## DEPARTMENT OF CSM

## A HALF-YEARLY NEWSLETTER

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# ADITYA

## Institute of Technology and Management

## (An autonomous institution)

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# Institute of Technology and Management

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## Department of CSM

### Vision and Mission of the Institute

**Vision**

To evolve into a premier engineering institute in the country by continuously enhancing the range of our competencies, expanding the gamut of our activities and extending the frontiers of our operations.

**Mission**

Synergizing knowledge, technology and human resource, we impart the best quality education in Technology and Management. In the process, we make education more objective so that efficiency for employability increases on a continued basis.

### Vision and Mission of the Department

**Vision**

To develop competent and socially responsible engineers in the domain of ArtificialIntelligence & Machine Learning, Data Science for noteworthy contributions to the society.

**Mission**

M1. To educate the students in fundamental principles of computing and develop the skills needed to solve practical problems using contemporary computer-based technologies.

M2. To provide State-of-the-art computing laboratory facilities to promote industry-institute interaction to enhance student's practical knowledge.

M3. To inculcate self-learning abilities, team spirit, and professional ethics among the students to serve society.

## Chairman's Message



At AITAM, we are committed to excellence in everything we do. We strive to mould the students in balancing intellectual and practical skills to become leaders in all the fields of Technical know-how and Management. We have created the finest facilities for the students to make the most of their scholastic pursuits. We are closely aligned with the corporate world which ensures exchange of ideas and experiences that keep our curricula focused on current developments and challenges in the field of engineering. We are firmly committed to research and consulting activities to contribute to the development of the discipline of engineering. Our vitality lies in our spirit of innovation. Our strength lies in our pragmatic approach. Our success lies in our will to do.

Dr. K. Someswara Rao
CHAIRMAN

## Secretary's Message



Aditya Institute of Technology and Management is founded to meet the increasing demand for competent engineering graduates. Within a short span of its inception, AITAM has grown to be a premier engineering college of its kind and has won laurels and kudos from the industry. The faculty and staff in AITAM are dedicated to providing first-class education that instills strong and potent basic knowledge for sound practice in science and engineering for the well-being of the society. The Institute offers curricula that nurtures creative thinking and prepares students for productive and rewarding careers. The Institute offers programmes that deepen learning experiences of our students and prepare them for successful careers as engineers.

Sri L.L. Naidu
SECRETARY

## Director's Message



Engineering education at AITAM is indeed a rewarding intellectual experience. The Institute prepares the engineering professionals of tomorrow imbued with insight, imagination and ingenuity to flourish as successful engineers. Our programs are attuned to the needs of the changing times. The classrooms are ultra-modern; the library and labs are cutting-edge; and all the members of the faculty are workaholic professionals and masters in their fields. Not surprisingly, our students are recruited by such renowned organizations as HCL, Satyam, WIPRO, INFOSYS, TCS, Visual Soft, Innova-Solutions and InfoTech. The exceptional dedication of our students, faculty and staff, and our collaborations with Industry and other institutions ensure that the Institute is well-poised to create a unique niche in the horizons of engineering education.

Prof. V.V. Nageswara Rao
DIRECTOR

## Principal's Message



It is only through knowledge that man attains immortality. Knowledge has to expand or grow to remain as knowledge. The road to excellence is toughest, roughest and steepest in the Universe. The world requires and honors only excellence. Available information has to be directed by wisdom and intelligence to create new knowledge. Promotion of creativity is the new role of education. It is only through creative thinking that the present and future problems can be addressed to find dynamic solutions. Technology should be used to help remove poverty from the world. In fact forty per cent of the world's poor are in India. Confidence leads to capacity. It is faith in oneself that produces miracles. Education at AITAM helps build character, strengthen the mind, expand the intellect and establish a culture of looking at problems in a new perspective. The student is put through rigorous training so that he can stand on his own feet after leaving the portals of the Institute.

Dr.A.S.Srinivasarao
PRINCIPAL

## HOD's Message



The Department of **CSM** strongly committed to impart innovative and quality technical education with high standards. The field of Artificial Intelligence & Machine Learning is a diverse field which has a significant role in the development of cutting edge technology. The faculty of the department is committed to prepare our students by providing the expertise and proficiency in Artificial Intelligence and its related fields needed to thrive in modern society. ML has become a fundamental tool for augmenting the human knowledge, which is an essential part of creation, discovery and innovation. The main goal of the Department is to provide experimental learning opportunities such as hands-on training, project-based courses, research projects and internships which provide a solid foundation to work in interdisciplinary teams that invent the future. The curriculum at the Department of AI&ML at is meticulously planned and continuously updated in way to incorporate the various demands of the IT industry trends. An exposure to real world problems in this era of technology is a must and the every candidate is provided with the right environment to shape into a confident individual having the necessary skill set to fit in any role at the industrial market.

Dr.M.V.B ChandraSekhar

HOD of CSM Department

# Faculty Publications:

**"**Performance Analysis of Machine Learning Algorithms Using Information Theoretic Class Based Multi correlation Dependent Feature Selection**"**

[1]Sangeeta Kurman [2]Sumitra Kisan

***Abstract****:* for feature selection pick Techniques the most useful features from high-dimensional datasets to minimize dimensionality while preserving semantic information. Dimensionality reduction has a great impact on the learning accuracy and the computational complexity of techniques for deep learning and machine learning. Most feature selection techniques focused on removing irrelevant and redundant features only and ignored multi-correlation factors such complementarity and interaction between features. Motivated by this, we applied a variant of the R2CI feature selection algorithm to select the most informative features in the cervical cancer risk factor dataset and observed its impact on the accuracy of machine learning algorithms. Comparative study of machine learning algorithms' performances is presented in this research on considering class-based feature multi-correlation and information-theoretic dependent FSA. For our study, we considered twelve different machine learning algorithms for comparison using metrics such as accuracy, precision, recall and ROC-AUC curve. Results show a significant increase in accuracy of all the machine learning algorithms that are considered.

**"**Reviewing the Landscape: Component-Based Software Engineering Practices and Challenges"

**Pradeep Kumar Mahapatro** **Neelamadhab Padhy**

***Abstract:*** This literature review takes a deep dive into the world of Component-Based Software Engineering (CBSE), examining the current practices and challenges that shape this dynamic field. We navigate through a diverse collection of research articles to paint a holistic picture of how CBSE methodologies are being adopted and implemented across different domains. The review explores the ever-evolving nature of CBSE, highlighting success stories that boost software development and reusability. The goal is to provide insights that can guide fellow researchers, practitioners, and educators through the twists and turns of Component-Based Software Engineering, offering a roadmap for tackling its complexities and seizing its opportunities.

**“**Guardian Shield: Empowering Women's Safety through IoT-Powered AI Innovation**”**

P Sirish Kumar, MSR Naidu, V Yamuna,

Lalitha Bhavani Konkyana, Sai Kishan Kranthi Kumar Vuriti, Yalamilli Yogeswari

*Abstract:*Crimes against women have become a growing concern, and this paper introduces the Guardian Shield, a cutting-edge IoT-based safety gadget designed to address this pressing issue. What sets the Guardian Shield apart is its distinctive approach to enhancing women's safety. Our device can be proactively activated by the user through a mobile app or GSM, requiring her authentication. Once activated, the woman must periodically press a button as a safety check. However, where the Guardian Shield truly shines is in its unique dual alert system, which overcomes the limitations of traditional panic button systems. In the event of an attack or any inability to press the button, the system triggers a loud buzzer and discreetly sends distress messages with her precise location to authorized contacts through text message, email, and Twitter. What differentiates the Guardian Shield from existing IoT security solutions is its seamless integration with cutting-edge IoT technologies, providing an efficient and reliable tool for women's safety. Our device offers a crucial 5-second grace period to accommodate momentary lapses without compromising security, a feature that is absent in conventional systems. This paper not only delves into the Guardian Shield's design and functionality but also highlights its distinct advantages over existing solutions, ultimately aiming to empower women and create a safer environment through a revolutionary approach to personal security

“An Intelligent Detection of Alzheimer Disease Using Advanced Deep Learning Approaches”

G Stalin Babu; V Yamuna; Yugandhar Manchala; V Ashok Gajapathi Raju; Ch. Ramesh; G Viiay Kumar

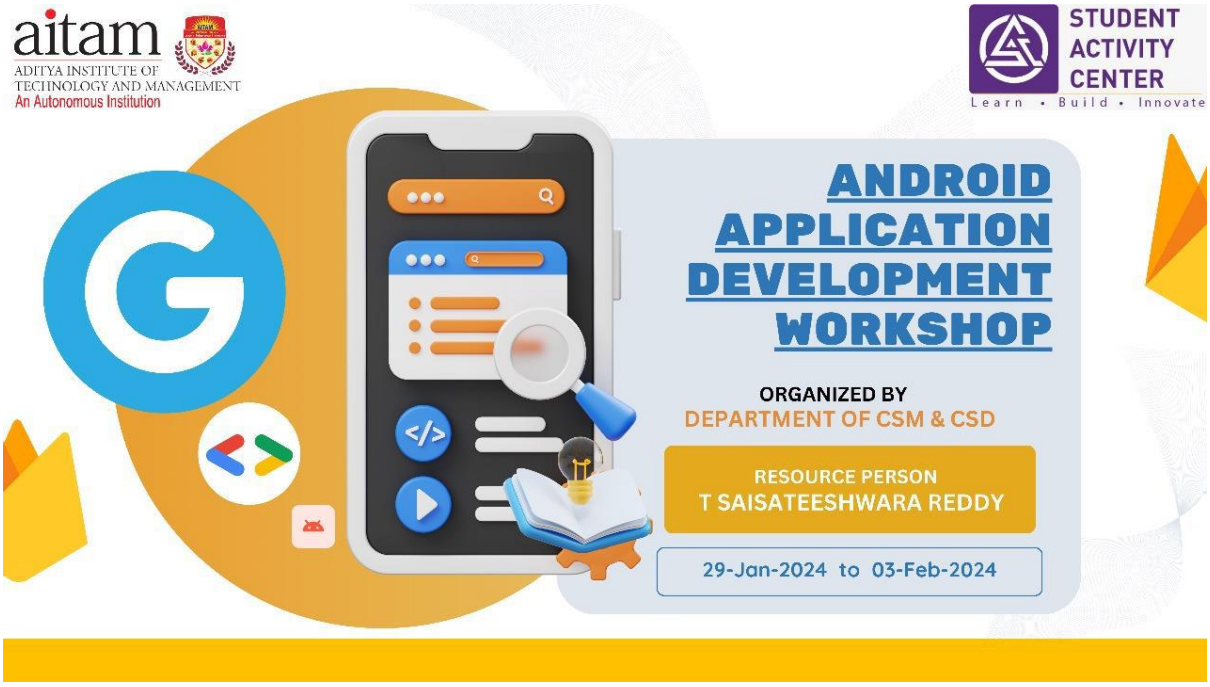
Abstract:Alzheimer's disease is becoming more common daily, especially in elderly persons over the age of 55 and eventually becomes the cause of their demise. It is the most common kind of dementia in the neurological system. It causes a continuous decline in cognitive function, ultimately eradicating a person's ability to think and understand since early diagnosis is one of the most essential components for improving medical and therapeutic results. Compared to conventional machine learning methods, deep learning models outperform them in diagnosing AD since they do not require manually created feature extraction. The significant idea of this study is to describe how to classify MRIs of AD using transfer learning and convolutional neural networks (CNNs) and to create a deep learning-based pipeline for accurately identifying and categorizing the various phases of AD. The recommended analysis makes use of learning models that have already been trained and evaluated, such as VGG19, Inception V3, and Convolutional Neural Network (CNN), to reach test accuracies of 95.5%, 91.5%, and 92.16%, respectively. They are recognizing that VGG19 affords the highest degree of accuracy

## FACULTY DEVELOPMENT PROGRAMME/WORKSHOPSATTENDED

| S.No. | Name of The Faculty | Name of The Programme | Dates | Venue |
|---|---|---|---|---|
| *1* | Sri.A.Dasaradha | *Data Science Bootcamp "Learn how to launch your six-figure career without any coding experience!"* | 10th - 11 Feb 2024. | Dataisgood |
| *2* | *Smt. VELAMALA YAMUNA* | *AICTE Recognized Faculty Development Programme Big Data Analytics in Smart Grid* | *12/02/2024 to 16/02/2024* | *AITAM,Tekkali* |
| *3* | *Smt.K SANGEETA* | *AICTE recognized FDP organized by NITTR, Chandigarh on "NAAC and Internal Quality Assurance* | *26.02.24 to 01.03.24* | *AITAM,Tekkali* |
| *4* | *Sri.G Stalin Babu* | *AICTE recognized FDP organized by NITTR, Chandigarh on "NAAC and Internal Quality Assurance* | *26.02.24 to 01.03.24* | *AITAM,Tekkali* |
| *5* | *Smt.K SANG7EETA* | *AICTE recognized FDP organized by NITTR, Chandigarh on "Machine Learning using Python"* | *19.02.24 to 23.02.24* | *AITAM,Tekkali* |
| *6* | *Smt. VELAMALA YAMUNA* | *AICTE recognized FDP organized by NITTR, Chandigarh on "Machine Learning using Python"* | *19.02.24 to 23.02.24* | *AITAM,Tekkali* |
| *7* | *Sri.G Stalin Babu* | *AICTE recognized FDP organized by NITTR, Chandigarh on "Machine Learning using Python* | *19.02.24 to 23.02.24* | *AITAM,Tekkali* |

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| *8* | *Sri,Pradeep Kumar Mahapatro* | *One day hands on workshop on "Build Your Own generative AI Model", conducted by AI expert Mr. Trivikram,IIT Delhi Alumnus* | *23--03-2024* | *IIT Delhi Alumnus* |
| *9* | *Sri. Anil Kumar Prathipati* | *AICTE Recognized Faculty Development Programme Big Data Analytics in Smart Grid* | *12/02/2024 to 16/02/2024* | *AITAM,Tekkali* |
| 10 | *Sri. Anil Kumar Prathipati* | *AICTE Recognized Faculty Development Programme Machine Learning using Python* | *19/02/2024 to 23/02/2024* | *AITAM,Tekkali* |
| 11 | A.Dasaradha | Five Days Faculty Development Program" on "Deep Learning and it's Applications | 10th to 14th June,2024 | Lakireddy Bali Reddy College of Engineering (A), Mylavaram, Andhra Pradesh, India. |

ANDROID APPLICATION DEVELOPMENT WORKSHOP FOR 3RD YEAR STUDENTS ON(29-01-2024 TO 3-02-2024).




GOT 2ND PRIZE IN PPT AT AMBEDKAR UNIVERSITY



GOT 2ND PRIZE IN PPT AT AMBEDKAR UNIVERSITY



WON IN CHESS IN AITAM ON AVISKAR 2K24



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**Srinivasa Rao Konni**

**Students**

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