SENSETRONICS
NEWSLETTER

DEPARTMENT OF
ELECTRONICS AND COMMUNICATION ENGINEERING

VOLUME 13 ISSUE -2 SEP-NOV 2023-24

ENLIGHTENS THE NESCIENCE

ADITYA ENGINEERING COLLEGE(A)

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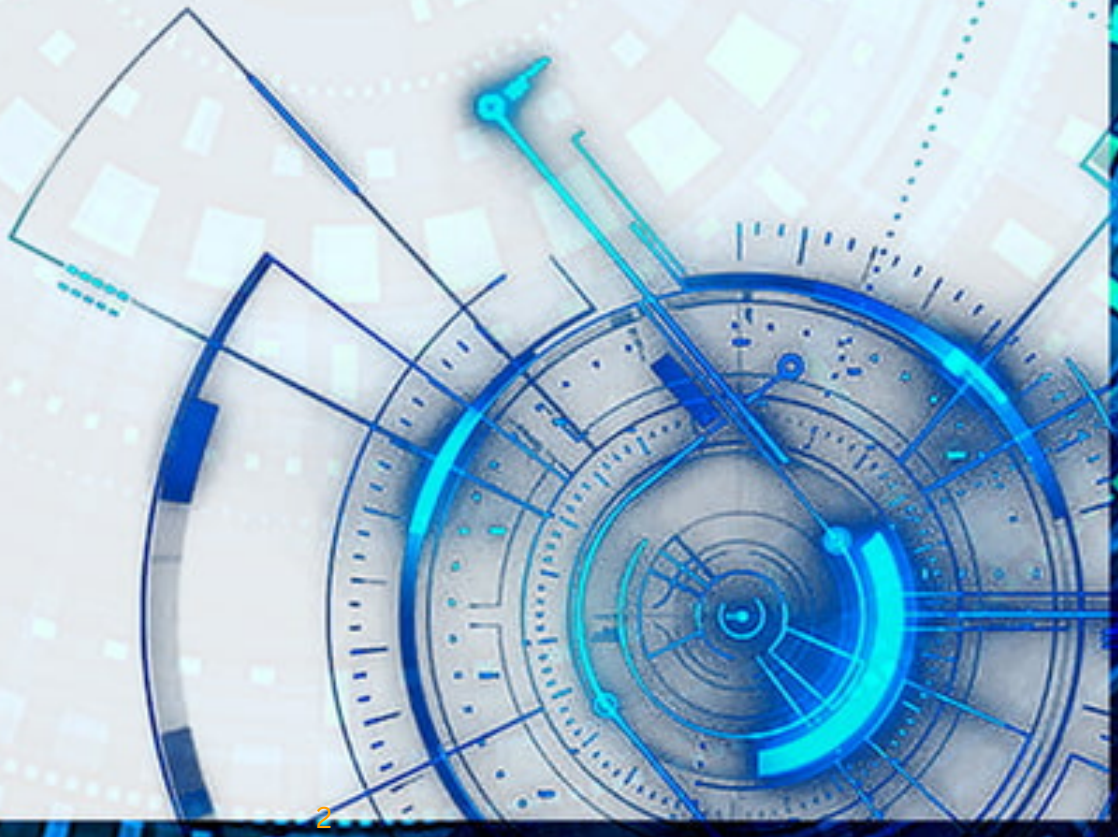


ABOUT THE DEPARTMENT

The Department of Electronics and Communication Engineering (ECE) was established with the inception of the college in the year 2001 with an intake of 60 students and now it has been expanded to an intake of 240 students. It offers a Master's program in VLSI Design with a current intake of 12 students. The department has dedicated faculty and well equipped laboratories like Electronic Devices and Circuits lab, Microwave Engineering and Optical Communication Lab, Digital Signal Processing lab, Project lab, etc, to provide a platform for practical aspects of learning.

The Department of ECE has an IETE student forum, under which the department organizes professional activities including guest lectures, workshops, and seminars, technical festivals SPARK under the umbrella of VEDA to enrich the knowledge of students. For better placements, we have a strong technical team (Technical hub) to train our students in coding practices and problem-solving skills.

The department has signed MOUs with Electropro Pvt.Ltd, Edgate Technologies &Texas Instruments, and Tessolve Semiconductor Pvt. Ltd. We are happy to say that our college is having MoUs with Andhra Pradesh State Skill Development Centre (APSSDC), Applied Robot Control (ARC), AWS Educate, Ui Path, CISCO, Salesforce, Oracle Academy, etc. We are very happy to say that most of our students have been trained and certified in various new technologies and trends which are necessary for the current industries from the first year onwards. We are glad to share this message of our students have been placed with the highest package of 12 lakhs.

VISION OF THE DEPARTMENT

To become a center of excellence in the field of Electronics and Communication Engineering with technological capability, professional commitment and social responsibility

MISSION OF THE DEPARTMENT

M1: Provide quality education, well-equipped laboratory facilities and industry collaboration.

M2: Promote cutting edge technologies to serve the needs of the society and industry through innovative
research

M3: Inculcate professional ethics and personality development skills

Faculty Achievements

Mr. S Jagadeesh, Asst. Professor got the Best Researcher Award in “International Research Awards on Sustainable Agriculture and Food Systems”, India. For a paper published on “Recognition of plant’s leaf infection by image processing approach”, Materials Today, Vol 51, Part 1, 2022 and the paper is indexed in Scopus.

1.Addepalli Tathababu, Jetti Chandra Sekhar Rao, B Kiran Kumar and M Vinod Kumar “A Novel Quad Element MIMO Antenna with Defected Substrate for 5G Sub 6 GHz N77/N78 Band Applications” Application Number: 202341049478 A, Publication date:01/09/2023 (Patent)

2.Jetti Chandra Sekhar Rao, Addepalli Tathababu, D Sreenivasa Rao and M Vinod Kumar “A Unique Compact Triple Band Single Element Monopole Patch Antenna for 5G Sub 6 GHz Wireless Applications” Application Number: 202341049494 A, Publication date:01/09/2023 (Patent)

International Journals

Sharma M, Addepalli T, Nagesh KN, Anveshkumar N, Kumar D. Design and Analysis of a Six-Element UWB-X Band MIMO Antenna for High-Speed IoT, Imaging, and Radar Applications. IETE Journal of Research. 2023 Sep 5:1-6.(SCIE)

Babu Kamili J, Addepalli T, Perli BR, Kiran Kumar B, Mohammed YT. Design of a novel four-element Koch–Sierpinski fractal mmWave antenna for 5G applications. International Journal of Electronics. 2023 Sep 2:1-21.(SCIE)

Mr.G.Rama Naidu received Participation certificate conducted by Mathworks at JNTU Kakinada

Mr.G.Rama Naidu, Assistant Professor, Department of ECE, Aditya Engineering College, and Surampalem published a book on “Electronic Devices and Circuits”

Conference:

Dr. K. Ayyappa Swamy, presented a paper “Solid Waste Classification using Transformer Model”, in International Conference on Advances in Technologies and Applications for Sustainability (ICATAS-2023), on5th and 26thOctober 2023, Tirupathi.

1. Dr.P.Sunitha, Associate Professor,ECE received Certificate of Excellence in Reviewing by Asian Journal of Research in Computer Science,September 2023.

2. Dr.P.Sunitha,An Investigative Analysis of Artificial Neural Network (ANN) Models for Intelligent Wearable Devices" for our edited book "Artificial Intelligence Wearables: Applications and Case Studies,BookChapter,October 2023

3. Dr.P.Sunitha, A Modified Inception-v3 Architecture for Monkeypox Detection from Dermatological Images,in International Conference on Advances in Technologies andApplications for Sustainability (ICATAS - 2023) organized by the School of Computing, Mohan Babu University, Tirupati, Andhra Pradesh, during 05-06 October 2023.

4 .Dr.P.Sunitha, successfully completed NPTEL online certification course in System Design Through Verilog in Jul-Sep 2023(8 weeks course) ,October 2023.

Dr. Mohammad Taj, Associate Professor in the department of ECE at Aditya Engineering College (A), Surampalem, has successfully completed an NPTEL course “System Design Through Verilog” 8 weeks course with Elite grade during October 2023.

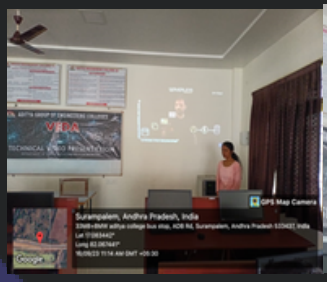
Technical Programs Organised

PROJECT EXPO

ECE EXPO

TECH DUMB CHARADES

Technical Video Presentation



TPEG

The student can design Innovative Patterns with use of Electronic components only (e-wastage).

POSTER PRESENTATION

The poster presentation combines text and graphics to present the topic in a way that is visually interesting and accessible. The presentation should be with field-specific terminology. The objective of a poster is not to list every single detail of your area/topic. The purpose of a technical poster presentation is to make people to get aware of in-and-out latest technical enhancements.

Circuit Debugging

This activity created healthy competition among students to grow and give their best.

- Appreciating achievers promoted a healthy debate among participants in order to learn from each other.

GUEST LECTURES

Arduino with Scratch held from 08-09-23 to 10-09-23

GUEST LECTURE ON INDUSTRIAL REVOLUTION AND INDIAS DEVELOPMENT

HOW TO CRACK COMPETITIVE EXAMS

APPLICATIONS OF EM WAVES

STUDENT ACHIEVEMENTS

International/National Level Student Achievements

Description: On October 7th and 8th, 2023, our team achieved a remarkable feat, securing the Gold Medal at NASA's Space Apps Challenge. Our project, "Revolutionizing Fire Management with AI, Drones, and Satellite Communication," is a testament to the potential of innovation in addressing pressing environmental challenges.

Title: Winning the Gold Medal at NASA Space Apps Challenge-2023

Title: PreQualifier at NASA Space Apps Challenge-2023

Our student Mr.P.Sathwik (21A91A04O3) presented insights on 'Life Species detection using Spectroscopy with Machine Learning algorithms" at SPACE APP INDIA Pre Qualification -2023

During the NASA Space Apps Challenge on August 9th, 2023, our team achieved a significant milestone by winning the Medal. Our project, "Advancing Life Species Detection with Spectroscopy and AI," showcases the potential of innovation in the field of biodiversity conservation.

Our solution harnesses the power of spectroscopy and machine learning. By analyzing spectral data, we can accurately identify and classify various life species. This technology enables us to monitor and protect ecosystems with unprecedented precision.

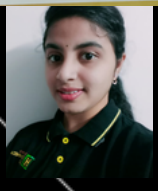
Our national recognition reaffirms our dedication to creating a more sustainable and biodiverse planet. This project not only represents a remarkable achievement but also a leap forward in biodiversity conservation. We're proud to demonstrate how technology and innovation can be instrumental in addressing vital challenges, especially those related to safeguarding Earth's diverse life forms.

Our journey at NASA Space Apps exemplifies the remarkable outcomes that stem from collaboration, perseverance, and innovative thinking. Winning the Medal is a testament to our commitment to making a positive impact on our planet's future.

JEERU SAI KRISHNA (20A91A04K8) IV ECE –D, Aditya Engineering College, Surampalem attended for ISRO SSA &STM workshop Bangalore which was held in between 12-14 , October, 2023 at head quarters of ISRO this month

JUJJAVARAPU ASHOK (21A91A04D6), III ECE-D won second prize in a National level paper presentation in VEDA-2023

A.SURYAKANTHI (20A91A04J3), IV ECE-D won the second prize in solo singing completion at a National Fest held at Andhra Loyala College, Vijayawada.

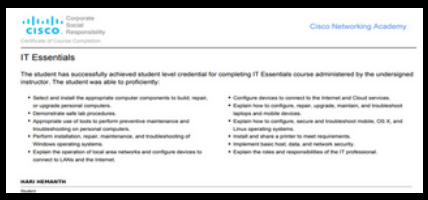


SUPRIYA BODDU (20A91A04D2) , IV ECE-C of Aditya Engineering College ,Surampalem has represented JNTU K , Karate Women category in All India Inter University competitions held at Kurukhestra University,Dec,2022.

Certification Program:

It is immense pride and excitement that we have significant achievement in our department. Our student not only demonstrated his dedication but also proven his technical prowees by successfully completing the IT essentials in CISCO Certification.

Hari Hemanth (23A95A0425) of II ECE-C



Students Article

Artificial Intelligence and Machine Learning

Artificial Intelligence (AI) refers to the simulation of human intelligence processes by machines, especially computer systems. It involves creating computer programs or systems that can perform tasks that typically require human intelligence, such as reasoning, problem-solving, learning from experience, understanding natural language, recognizing patterns, and making decisions.AI systems are designed to analyze and process large amounts of data, extract meaningful insights, and perform actions based on that information. The field of AI is quite broad and encompasses various subfields, including machine learning, natural language processing, computer vision, robotics, expert systems, and more.

Machine learning is a critical component of AI, where algorithms are used to allow systems to learn and improve from experience without being explicitly programmed for each specific task. Deep learning, a subset of machine learning, involves neural networks with multiple layers that can automatically learn hierarchical features from data.AI has applications across numerous industries, including healthcare, finance, transportation, entertainment, education, and more. It has the potential to revolutionize the way we work and live, enabling more efficient and intelligent automation, data-driven decision-making, and new levels of interaction between humans and machines.

We done a internship on this.During the internship we implemented a project Binary classification of cat and dog which classifies the given image is belongs to cat or dog. It is done by applying deep learning techniques .We implemented CNN deep learning algorithm using python.Another project is Flower classification which classifies the given image belongsto what type of flower like sunflower,tulip,dandillion,iris,etc.We implemented CNN algorithm on this by using python.

By,
J.Sai Venkat
20A91A0481
IV ECE-A

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