised, and reinforcement learning. He also discussed recent research trends like Explainable AI, Generative AI, and Federated Learning. His talk inspired the participants to engage in impactful and ethically responsible ML research.

The inaugural session concluded with a **Vote of Thanks** by **Mrs. B. Sasikala**, Co-convener of the FDP, who expressed gratitude to all dignitaries, participants, and the organizing committee for their cooperation and support.

Dr. K. G. Srinivasa addressing the Participants

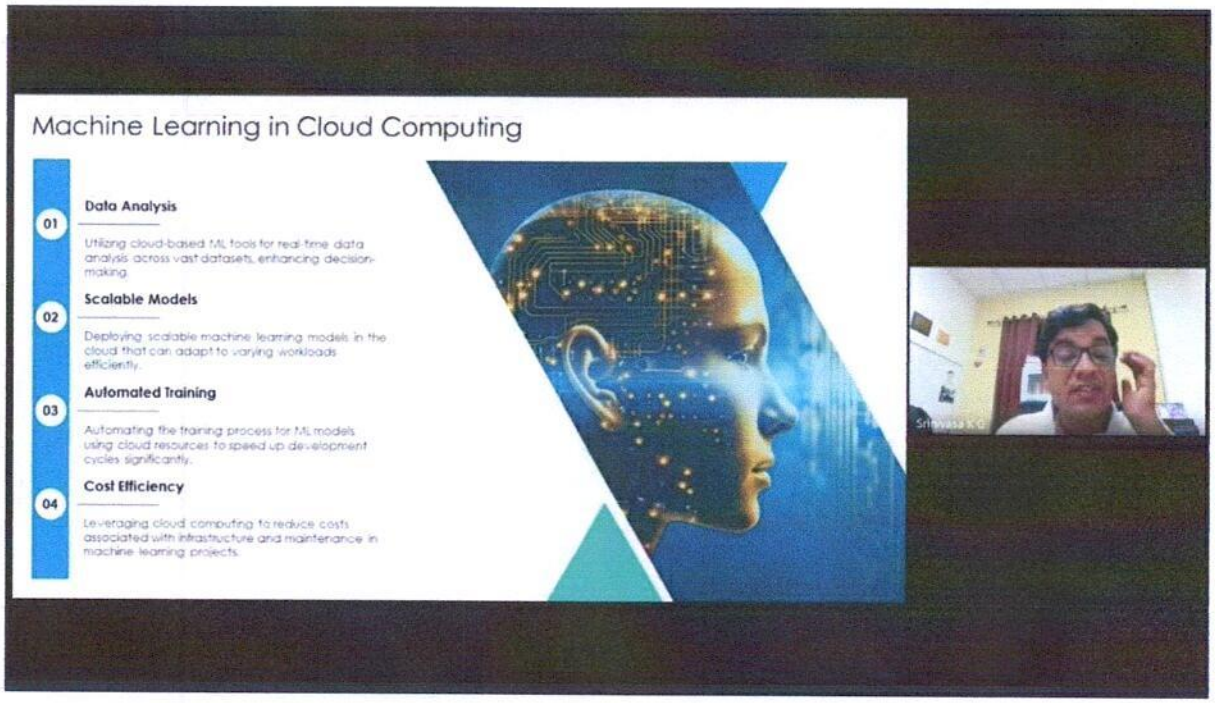
SUMMARY OF THE TECHNICAL SESSIONS

The FDP featured **Five Technical Sessions** across Six days, each conducted by distinguished Resource Persons from Academia and Industry. Each session provided valuable insights into the theoretical, practical, and research aspects of Machine Learning.

Day 1 (21st October 2025)

- **Topic** : Foundations & Emerging Trends in Machine Learning
  Resource Person : **Dr. K. G. Srinivasa,** Professor & Head, Department of Data Science and Artificial Intelligence, International Institute of Information Technology (IIIT), Naya Raipur, Chattisgarh.

  Dr. K. G. Srinivasa delivered an insightful session highlighting the Research Prospects in Machine Learning and Deep Learning. He discussed key algorithms, emerging trends, and real-world applications across diverse domains. The session also emphasized best practices for research publications, dataset preparation, and ethical AI considerations. His talk provided a comprehensive roadmap for faculty and researchers to explore innovative directions in AI-driven interdisciplinary research.



Dr. K. G. Srinivasa elucidating the concepts of Machine Learning in Cloud Computing during the FDP session

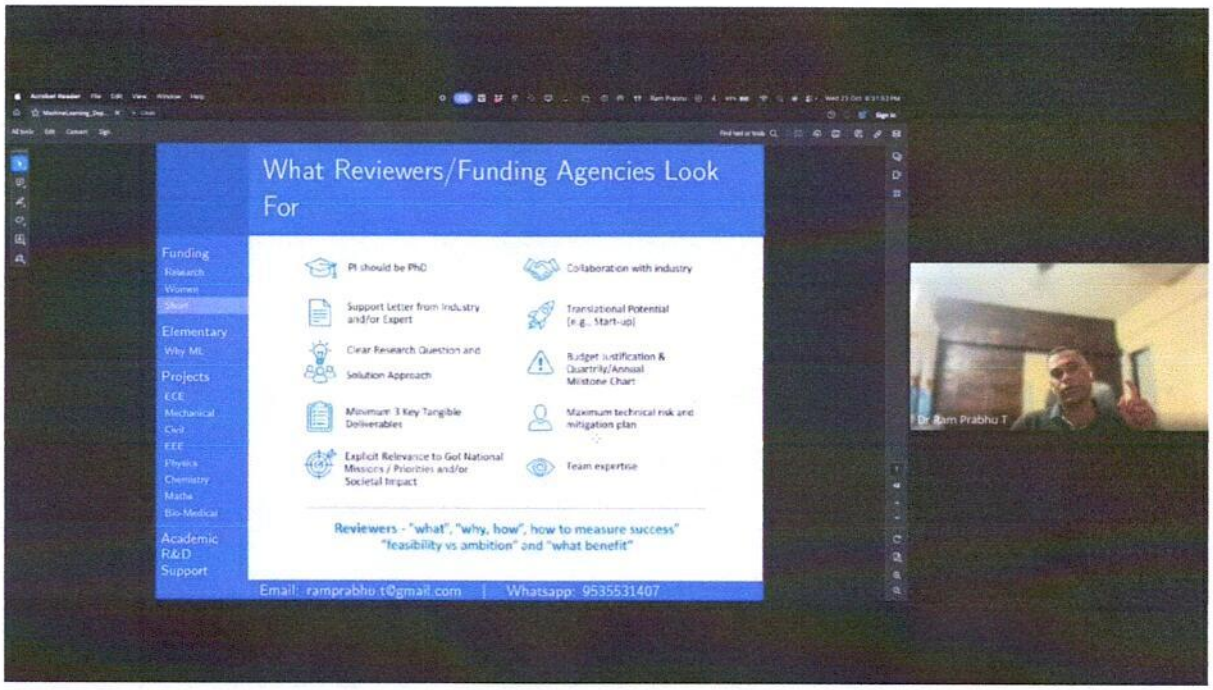
Day 2 (22nd October 2025)

- **Topic** : Tools, Publishing & Research Roadmap

  Resource Person : Dr. T. Rama Prabhu, Joint Director/ Scientist, Defence Research & Development Organization (DRDO), Bengaluru, Bengaluru, Karnataka.

  Dr. Rama Prabhu beautifully connected the concepts of Funding, Research, and Women-oriented Grants, while explaining the elementary aspects of Why Machine Learning and its wide-ranging applications across disciplines such as ECE, Civil, Mechanical, EEE, Physics, Chemistry, Mathematics, and Biomedical Engineering. His comprehensive coverage on Academic R&D Support and various Funding Schemes in India—from ANRF, DST, AICTE, DRDO, ISRO, and ICSSR—has certainly motivated all participants to translate research ideas into funded projects.

  He also emphasized the importance of aligning research proposals with national priorities, societal impact, and technological innovation. Dr. Prabhu shared valuable insights on proposal writing strategies, evaluation criteria, and the expectations of funding agencies and reviewers. His engaging examples and practical guidance inspired faculty members to pursue interdisciplinary collaborations and explore new research opportunities that contribute to both academic excellence and real-world problem solving.



Dr. Rama Prabu delivering an insightful information on "What Funding Agencies and Reviewers Look For" during the FDP Session

Day 3 (23rd October 2025)

- **Topic** : Deep Learning and Advanced Architectures
  Resource Person : **Dr. Asadi Srinivasulu,** Visiting Professor, Department of IT, New Castle University, Australia.

Dr. Asadi Srinivasulu delivered an enlightening session on Deep Learning and Advanced Architectures. He discussed the fundamentals of Neural Networks, CNNs, RNNs, and Transformer models, along with their applications in real-world problem solving. The session also highlighted recent advancements in deep learning frameworks, optimization techniques, and research directions that bridge theory with practical implementation.

He emphasized how deep learning continues to revolutionize various domains such as healthcare, autonomous systems, natural language processing, and computer vision. Dr. Srinivasulu also shared valuable insights on model interpretability, scalability, and the ethical use of AI in research. His engaging explanations and hands-on perspectives encouraged participants to explore emerging trends, experiment with cutting-edge architectures, and integrate deep learning into their ongoing and future research pursuits.

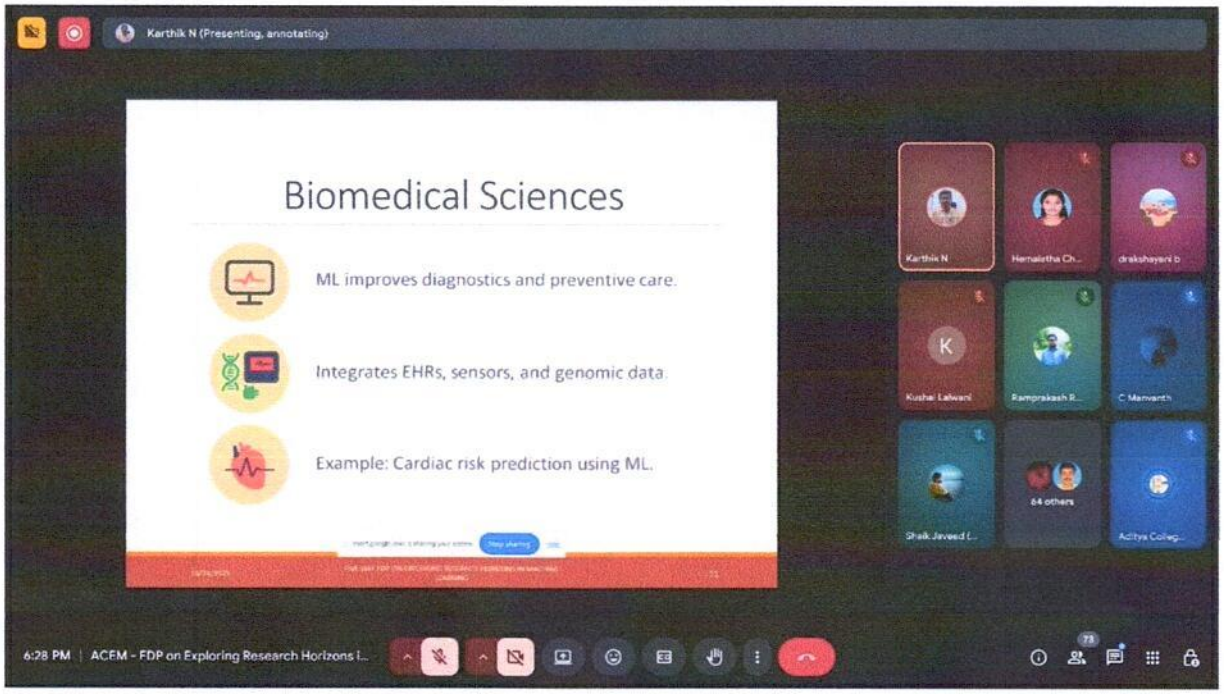
Dr. Asadi Srinivasulu delivering an insightful session on Deep Learning and Advanced Architectures during the FDP.

Day 4 (24th October 2025)

- **Topic** : ML for Interdisciplinary Research
  Resource Person : **Dr. N. Karthik,** Assistant Professor, Department of CSE, National Institute of Technology (NIT), Puducherry.

Dr. N. Karthik beautifully highlighted why Machine Learning has become a driving force in inter-disciplinary research. The way he explained the core ML techniques, their applications across diverse domains, and the impactful case studies truly broadened the participants' understanding of how AI can empower innovation in multiple fields. His talk has undoubtedly motivated everyone to explore research beyond disciplinary boundaries and think more holistically.

Dr. Karthi emphasized the importance of collaboration between computing and domain experts to develop intelligent, data-driven solutions to real-world challenges. Dr. Karthik also discussed how integrating ML into traditional fields such as agriculture, medicine, environmental science, and social studies can lead to transformative outcomes. His thought-provoking insights, coupled with real-world examples and research-oriented perspectives, inspired participants to leverage AI and ML tools effectively in their academic and industrial research endeavors.



Dr. N. Karthik explaining the role of Machine Learning in Biomedical Research during the FDP session.

Day 5 (25th October 2025)

- **Topic** : Machine Learning for Data-Driven Research
  Resource Person : **Mr. Jaya Prakash Arjarapu,** Regional Manager, Rimini Street Software, Madhapur, Hyderabad, Telangana.

Mr. Jaya Prakash enriched the participants with valuable perspectives on how data-driven approaches can significantly enhance the quality and impact of research. His lucid explanations, practical demonstrations, and real-world examples made complex Machine Learning concepts easy to comprehend and apply. He emphasized the importance of adopting systematic methodologies for data pre-processing, model selection, and evaluation, thereby bridging the gap between theory and practical implementation. The session particularly inspired the participants to explore new research avenues by integrating Machine Learning into interdisciplinary domains such as healthcare, agriculture, and education. His approachable teaching style and ability to connect concepts with practical research problems created an engaging learning environment.

Furthermore, Mr. Jaya Prakash shed light on best practices for conducting reproducible research, leveraging open-source tools, and utilizing data visualization techniques to communicate insights effectively. He also discussed emerging trends in data-centric AI, ethical considerations in data

handling, and the importance of continuous learning to stay updated with evolving technologies. His session not only deepened the participants' technical understanding but also ignited their enthusiasm to apply ML-driven solutions in solving real-world societal challenges through impactful research.

Mr. Jaya Prakash explaining the concepts of Data-Driven Research in Machine Learning during the FDP session.

Day 6: Valedictory Session (26th October 2025)

The **Valedictory Session** was held on **26th October 2025 at 9:00 AM** in the Conference Hall. The session marked the successful completion of the FDP and was attended by the Management, Faculty, and Participants.

The event was presided over by **Sri. R. Rama Mohan Reddy**, Secretary & Correspondent, and graced by **Sri. M. Nagamalla Reddy**, President, **Dr. S. Ramalinga Reddy**, Director, and **Dr. Peyyala Rayudu**, Principal.

Dr. R. Mahammad Shafi, Convener, presented a comprehensive report summarizing all five days of the FDP, the topics covered, the participation statistics, and the key takeaways. He expressed heartfelt gratitude to the management, the Principal, and all the resource persons for their valuable contributions.

In his **Valedictory Address**, **Sri. R. Rama Mohan Reddy** commended the organizing team for the success of the FDP and stressed the importance of continued professional development for faculty

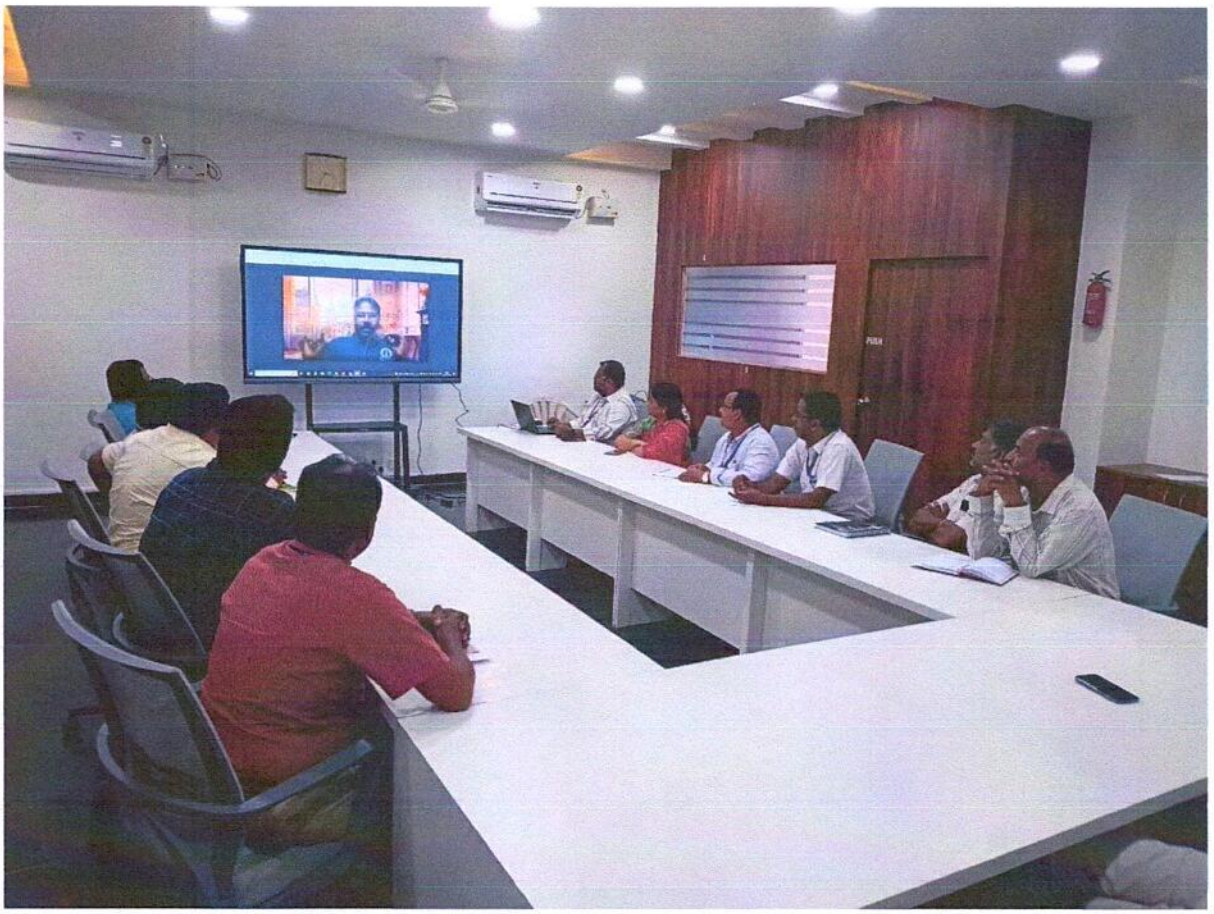
members. He urged participants to transform their newly acquired knowledge into meaningful research and teaching practices.

Sri. M. Nagamalla Reddy, President, appreciated the initiative of the AI & DS Department and encouraged faculty to engage in collaborative research that benefits both academia and industry.

Dr. Peyyala Rayudu, Principal, in his remarks, emphasized the role of faculty in mentoring students to apply ML and AI tools effectively for solving societal challenges. He appreciated the enthusiastic participation and the professional conduct of the FDP.

Participants expressed their feedback, appreciating the quality of sessions, clarity of content, and the expertise of the resource persons. Many participants conveyed that the FDP enhanced their understanding of advanced research methodologies and inspired them to pursue new projects in Machine Learning.

The session concluded with a **Vote of Thanks** by **Dr. R. Mahammad Shafi**, acknowledging the contribution of Management, Participants, and Supporting Staff. Finally, the **e-Certificates** were distributed to all participants who had successfully attended the sessions and completed the Feedback process.



OUTCOMES AND IMPACT OF THE FDP

The FDP achieved significant academic and professional outcomes:

1. Enhanced understanding of advanced ML concepts and research frameworks.
2. Improved ability among participants to identify and formulate research problems.
3. Exposure to modern research tools such as TensorFlow, PyTorch, and Scikit-Learn.
4. Development of interdisciplinary collaboration and innovation mindset.
5. Motivation for faculty to pursue funded research projects and quality publications.
6. Establishment of a network among academicians and researchers for future collaboration.
7. Strengthening of research culture within the institution.

CONCLUSION

The Six-Day FDP on *"Exploring Research Horizons in Machine Learning"* was a **grand academic success**, fulfilling its purpose of empowering faculty members with cutting-edge research knowledge in AI and ML. The sessions were meticulously planned, highly interactive, and well-received by all participants.

The organizing committee extends sincere gratitude to the **Management, Principal, Director, Deans, and Heads of Departments** for their continuous encouragement and support. The FDP not only enriched the participants' technical and research competencies but also fostered a spirit of academic excellence and collaboration that will undoubtedly contribute to future institutional achievements.

COORDINATOR

Head of the Department
Department of AI & DS
Aditya College of Engineering
MADANAPALLE - 517 325

PRINCIPAL

Principal
Aditya College of Engineering
Madanapalle - 517325

NEWS PAPER CLIPPINGS

సూర్య

27 Oct 2025 - Page 7

ఆదిత్యలో ముగిసిన ఫ్యాకల్టీ డెవలప్‌మెంట్ ప్రోగ్రాం

- అధ్యాపకులకు పరిశోధన ఆధారిత విద్యపై అవగాహన

నేటి మనదేశమ్ తిరుపతి

అధ్యాపకులకు పరిశోధన ఆధారిత విద్యపై అవగాహన

- 'ఆదిత్య'లో మెషిన్ లెర్నింగ్‌లో పరిశోధనపై ముగిసిన కార్యక్రమం

మదనపల్లె, అక్టోబర్ 26 (నేటి మనదేశమ్ ప్రతినిధి): ఆదిత్య కాలేజ్ ఆఫ్ ఇంజనీరింగ్‌లోని ఆర్టిఫిషియల్ ఇంటెలిజెన్స్ అండ్ డేటా సైన్స్ (ఏఐ అండ్ డీ ఎస్) విభాగం "మెషిన్ లెర్నింగ్‌లో పరిశోధనా అవధులను అన్వేషించడం" అంశంపై ఐదురోజుల ఫ్యాకల్టీ డెవలప్‌మెంట్ ప్రోగ్రామ్ (ఎఫ్.డీ.ఎఫ్) వీడ్కోలు కార్యక్రమం ఆదివారం విజయవంతంగా ముగిసింది. ఇందులో భాగంగా అధ్యాపకులు, పరిశోధకులు, విద్యావేత్తలకు మెషిన్ లెర్నింగ్(ఎం.ఎల్), బహుళ విభాగ పరిశోధన డొమైన్‌లలో దాని అనువర్తనాలపై అధునాతన జ్ఞానంతో సాధికారత కల్పించడం లక్ష్యంగా మేధోపరంగా సుసంపన్నమైన విద్యా చొరవకు పరాకాష్టగా నిలిచింది. వీడ్కోలు సమావేశంలో ఆదిత్య కాలేజ్ ఆఫ్ ఇంజనీరింగ్ కరస్పాండెంట్ అండ్ కార్యదర్శి ఆర్.రామమోహన్ రెడ్డి, అధ్యక్షుడు ఎం.నాగమల్లా రెడ్డి, డైరెక్టర్ డాక్టర్ ఎస్.రామలింగా రెడ్డి, ప్రిన్సిపాల్ డాక్టర్ పెయ్యల రాయుడు, ఎఫ్.డీ.ఎఫ్ కన్వీనర్, ఏఐ అండ్ డీఎస్ విభాగం అధిపతి డాక్టర్ ఆర్.మహమ్మద్ షఫీ వంటి ప్రముఖులు పాల్గొన్నారు. కార్యక్రమంలో వివిధ విభాగాల అధిపతులు, డీన్‌లు, సీనియర్ ఫ్యాకల్టీ సభ్యులు, ఎఫ్.డీ.ఎఫ్ సెషన్లలో ఉత్సాహంగా పాల్గొన్న వారందరూ పాల్గొన్నారు. ఆదిత్య కాలేజ్ ఆఫ్ ఇంజనీరింగ్ అధ్యక్షుడు ఎం.నాగమల్లా రెడ్డి తన అధ్యక్ష ప్రసంగంలో అధ్యాపక అభివృద్ధి కార్యక్రమాలు, పరిశోధన ఆధారిత విద్యను ప్రోత్సహించడంలో సంస్థ నిరంతర నిబద్ధతను నొక్కి చెప్పారు. ఆర్టిఫిషియల్ ఇంటెలిజెన్స్, మెషిన్ లెర్నింగ్, ప్రస్తుత యుగంలో అత్యంత సందర్భోచితమైన ఎఫ్.డీ.ఎఫ్ నిర్వహించడానికి నిర్వాహక కమిటీ ప్రయత్నాలను కరస్పాండెంట్ అండ్ కార్యదర్శి ఆర్.రామ్మోహన్ రెడ్డి తన వ్యాఖ్యలలో ప్రశంసించారు. ఆదిత్య కాలేజ్ ఆఫ్ ఇంజనీరింగ్ డైరెక్టర్ డాక్టర్ ఎస్.రామలింగారెడ్డి తన ప్రసంగంలో, ఐదు రోజుల ఎఫ్.డి.ఎఫ్ విజయవంతంగా పూర్తి చేసినందుకు ఏఐ అండ్ డీఎస్ విభాగాన్ని అభినందించారు. మెషిన్ లెర్నింగ్ అభివృద్ధి చెందుతున్న సరిహద్దులను కవర్ చేసే సెషన్‌లను నిర్వహించడంలో ముఖ్యంగా ఇంటర్ డిసిప్లినరీ పరిశోధనపై దృష్టి సారించడంలో విభాగం చొరవ తీసుకున్నందుకు ఆయన ఆ విభాగాన్ని ప్రశంసించారు. వాతావరణ మార్పు నుండి హెల్త్‌కేర్ అనలిటిక్స్ వరకు నేటి ప్రపంచ సవాళ్లు ఏఐ ఆధారిత సాంకేతికతలతో నడిచే సహకార పరిష్కారాలను కోరుతున్నాయని నొక్కి చెబుతూ మెషిన్ లెర్నింగ్‌ను ఉపయోగించి ఇంటర్ డిసిప్లినరీ రంగాలలో పరిశోధన ప్రాముఖ్యత గురించి డాక్టర్ రామలింగారెడ్డి మాట్లాడారు. ప్రిన్సిపాల్ డాక్టర్ రాయుడు పెయ్యల ఎఫ్.డి.ఎఫ్ అంతటా చురుకుగా పాల్గొన్నందుకు రిసోర్స్ పర్సన్లు, పాల్గొనేవారికి తన ప్రశంసలను వ్యక్తం చేశారు. అభివృద్ధి చెందుతున్న సాంకేతిక ధోరణులను అధ్యాపకులు ఎప్పటికప్పుడు తెలుసుకునేందుకు ఎఫ్.డి.ఎఫ్ వంటి నిరంతర అభ్యాసం, జ్ఞానాన్ని పంచుకునే వేదికలు అవసరమని ఆయన హైలైట్ చేశారు. మెషిన్ లెర్నింగ్, ఆర్టిఫిషియల్ ఇంటెలిజెన్స్ వంటి అధునాతన అంశాలపై అవగాహన పెంచుకోవడం ద్వారా విద్యార్థుల ఆవిష్కరణ, పరిశోధన సంస్కృతిని పెంపొందించడంలో ఫ్యాకల్టీ సభ్యుల పాత్రను ఉత్ప్రేరకాలుగా డాక్టర్ రాయుడు నొక్కిచెప్పారు. ఐదు రోజుల పాటు డీప్ లెర్నింగ్ ఆర్కిటెక్చర్స్, అడ్వాన్స్‌డ్ ఎం.ఎల్ అల్గోరిథంలు, ఇంటర్ డిసిప్లినరీ రీసెర్చ్ అప్లికేషన్స్, సస్టైనబుల్ డెవలప్‌మెంట్‌లో మెషిన్ లెర్నింగ్ పాత్ర వంటి అంశాలపై తమ నైపుణ్యాన్ని పంచుకున్న ప్రముఖ వక్తలతో పాల్గొనే అవకాశం లభించింది. ఈ ఎఫ్.డి.ఎఫ్ ద్వారా ఆర్టిఫిషియల్ ఇంటెలిజెన్స్, డేటా సైన్స్ విభాగం విద్య, పరిశోధన, అంతర్-విభాగ సహకారాన్ని ముందుకు తీసుకెళ్లడానికి తన నిబద్ధతను మరోసారి ప్రదర్శించింది. తద్వారా ఉన్నత విద్యలో డిజిటల్ పరివర్తన, ఆవిష్కరణల వైపు దేశం ప్రయాణానికి దోహదపడింది.