SANTHIRAM ENGINEERING COLLEGE (AUTONOMOUS)

Approved by AICTE: New Delhi, Permanently Affiliated to JNT University, Ananthapuramu.
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TECHNEX

THE CSE MAGAZINE

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

ACADEMIC YEAR 2023-2024 | VOLUME 9 | ISSUE 1



Innovate. Integrate. Inspire.
Code the Future.

CHIEF EDITOR
Dr. K. Murali Babu
Professor
CSE DEPT

EDITOR
Mrs. L. Ramya
ASSISTANT PROFESSOR
CSE DEPT

STUDENT COORDINATORS
Althaf Shaik
IV CSE
N. Harshitha
IV CSE

NH-40, NANDYAL – 518 501, KURNOOL (Dt.), A.P, INDIA.

SANTHIRAM ENGINEERING COLLEGE

(Autonomous)

Nandyal, Andhra Pradesh, India

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MESSAGES

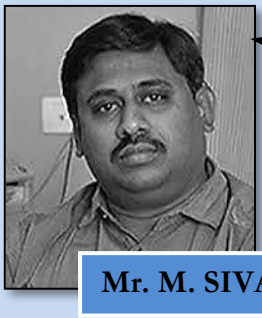
CHAIRMAN'S MESSAGE



Dr. M. SANTHIRAMUDU

I am delighted to learn that the Department of Computer Science & Engineering, SREC is bringing out its half-yearly magazine for the ninth consecutive year. This initiative provides an excellent platform for faculty and students to showcase their talent and expertise in technical writing. I sincerely appreciate and congratulate the Principal, editorial team, faculty, and students for their dedicated efforts in bringing out this magazine.

MANAGING DIRECTOR'S MESSAGE



Mr. M. SIVARAM

I am delighted to learn that our college is bringing out TECHNEX, the half-yearly magazine, for this academic year. It provides an excellent platform for faculty and students to share their knowledge, creativity, and talents. I appreciate the dedicated efforts of the editors and magazine committee and wish them continued success in this endeavour.

PRINCIPAL'S MESSAGE



Dr. M. V. SUBRAMANYAM

The Department of Computer Science & Engineering, SREC has grown into a distinguished centre of modern learning, innovation, and academic excellence. TECHNEX provides a valuable platform for faculty and students to share knowledge, highlight emerging technologies, and foster excellence in their respective fields of study and research.

H.O.D'S MESSAGE



Dr.S.MD.FAROOQ

It is my pleasure to congratulate the team for their dedicated efforts in bringing out TECHNEX. I am confident that this magazine will inspire students and faculty to share their knowledge and contribute to future editions. The Department of Computer Science & Engineering strives to nurture dynamic, skilled, and technically proficient engineers with a strong understanding of fundamental concepts.

Department profile

Recognizing the growing demand for Computer Science and Engineering, the Institute established the four-year B.Tech programme in Computer Science and Engineering in 2007 with an initial intake of 60 students, which has been increased to 210 students in 2023.

The Department has 25 highly qualified and dedicated faculty members with expertise in diverse areas, including Computer Networks, Data Mining, Network Security, Cloud Computing, and Artificial Intelligence. The Department continues to strengthen its faculty through academic, industry, and research expertise while providing a supportive environment for professional and research growth.

The Department maintains strong industry interactions and collaborations with professional bodies such as IEEE, IE, and ISTE, fostering research collaboration and regular academic interactions among faculty and students.

The Department is equipped with well-established computer laboratories and a comprehensive range of software resources. A network of 350 computers with internet connectivity supports teaching, research, and administrative activities. Additional facilities include projectors for interactive learning and seminars, UPS systems for uninterrupted power supply, and air-conditioned laboratories.

Department Vision

To become a center for quality education in the field of computer science & engineering and to create competent professionals.

Department Mission

1. To provide academic ambience and latest software tools to prepare competent Software Engineers with strong theoretical and practical knowledge.
2. To foster professionalism and strong work ethics in students for the betterment of society.
3. To uplift innovative research in Computer Science and Engineering to serve the needs of Industry, Government and Society
4. To encourage the spirit of entrepreneurship and adaptability in our students in view of the ever-changing scenario of the Software Industry.

ARTICLES

FACULTY ARTICLE

Artificial Intelligence (AI) and Machine Learning (ML): An In-Depth Exploration

Artificial Intelligence (AI) and Machine Learning (ML) are two of the most dynamic and impactful Fields in modern technology. AI refers to the simulation of human intelligence processes by machines, especially computer systems. These processes include learning, reasoning, and self-correction. ML, a subset of AI, involves the development of algorithms that allow computers to learn and make decisions from data. Together, these technologies are driving innovation across numerous industries and transforming the way we interact with the world.

Historical Context and Evolution

The concept of AI dates back to the mid-20th century, with early milestones such as Alan Turing's proposition of the Turing Test in 1950. The 1956 Dartmouth Conference is considered the birthplace of AI as an academic discipline. However, progress was sporadic, marked by periods of significant breakthroughs and "AI winters," where enthusiasm and funding waned due to unmet expectations.

ML's development gained momentum in the 1980s and 1990s, with advancements in computational power and the introduction of algorithms like neural networks. The 21st century saw an explosion in ML research, driven by the availability of vast amounts of data (big data) and powerful GPUs, enabling deep learning techniques to flourish.

Key Concepts and Techniques

1. Artificial Intelligence (AI)

Rule-based Systems : These systems operate on a set of pre-defined rules and logic to perform tasks.

Expert Systems : AI programs that mimic the decision-making abilities of a human expert in specific fields.

Natural Language Processing (NLP) : Enables machines to understand, interpret, and respond to human language.

Computer Vision : Involves training machines to interpret and understand the visual world, such as images and videos.

2. Machine Learning (ML)

Supervised Learning : Involves training a model on labeled data, where the correct output is known (e.g., classification and regression).

Unsupervised Learning : Deals with unlabeled data and aims to identify patterns and structures (e.g., clustering and dimensionality reduction).

Reinforcement Learning : Involves training models to make sequences of decisions by rewarding desired behaviors and penalizing undesired ones.

Current Trends and Future Directions

Deep Learning : Utilizes multi-layered neural networks to achieve high accuracy in tasks like image and speech recognition.

Explainable AI (XAI) : Focuses on making AI decisions more transparent and understandable to humans, addressing the "black box" issue.

AI Ethics and Governance : Ensures responsible AI development and usage, addressing issues like bias, fairness, and accountability.

Edge AI : Moves AI processing closer to the data source (e.g., on devices) to reduce latency and increase efficiency.

Quantum Computing : Holds the potential to solve complex AI problems much faster than classical computers.

Artificial Intelligence and Machine Learning are at the forefront of technological innovation, offering unprecedented opportunities to solve complex problems and improve quality of life.

Mrs.V.Lakshmi Chaitanya,Asst.Prof.

STUDENT ARTICLE

Internet of Things (IoT)

The internet of things is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers (UIDs) and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.A thing in the internet of things can be a person with a heart monitor implant, a farm animal with a biochip transponder, an automobile that has built-in sensors to alert the driver when tire pressure is low or any other natural or man-made object that can be assigned an Internet Protocol (IP) address and is able to transfer data over a network.Increasingly, organizations in a variety of industries are using IoT to operate more efficiently, better understand customers to deliver enhanced customer service, improve decision-making and increase the value of the business.

How does IoT work?

An IoT ecosystem consists of web-enabled smart devices that use embedded systems, such as processors, sensors and communication hardware, to collect, send and act on data they acquire from their environments. IoT devices share the sensor data they collect by connecting to an IoT gateway or other edge device where data is either sent to the cloud to be analyzed or analyzed locally. Sometimes, these devices communicate with other related devices and act on the information they get from one another. The devices do most of the work without human intervention, although people can interact with the devices -- for instance, to set them up, give them instructions or access the data.

SHAIK MAJAHAR
IV - CSE

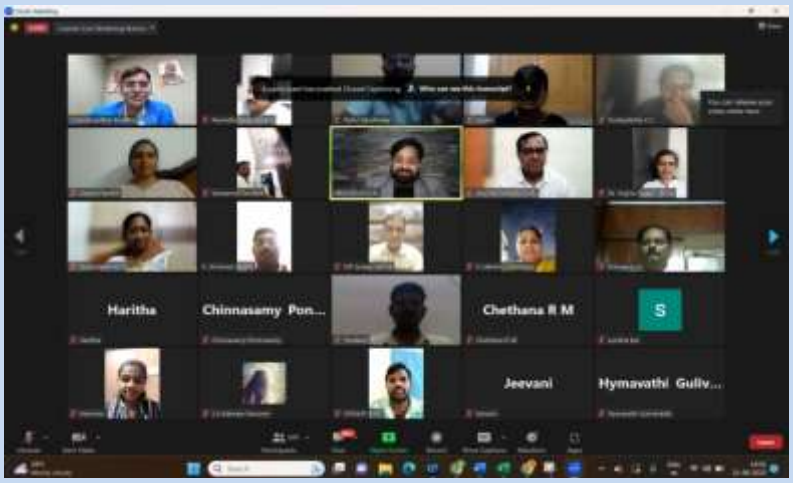
DEPARTMENT CONDUCTED PROGRAMS

1) A Three Day training program on Internet of Things



The department of CSE Organized a Three day training program on Internet of Things (IOT) was conducted from 11-07-2023 to 13-07-2023. Mr. Ch .RaviTeja, MTech, Testing Engineer, Silicon Touch Technologies, Vijayawada and Mr.V.Srinivas, MBA,Service Engineer, Silicon Touch Technologies, Vijayawada were acted as a resource persons for this program.

2) One Week National Level Faculty Development Program on Cloud Infrastructure(AWS)



The department of CSE Organized a One Week National level Faculty Development Program on Cloud Infrastructure (AWS) was conducted in association with Brain O Vision Solutions Private Ltd., AICTE and IEEE Student Chapter STB-17901 from 21-08-2023 to 25-08-2023. Mrs.Yasaswi Surabhi acted as a resource person for this program

3) One Week Training Program on "Essentials of C Language for Software Development"



One Week Training program on "Essentials of C Language for Software Development" was conducted in Association with IEEE, IE(I), ISTE, IQAC from 04-09-2023 to 09-09-2023. Mr Prince, Mr Satish, Mr Karthik from SMART Institute acted as a resource persons for this program.

4) A Webinar on Role Of Artificial Intelligence and Machine Learning in Robotics



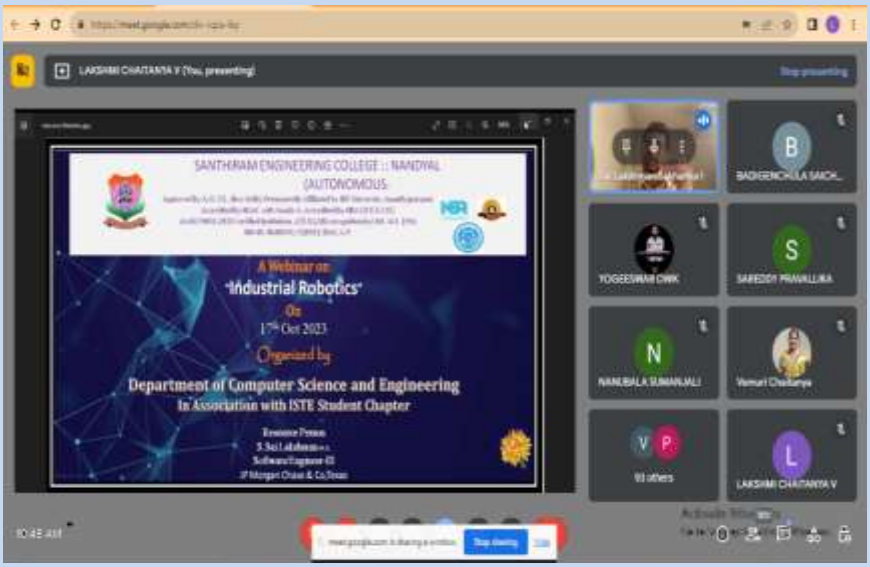
The department of CSE Organized a A webinar on "Role of Artificial Intelligence and Machine Learning in Robotics" was conducted in association with IEEE RAS Student branch chapter-17901A on 21-09-2023. Mr.S.Sai Lakshman, Software Engineer-III, JP Morgan Chase & Co. Texas acted as a resource person for this program.

5) One week Workshop on Python Full Stack



One week workshop on "python Full stack "was conducted in association with Brain-o-Vision and ISTE student chapter from 16-10-2023 to 19-10-2023. B. Vijay Kumar, Senior technical head, Brain-O-Vision acted as a resource person for this program.

6) A Webinar on Industrial Robotics



A Webinar on "Industrial Robotics" was conducted in association with ISTE Student chapter on 17-10-2023. Mr.S.Sai Lakshman, Software Engineer-III, JP Morgan Chase & Co. Texas acted as a resource person for this program.

7) An Alumni Talk on “Problem Solving Skills”



An Alumni Talk on “Problem Solving Skills” was conducted in association with IE(I) Student chapter on 31-10-2023. Mr.S.Sai Lakshman, Software Engineer-III, JP Morgan Chase & Co. Texas acted as a resource person for this program.

8) A Career Guidance Program on How to get a Job in MAANG (Meta,Amazon,Apple,Netflix,Google)



A career guidance program on “How to get a job in MAANG (Meta,Amazon,Apple,Netflix,Google)” was conducted in association with IEEE RAS Student branch chapter-17901A on 31-10-2023. Mr.S.Sai Lakshman, Software Engineer-III, JP Morgan Chase & Co. Texas acted as a resource person for this program.

9) FRESHERS DAY PARTY



The department of CSE Celebrate Fresher's Day for 2023 batch CSE students on 12-11-2023.All I and II year students and faculty are attend for this program.

10) CSE Department Club



The CSE Department club activity conducted on 18 -11-2023

STUDENT ACHIEVEMENTS

- Ms. CHATLA MANJULA RANI(21X51A0518) third year CSE participated and **secured first place** in SRI SATHYA SAI STATE LEVEL ESSAY WRITING COMPETITION-2023 organized by SRI SATHYA SAI SEVA ORGANISATIONS Nandyal on 01-12-2023.
- Ms.SUGALI SAI SUDHA(22X51A05E1) second year CSE participated and **secured second place** in SRI SATHYA SAI STATE LEVEL ESSAY WRITING COMPETITION-2023 organized by SRI SATHYA SAI SEVA ORGANISATIONS Nandyal on 01-12-2023.
- Ms. CHATLA MANJULA RANI(21X51A0518) third year CSE participated and **secured first place** in SRI SATHYA SAI DISTRICT LEVEL ESSAY WRITING COMPETITION-2023 organized by SRI SATHYA SAI SEVA ORGANISATIONS Nandyal on 01-12-2023.
- Mr. N SHARATH CHANDRA REDDY (21X51A0587) second year CSE and Mr. DONTALA RAKESH (21X51A0523) third year CSE participated and **secured second place** in Nandyal football Association Festive Football Tournament at nandyal from 29-12-2023 to 31-12-2023.
- Mr. CHADUVULA SRINIVASA REDDY (21X51A0516) third year CSE selected in National Level Hand Ball selections which was held at Pulivendula JNTU College on 31-12-2023.
- 179 students were completed AICTE internship
- 8 students were completed APSCHE internship
- 6 students were completed internship in BRAIN O VISION SOLUTIONS PVT.LTD.
- 7 students were completed internship in MNP SOFTWARE SOLUTIONS PVT LTD.

Department/Faculty Achievements

- Dr.S.Md.Farooq published Book/Chapters title: "BASIC CONCEPTS OF COMPUTER SYSTEM SECURITY" on 1-8-2023
- Dr.S.Md.Farooq received "AD Scientific Index Rankings for Scientist" in world Scientific and university rankings 2024 on 7/10/2023.
- Mrs.V.Lakshmi Chaitanya received "AD Scientific Index Rankings for Scientist" in world Scientific and university rankings 2024 on 7/10/2023.
- Mrs.V. Lakshmi Chaitanya Assistant professor of CSE department in SREC has completed 4 NPTEL courses (Fundamentals of Artificial Intelligence,Introduction to Internet of Things ,Research Methodology ,Intellectual Property rights and Competition Law) and received NPTEL Believer Award in November 2023.

FACULTY ATTENDED JOURNALS / CONFERENCES / WORKSHOPS/FDP/PATENTS

PATENTS

Sl. No.	Patent Application No.	Status of Patent (Published . Granted)	Name of the Faculty	Title of the Patent	Patent Published Date . Granted Date (DD.MM.YYYY)
1	202341032710	Published	DR. FAROOQ SUNAR MAHAMMAD	IMPROVING SCALABILITY IN FINANCIAL SECTOR USING BLOCK CHAIN TECHNOLOGY	16.06.2023
2	202341032705	Published	M.Sharmila Devi	FEATURE EXTRACTION AND ANALYSIS OF NATURAL LANGUAGE PROCESSING FOR DEEP LEARNING-ENGLISH LANGUAGE	16.06.2023
3	202341032715	Published	V.Lakshmi Chaithanya	PLAGIARISM DETECTION PROCESS USING ARTIFICIAL INTELLIGENCE	16.06.2023
4	202341032708	Published	N.Rama Devi	IDENTIFYING BRAIN TUMOR USING X-RAY IMAGES	16.06.2023

FDP & WORKSHOPS

S.No.	Name of the Faculty	Nature of the Program	Duration of the Event	From Date	To Date	Name/Title of the Event	Name of the Organization &Address
1	Mrs. B Swarajya Lakshmi	NPTEL	12 Weeks	04-07-2023	30-10-2024	Digital Image Processing	IIT Madras
		Workshop	one day	19-08-2023	19-08-2023	Research Paper Writing Tools: Latex And Overleaf	CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY, HYD
		FDP	5 DAYS	21-08-2023	25-08-2023	Cloud Infrastructures(AWS)	SANTHIRAM ENGINEERING COLLEGE
2	Mrs.M. Sharmila Devi	COURSE	12 WEEKS	06-07-2023	25-10-2023	Fundamentals Of Artificial Intelligence	IIT GUWAHATHI
		COURSE	12 WEEKS	06-07-2023	25-10-2023	Cyber Security And Privacy	IIT MADRAS
		ONLINE COURSE	2 DAYS	20-07-2023	20-07-2023	Bascics Of Machine Learning	GREAT LEARNING ACADEMY
		FDP	1 WEEK	24-07-2023	28-07-2023	Societal Applications Of Machine Learning	Shri Vishnu Engineering College for Women (A), Bhimavaram.
		Workshop	1 DAY	19-08-2023	19-08-2023	Research Paper Writing Tools : Latex And Overleaf	Chaitanya Bharathi Institute of Technology (Autonomous), Hyderabad
		FDP	1 WEEK	21-08-2023	25-08-2023	Cloud Infrastructure (Aws)	SANTHIRAM ENGINEERING COLLEGE, NANDYAL
		COURSE	1 DAY	27-11-2023	27-11-2023	Getting Started With AI On Jetson Nano	NVIDIA Deep Learning Institute
		Workshop	3 DAYS	29-11-2023	01-12-2023	Nvidia Jetson Ambassador Workshop	NVIDIA Graphics India Pvt Ltd, Banglore

3	Mr.P.Bhaskar	FDP	1-Week	21-08-2023	25-08-2023	One Week National Level FDP On Cloud Infrastructure (AWS)	Santhiram Engineering College
		FDP	1 week	16-10-2023	21-10-2023	ATAL FDP On Artificial Intelligence	RGMCET Nandyal
		Workshop	3-Days	29-11-2023	01-12-2023	Nvidia Jetson Ambassador Workshop	NVIDIA, Bangalore
		FDP	1 week	11-12-2023	15-12-2023	One Week National Level FDP On Emerging Trends In Data Analytics	RGMCET, Nandyal
4	Mr.P.Subba Rao	FDP	5 days	19-06-2023	23-06-2023	Data Analyst	Andhra Pradesh State Skill Development Corporation (APSSDC) in Collaboration with ExcelR.
		STTP	1 Day	26-07-2023	26-07-2023	IP Awareness And Training Program	SANTHIRAM ENGINEERING COLLEGE NANDYAL
		IPR EVENT	ONE DAY	26-07-2023	26-07-2023	IP Awareness	INTELLECTUAL PROPERTY OFFICE INDIA
		Workshop	ONE DAY	19-08-2023	19-08-2023	Research Paper Writing Tools : Latex And Overleaf	CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY
		FDP	ONE WEEK	21-08-2023	25-08-2023	Cloud Infrastructure (AWS)	SANTHIRAM ENGINEERING COLLEGE NANDYAL
		Workshop	ONE DAY	17-09-2023	17-09-2023	Data Analysis Using Ai	SKILL NATION
		Workshop	2-DAYA'S	30-09-2023	01-10-2023	Business Intelligence Using Power Bi	SKILL NATION INDIA
		FDP	ONE DAY	13-10-2023	13-10-2023	Applications Of Deep Learning And Artificial Intelligence In Computer Vision Certificate	PRESIDENCY UNIVERSITY
		FDP	5 Days	21-08-2023	25-08-2023	One Week National Level FDP On "Cloud Infrastructure (AWS)"	Santhiram Engineering College,Nandyal

		FDP	5 Days	11-12-2023	15-12-2023	One Week National Level FDP On "Emerging Trends In Data Analytics"	Jointly Organized by RGMCET&JNTUA
5	Mrs. V Lakshmi Chaitanya	NPTEL-AICTE FDP	12 Weeks course	01-07-2023	30-10-2023	Fundamentals Of Artificial Intelligence	IIT Madras
		NPTEL-AICTE FDP	12 Weeks course	01-07-2023	31-10-2023	Introduction To Internet Of Things	IIT Madras
		FDP	5 Days	10-07-2023	14-07-2023	Machine Learning Algorithms And Its Applications	G.Pulla Reddy Engineering College,Kurnool
		NPTEL-AICTE FDP	8 Weeks course	01-08-2023	31-10-2023	Research Methodology	IIT Madras
		NPTEL-AICTE FDP	8 Weeks	01-08-2023	31-10-2023	Intellectual Property Rights And Competition Law	IIT Madras
		FDP	3 Days	07-08-2023	09-08-2023	Data Science And Its Applications	Bapatla Engineering College,Bapatla
		Swayam online course	8 weeks	01-09-2023	30-11-2023	Research And Publication Ethics(RPE)	Netaji Subhas Open University, Kolkata
6	Mrs.M.Anusha	Workshop	1 DAY	19-08-2023	19-08-2023	Research Paper Writing Tools:Latex And Overleaf	CBIT,HYDERABAD
		FDP	5 DAYS	21-08-2023	25-08-2024	ONE WEEK NATIONAL DEVELOPMENT PROGRAM On CLOUD INFRASTRUCTURE(AWS)	BRAIN O VISION
7	Mrs.S Sadia Fatima	Workshop	FIVE DAYS	21-08-2023	25-08-2023	AI & Cloud	SANTHIRAM ENIGEERING COLLEGE
8	Mrs.N.Rama Devi	Online Workshop	3 Days	30-09-2024	2-10-2024	Three Week National Level Online Workshop on "THESIS Writing "organized by ESSGEE DIGISKILLS	ESSGEE DIGISKILLS

CONFERENCES/ JOURNALS

- Mrs.N.Rama Devi, Associate Professor Department of CSE published a technical paper titled "Residual Neural Networks for Human Action Recognition from RGB-D Videos" in Journal of Image and Graphics , Volume 11,Issue 04, Dec 2023 with ISSN 2301-3699 indexed in Scopus.

V.ESWARA JAYA SIMHA AJAY ,IV CSE



My college has not only supported my academic growth but has also encouraged me to organize, host, and actively participate in various cultural and technical events. These opportunities have helped me enhance my presentation skills, confidence, leadership qualities, and proactiveness. I am sincerely grateful to my lecturers, HOD, and the management for their constant encouragement, guidance, and support. Their friendly and supportive approach has played a significant role in shaping my overall personality and professional growth.

SOLVE IT

1)

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4						7		

2)

4 + 8	= 21
3 + 6	= 10
2 + 5	= 4
1 + 7	= ?

Thank you