M-WAVE

CSE DEPARTMENT

Editor
DESK

BYREDDY RAM TARAN REDDY

3A (22N31A0535)

SUPPORTING FACULTY BY:

ASS PROF: B.SARITHA

DR.VSK REDDY
DIRECTOR , MRCET

FORWORD BY THE DIRECTOR

 I would incorporate new ideas which depict adept nature of MRCET students am delighted to announce the release of the much- awaited M-Wave Magazine, a remarkable endeavor entirely driven and executed by our talented students. The M- Wave Magazine stands as a testament to the incredible creativity and hard work our students have poured into this project. It is a platform that showcases their diverse talents, innovative ideas, and insightful perspectives. With increasing competition across the world, it is now crucial to be exposed to practical applications. Investing time in finding out numerous alternatives to a problem space instead of one, is a step towards skill enhancement. Such analysis requires an innovative mind that can be developed when one is involved in creation of intricate works like " M- WAVE". The M- Wave Magazine is a canvas on which our students have painted their ideas, stories, and artistic expressions. It is a reflection of the diversity and dynamism that def ines our ins t i tution. I 'm delight ed t o s ee how a platf orm provided by MRCET is fully utilised by the student and faculty members. I further advise the students to keep exploring while always being enthusiastic about learning new things.

Regards,
Dr.VSK Reddy,
Director

DR. S SRINIVASA RAO, PRINCIPAL,MRCET

FOREWORD BY THE PRINCIPAL

I am thrilled to introduce the latest endeavour undertaken by our talented students- the M- Wave Magazine. This publication is a labor of love and a showcase of their remarkable creativity and dedication. Education in MRCET will always reflect the confidence we have in our students' ability, and our aim to create an environment where challenges will be taken up by our students as opportunities. The M- Wave Magazine is a platform for our students to express themselves through their art, writing, photography, and more. Within its pages, you'll f ind a r ich tapestry of stories, poems, articles, artwork, and much more, all crafted by the skillful hands and imaginative minds of our students. It 's a reflection of the vibrant and dynamic community we have at our college One of the steps to explore not only today' s technical world but also innovative levels of a student is the implementation of " M- WAVE", the CSE department' s sophisticated magazine. It 's a testament to their diverse talents and the hard work they've put into this magazine. The magazine covers wide range of sections which consists the details of various workshops, events, certification programmes, cultural programmes, sports activities conducted in MRCET including sublime articles and artforms submitted by creative students of CSE department. I appreciate the faculty and student committee to initialize and successfully implement " M- WAVE". Your encouragement and support mean the world to our young talents, motivating them to continue pushing the boundaries of creativity. From the past few years, editions of " M- WAVE" emphasized the standards of the department and its students. Hoping this new edition of magazine would incorporate new ideas which depict adept nature of MRCET students

Regards,
Dr.S Srinivasa Rao,
Principal

HEAD OF DEPARTMENT -
DR. SHANTHI,
CSE

FOREWORD BY THE HOD

I believe that educational institutions should not only impart knowledge to the students but also allow them to expand their creative capabilities and showcase them to the world. M-WAVE is one such stepping stone towards the creations of such an environment. This magazine puts forward various activities conducted by the departement and also encourages the students and facuity members to explore their innare capabilities. It is great to see the efforts of faculty members and the student to bring up such a peice of work and it is also proud moment for the department for taking up such steps towards the betterment of the students . i really hope that this magazine finds its way towards shaping the minds of the students in a way such that they succeed in every step of their life.

Regards
Dr S Shanthi,
Head Of the Department-
CSE

ICSCSP2023

Malla Reddy College of Engineering & Technology has successfully hostedits 6thInternational Conference on "Soft Computing and Signal Processing" by the Department ofCSE,IT,AIML and ET on 23 rd and 24 th June 2023.The inaugural ceremony was startedbylightning the lamp followed by an invocation song. The guest of honour was welcomedwithatraditional dance by our MRCET students. The auditorium was occupied by the eminent personality- Guests of honors : Prof.Naeem MS Hannoon, MARA, Malaysia, Prof.SibaKUdgata, HCU, Hyderabad, Prof.Suresh Chandra Satapathy, Dean R&D, KIIT, Bhubaneswar,Dr.VSKReddy, Director, MRCET, Dr.S.Srinivasa Rao, Principal, MRCET, Prof.P.Sanjeeva Reddy, Dean of international studies and Organizing Secretoryof 6thInternational Conference, Dr.T.Venugopal, Dean of students welfare,MRCETandall thedepartment Head's.A huge number of scholars from various countries presented their researcharticles during these two days and their research papers are selected in SPRINGERforpublication. The Souvenir has been launched by all the dignitaries on the dais to makethisevent a memorable one for MRCET
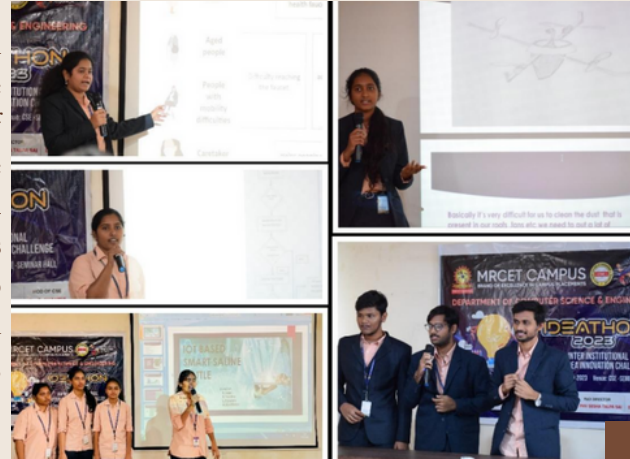
GRADUATION DAY 2024

The Graduation Day was held on June 15th 2024, at Malla Reddy College of Engg &Technology in the Main Auditorium at 10:30 am. Around 800 graduates with their parents attended the ceremony to celebrate their success on achieving their B.Tech degree. In Computer Science and Engineering around 230 got graduated on first attempt among 260 which was a greatest achievement among all other passed out.

The Hon'ble Chief Guest of the programme was Sri. Ch. Malla Reddy, Hon'ble member of Legislative Assembly(MLA), Founder Chairman(MGRI) presided over the function and delivered thepresidential address.The other prominent dignitaries on the Dias are: Dr.VSK Reddy,Director, MRCET, Dr.S.Srinivasa Rao,Principal, Dr.T.Venugopal,Dean of students welfare, Dr.S.Shanthi, HOD-CSE and all other department HOD'S.The program has started with an Invocation song followed by Lighting of lamp by the dignitaries.

2023
IDEATHON

The Department of Computer Science and Engineering has organized "Ideathon 2023"anInter Institutional Startup Idea Innovation Challenge on 11 th & 12 th August 2023at CSESeminar hall.The major objective of organizing this Ideathon was to provide the platformandunleash the potential of the students by showcasing their innovative ideas which helpsinsolving real time problems with current technologies. The ideas can be explainedeitherthrough power point presentation or with two minutes video of idea explanation.The studentsexplore their ideas on Health Care,Bio-tech,Clean&Green technologies, Fin-tech ,Agriculture, Food technologies, Defence and other ideas

Dr.S.Shanthi,HOD,CSE has formally welcomed the dignitaries and students for the Ideathon2023. Dr.S.Srivasa Rao, Principal,MRCET has appreciated CSE department for initiatingsuch a good platform for students and gave many information regarding the innovations andhow to succeed in developing the prototype. Dr T.Venugopal,Dean,MRCETandhasaddressed the session with very knowledgeable insights and well encouraging words that gave an exposure to students.The department has received more than 30 various ideasinwhich 24 ideas have been presented.The organizing coordinator Mr.CH.Rajesh has madeall arrangements for "Ideathton 2023" in a flawless manner.The judges for the IDEATHON2K23 are Mrs.Radha,Mrs.Saritha and Mrs.R.Sujatha.The panel members went for judgingtheideas based on the Novelty, Impact on society,Cost and presentation. Based on the abovecriteria three Ideas has won the prizes.

In conclusion, Valedictory for the winners was done by our respected Principal Dr.S.Srinivasa Rao, Dr.S.Shanthi,HOD,CSE,Prof.Sesha Talapa Sai,R&D Director.
At theendDr.S.Shanthi,HOD,CSE expressed her heart felt thanks to Dr. VSK Reddy sir, Director, MRCET and Dr.S.Srivasa Rao sir , Principal for providing this great platformandopportunity. Also she thanked coordinator and faculty members for their kind support inorganizing the event.

Engineer's day

On the occasion of Birth Anniversary of India's most prominent engineer Dr.Mokshagundam Vishweshvaraya, we celebrate Engineers' day in his remembrance of their remarkable works in engineering field. On 15th September 2023 @ MRCET the Engineers Day celebration was organized by the department of Computer Science and engineering. The event was planned in such a way that students can involve themselves in exhibiting their talents as an engineer in all aspects. The program was intended for all the II Year and III Year students who has participated in various events such as Debate, Idea presentation, Drawing, Photography ,Group Discussion and Dumb Charades.
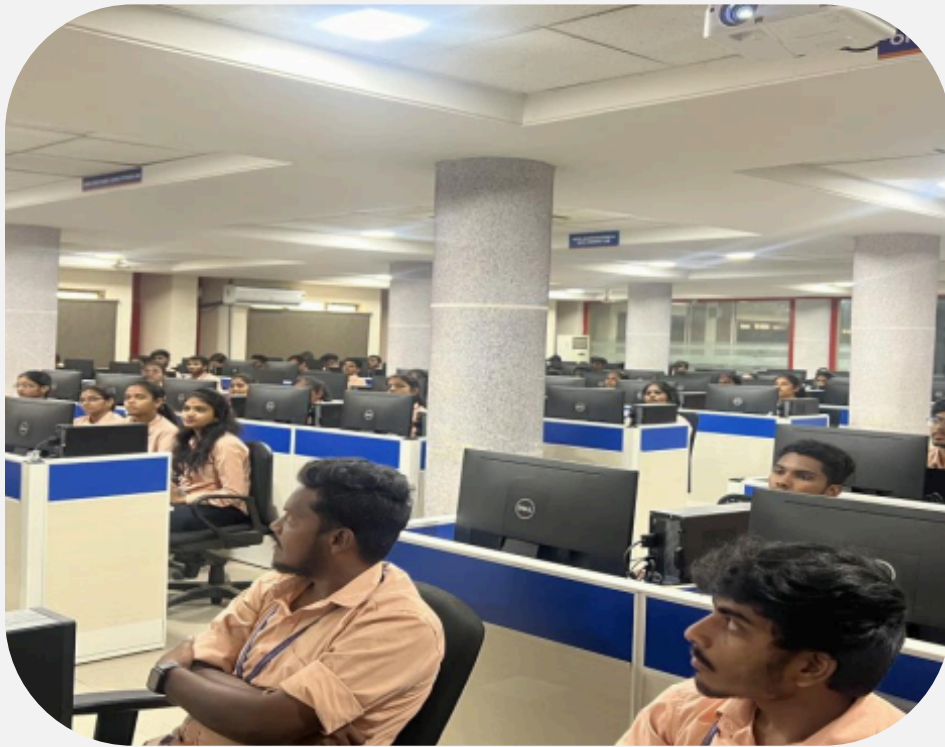
TWO DAYS WORSHOP ON

STATISTICAL VISUALIZATION AND ANALYSIS

Statistical Visualization and Analysis workshop was conducted on 16h & 17th October 2023 by Mr. Dattatreya Goud, a speaker, Decode Soft Tech Solutions Pvt Ltd, and a very well knowledge resource person in the field of Data Science and Machine Learning. The main objective of this workshop was to make aware of the latest technologies, which is not part of their curriculum. As R Programming has become one of the most prominent and in demand programming language, this workshop was planned to give students sufficient knowledge and technicality which may prove to be more beneficial and fruitful for them during their respective career path. The venue for the workshop is at Placement Block Lab. The workshop was conducted from 9.30 am to 4.00 pm for two days. Around 135 students of third year have participated and got benefited.

The speaker began the workshop by throwing light on the general technological trends and the emergence of machine learning and data science as one of the fastest growing technologies of this time and their need in the current growth rate of data production. The students were also briefed about the general concepts of data science and machine learning and also given valuable insights in the career opportunities available in this field.
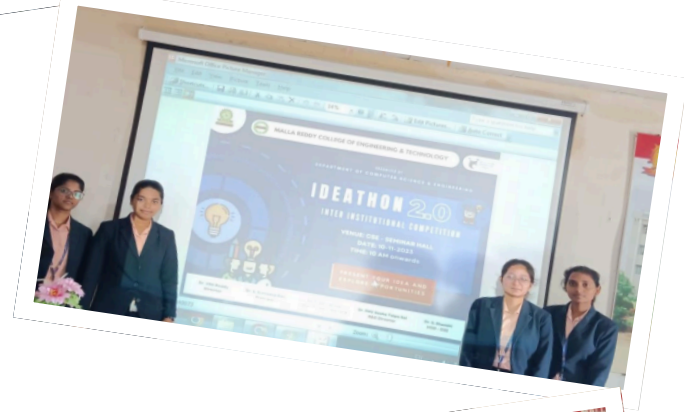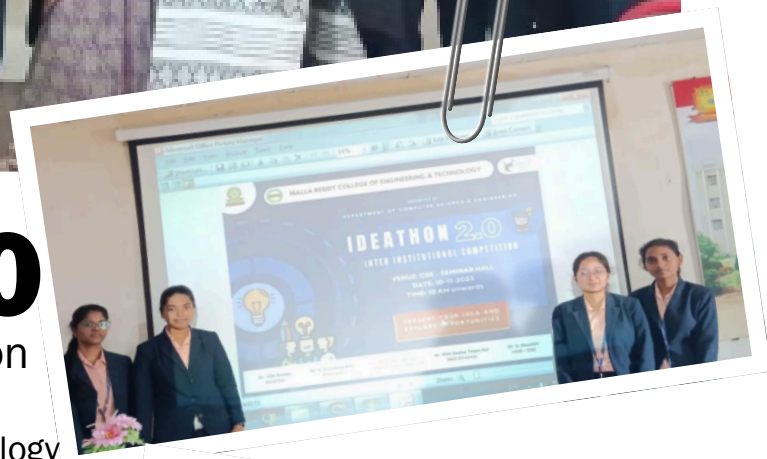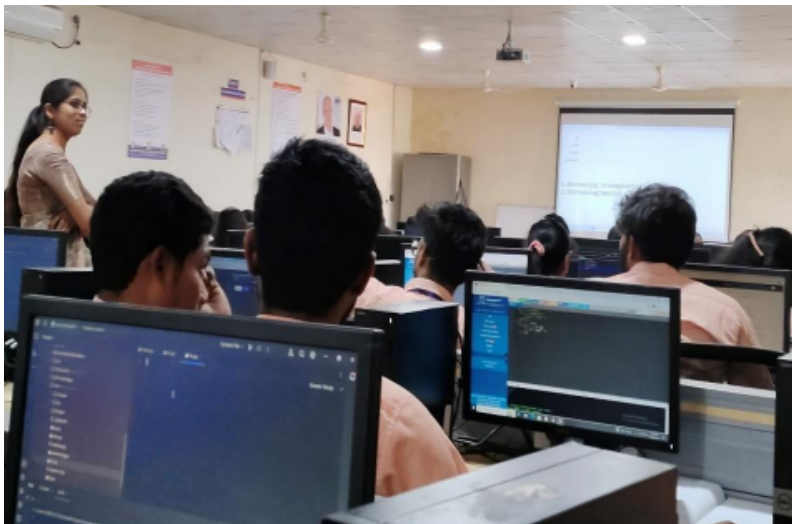
IDEATHON 2.0
Inter Institutional Competition

Malla Reddy college of Engineering & Technology Innovation Council (IIC) and Department of Computer Science and Engineering has been organized a Inter Institutional Competition on November 10th 2023. Inter Institutional Competition are known to provide reasonable assistance for improved access to the domestic as well as export markets for businesses. It supports product development, design innovation, intervention, and packaging elements of a business. And also, it supports the upgrading of technology, infrastructure, and the modernization of this sector. The activity is to present the project idea to the experienced faculties that they are moving towards the right step and their project will be used in the market after some necessary guidelines followed and the modifications which are required to make their project achieve the success which was the main aim of the program conduction.

CAMPUS RECRUITMENT TRAINING

A Six days CRT classes was held at MRCET, CSE from 30TH October TO 4 th November 2023 i n Offline mode, which was conducted by Logik works. 233 students of CSE III Rd B.Tech students attended these classes. The intention of this training program was to improve the Number Systems, Ratio & Proportion, Equations, Ages, Seating Arrangements, Blood Relations and Directions, Coding And Decoding, Number Series, Analogy and Visual Reasoning, SelfIntroduction, Extempore, Grooming, GD Tips, Fundamentals, Data Types and Operators, Control Statements, Strings are the Technical skills to student to get placement.

DEEP LEARNING IN CYBER SECURITY

Department of Computer Science and Engineering, Malla Reddy College of Engineering and Technology organized a 3-Day National Level Seminar on "Applications of Deep Learning in Cyber Security" from 2 nd – 4 th November, 2023 in association with Science and Engineering Research Board (SERB), New Delhistatutory body of the Department of Science and Technology (DST), Government of India. The Department has received a partial grant of Rs. 1,50,000/- from SERB, New Delhi. This programme aimed to provide opportunities to acquire research skills in the domain of Cyber Security and its allied areas such as Machine Learning, Deep Learning and Cyber Security. Registration for the seminar was open to Faculty, research scholars, academicians, and industry people. In total, 86 registrations were received for the event. This included 52 faculty members, 27 research scholars, 7 industry people. All participantsreceived a welcome kit that included a button file, a note book, and a pen.

సాక్షి

డీప్ లెర్నింగ్ ఇన్ సైబర్ సెక్యూరిటీపై జాతీయ సదస్సు

సుభాష్‌నగర్: మైసమ్మగూడలోని మల్లారెడ్డి కాలేజ్ ఆఫ్ ఇంజినీరింగ్–టెక్నాలజీ కళాశాల కంప్యూటర్ సైన్స్ విభాగం ఆధ్వర్యంలో మంగ కవరం సెర్బ్ ఇండియా సహకారంతో అప్లికే షన్స్ ఆఫ్ డీప్ లెర్నింగ్ ఇన్ సైబర్ సెక్యూరిటీపై మూడు రోజుల జాతీయ సదస్సు జరిగింది.

ఈ కార్యక్రమానికి డాక్టర్ వెంకటేశ్వరరా ముఖ్యఅతిథిగా హాజరై మాట్లాడారు. డీప్ ఆ ్నింగ్, మిషన్ లెర్నింగ్ ప్రాముఖ్యతను తెలి జేశారు. ఐటీ ప్రముఖులు పాల్గొని సదస ముఖ్య ఉద్దేశమైన సైబర్ సెక్యూరిటీ, ద ప్రధాన ఆవశ్యకతను వివరించారు.

The 3-day Seminar event comprised of 7 sessions and we invited 5 distinguished academicians from premier institutes and universities to share their views and research experiences in Deep Learning Cyber Security. Each speaker was given three hours time to present their expert talk, followed by 10 to 15 minutes to address questionnaires. The event was conducted in offline mode only. The participant feedback was collected.
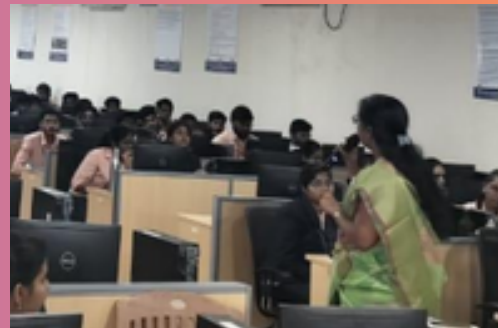

On Thursday, November 2 nd, 2023, at 9:30 a.m., an inaugural ceremony for the seminar programme was held. Dr. Venkeshwara Rao, from NIT Warangal, was the chief guest at the occasion, which was presided over by our Honorable Principal Dr. S. Srinivasa Rao, Dean Dr. T. Venu Gopal, Dean Placement Dr. Kailasa Rao, Dean R&D PHV Sesha Talpa Sai. The program was followed by enlightening the participants with the purpose and importance of the seminar. The chief guest graced us with his valuable words. His inaugural address shed light on the research opportunities available for young research scholars and PG students. The program marked it conclusion by 11:00 a.m.

MACHINE LEARNING

Machine Learning workshop was conducted on 20h & 24th November 2023 by Mr. Dattatreya Goud, a speaker, Decode Soft Tech Solutions Pvt Ltd, and a very well knowledge resource person in the field of Data Science and Machine Learning. The main objective of this workshop was to make aware of the latest technologies, which is not part of their curriculum. As Machine learning has become one of the most prominent and in demand programming language, this workshop was planned to give students sufficient knowledge and technicality which may prove to be more beneficial and fruitful for them during their respective career path. The venue for the workshop is at E-Class room. The workshop was conducted from 9.30 am to 4.00 pm for five days. All the faculty members and 240 students of final year and have participated and got benefited.

The speaker began the workshop by throwing light on the general technological trends and the emergence of machine learning and data science as one of the fastest growing technologies of this time and their need in the current growth rate of data production. The students were also briefed about the general concepts of data science and machine learning and also given valuable insights in the career opportunities available in this field.

quote

A Friend of mine once told me:

"Sad" has 3 Letters,

But so does "joy".

"Fall" has 4 Letters,

But so does "Rise".

"Curse" has 5 Letters,

But so does "Bless".

"Ignore" has 6 Letters,

But so does "Listen".

"Enemies" has 7 letters,

But so does "Friends".

"Immature" has 8 letters,

But so does "Maturity".
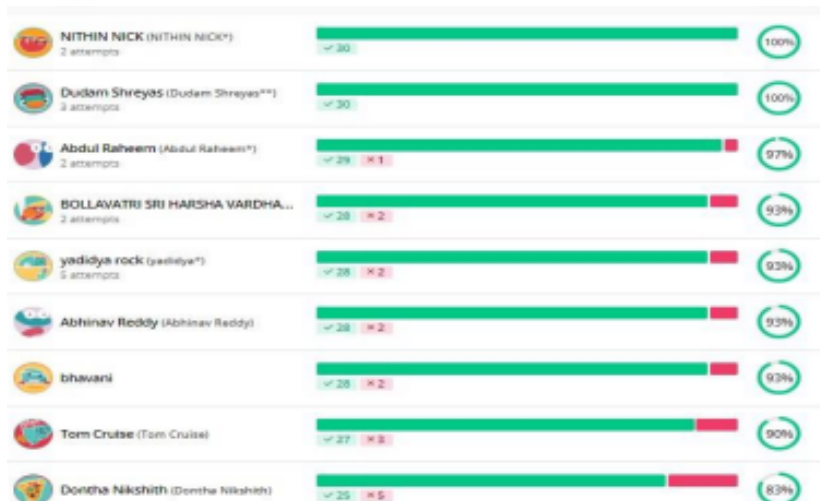
"Ignorance" has 9 letters,

But so does "Knowledge".

"Negativity" has 10 letters,

But so does "Positivity".

You have Two realities to choose from. It's up to you to decide which one do you want to live in. In the end, life is a story of dualities. One side might seem louder than the other. However, that other side waits to be chosen. So, when the ink of your life's story is put in your hands, choose wisely. Choose "bless", Choose "Friends", Choose "maturity". Because the world you create is the one you will live in.
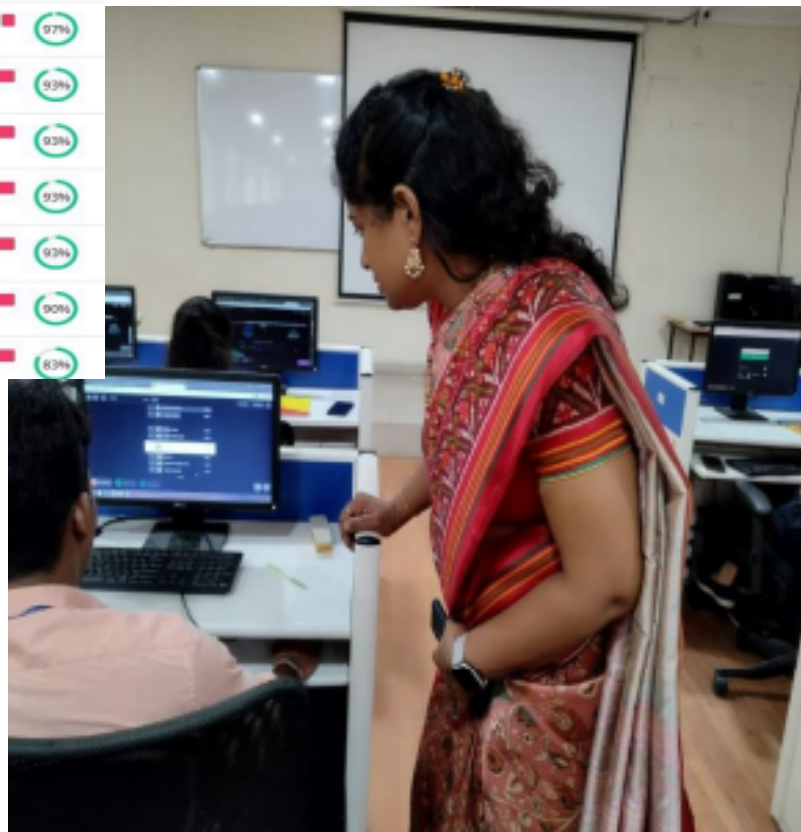
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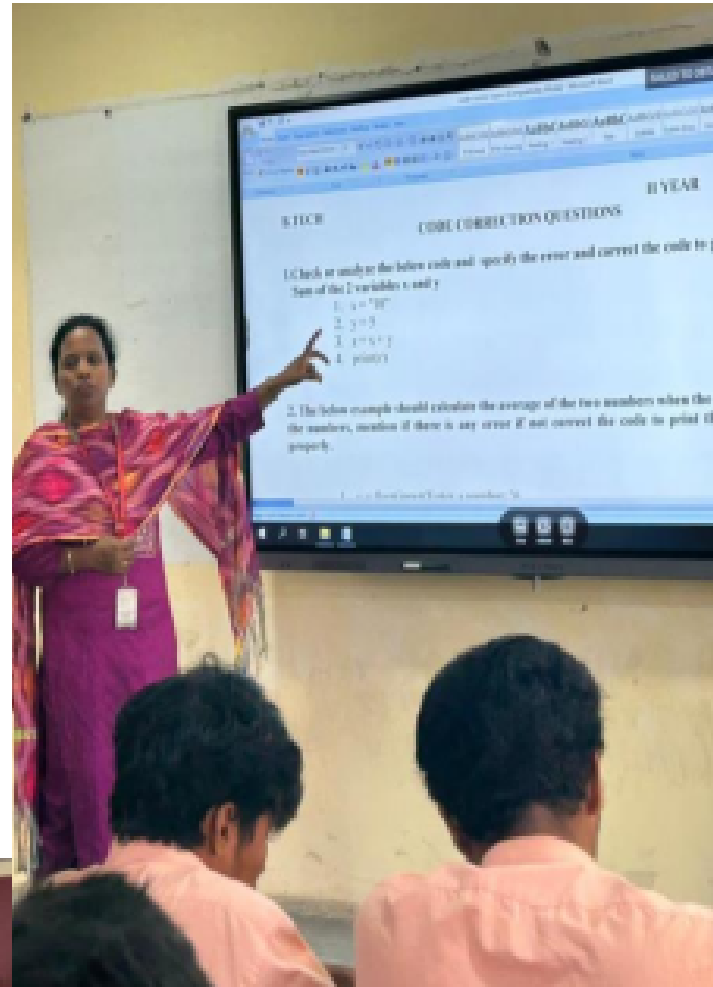
INNOVATIVE CLASSROOM TEACHING

QUIZ

Quiz is an activity which is taken by all the students in a lab.It is conducted online through an application and it enables the students to explore their technical abilities and prepare them for future. The activity is taken by all the students and is monitored, recorded. Also, student performance is evaluated. The students are made to take online quiz all at one time. They need to answer 30 questions and after answering each question as they submit answer, immediately the answer is verified and evaluated. Then the student moves to answer next question. At the end of quiz, all the students evaluation report is generated by the application which includes details such as the accuracy of students in answering questions, no. of students and their scores. Other details such as the no of questions each student has attempted and how many were correct are also recorded.

CODE CORRECTION

Code correction is an activity where in the students are given code snippets with errors(synactic, semantic or runtime). During the activity students identify the error and debug them to retrieve specified output. Each student takes equal participation in the class activity. The activity is used to assess the student's understanding of the subject. It helps in assessing students to what extent they can identify bugs as bugs can make code yield unexpected and wrong results.

Just A Minute

Legend has it that, back in the school days of the BBC radio quiz show creator Ian Messiter, he was caught daydreaming in class by a particularly stern teacher. Ian's punishment was to repeat verbatim everything the teacher had said during the previous minute, without hesitating or repeating himself. History does not record how Ian fared in this embarrassing challenge, but it gave the young man an idea.

When the time came for Messiter to design radio quiz shows for the BBC, the thought resurfaced and became the format for a hugely popular game. The contestant would speak on a given subject for a full sixty seconds, "without hesitation, deviation or repetition". Over eight hundred episodes later, Just A Minute has deserved popularity around the world.

They must speak continuously for one minute. No long pauses are allowed, only those a presenter would normally take. They may not change the subject or repeat information or opinion; the opposing team can raise an objection if they feel this has happened, best done by raising a hand.Every student must participate and once the contestant has completed their minute, they are given a score based on their speech.

"FASTEST FINGER TIPS"

In a recent study based on under graduate students while learning Probability and Statistics, students tend to make several errors:

they look for key words and apply what they believe to be the corresponding operation.

they strive to use all numerical pieces of information given in the problem, and go through their list of formulas to see which can accommodate all of them (without distinguishing between relevant or irrelevant information)

they imitate the problem-solving procedure of a superficially similar problem (treating the act of throwing different-colored dice the same as that of throwing dice of the same color -- only because "the problem involves dice anyway, and didn't we already tackle dice in class?").

they regress to the "brute-force approach" -- enumerating all possible cases and manually counting each one, especially when the question involves combinatorics (this of course defeats the purpose of learning probability rules).

The challenge in teaching introductory statistics and probability courses is to find ways to engage students more in the learning process. The hope is that the outcomes of such engagement will result in a deeper understanding of the fundamental ideas of statistics. In this context, we introduce a class room activity "Fastest Finger Tips" where the students are given questions and asked to assess the problem and find possible solution and method to solve problem.

JIGSAW

Of these, the most widely used puzzle is arguably the Tower-of-Hanoi problem. It provides a natural and convenient vehicle for illustrating the idea of a recursive algorithm, for showing how a recursive algorithm can be analyzed by setting up and solving a recurrence relation, and even for proving an algorithm's optimality. Other standard examples include the K6nigsberg bridge puzzle (to introduce Euler circuits), mazes (in conjunction with depth-first search), and the nqueens problem (for illustration of backtracking).

Elliot Aronson and colleagues developed the Jigsaw technique, in the early 1970s, in order to reduce tensions and decrease competition in the classroom. The strategy encourages students to actively listen, engage with others and prompt students to practice their communication skills, teamwork skills and critical thinking skills. Jigsaw has also been shown to improve student autonomy, learning gains and retention of the material encountered.The results of study indicated that the use of jigsaw technique improves students' performance by 15% and helps them in developing their lifelong learning skills.

The class is divided into 5 groups where each group consists of 4 to 5 students . The groups are explained with the problem . Each group has an expert who coordinates with other group members and solves a problem. Examples of problems solved are: 1. 15 puzzle problem 2. DAA crossword 3. N-Queens problem

concept Mapping

Students are required to form team of four to five people using topics they are given. Each team is given a concept for their mind map and presentation in class. Mindmap is used to visually organize formation and shows relationships among them. It was developed on a single idea and shown as an image in the middle of a blank page, on which accompanying illustrations of concepts, such as illustrations, words, and word fragments, are added. It is a great way of note-taking and notemaking that literally "mapsout" the ideas in a visual form. Students that use mind maps find it easier to remember and recall concepts.

ROLE PLAY

SDLC Role Play A team consisting of 4 to 6 students (Max 8 students per team) are selected by faculty .Such a team will have students playing the following roles : Client – Faculty who is conducting role play. (SRS)Project manager(s), Analyst(s), Developer(s),Tester(s)
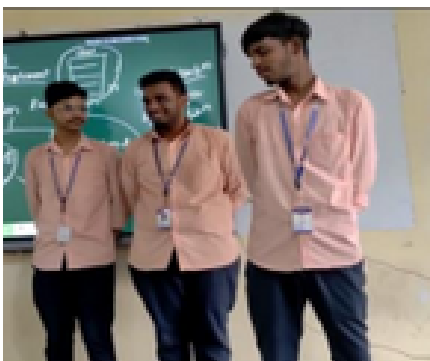
Role Description–Project Manager Project Manager is the person who manages a project. This includes leading the planning and the development of all project deliverables. The project manager is responsible for managing the budget and schedule and all project management procedures (scope management, issues management, risk management, etc.).

Role Description–Analyst Analyst is responsible for capturing and documenting business requirements from the clients. For some cases, analyst is also responsible for creation of technical solution document, high level design document, and detail design document. Analyst(s) should submit the following documents for assignment #1:High level design document Detail design document

Role Description–Developer Developer is responsible for the actual building of the solution (coding the software), and performs unit testing too. Developer(s) should complete coding and unit testing of the software, and support tester during test phase.
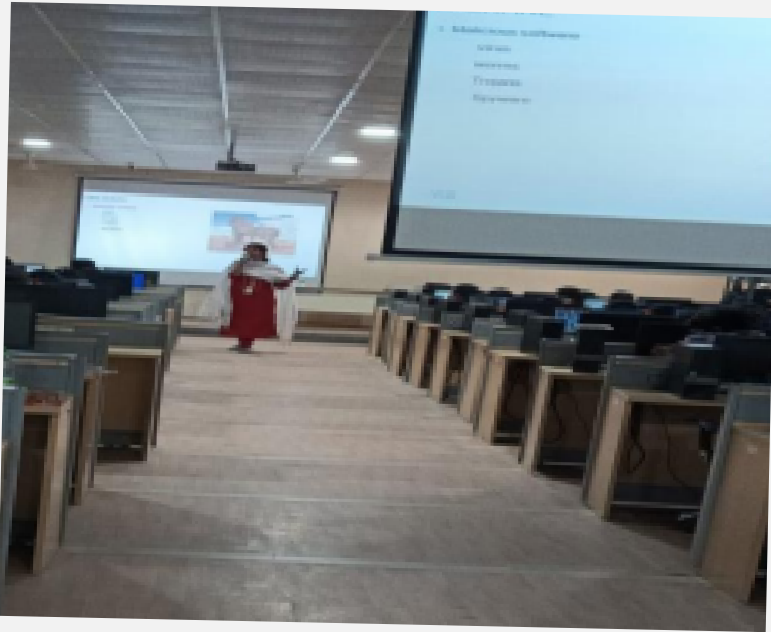
Role Description–Tester Tester is responsible for system testing, and ensures that the solution meets the business requirements and that it is free of errors and defects. Tester(s) should submit the following documents for assignment #1:Test plan Test cases ,Software defect log.

CISCO CCNA
Certification Training Program

The Department of Computer Science and Engineering has organized 3 Days training program on "CISCO CCNA CERTIFICATION TRAINING" from 18th - 20th January 2024 for the students of3rd Years of CSE. Nearly 250 students have participated and got benefited. The main purpose of this training was to train the students on the various concepts of computer networks with real time applications so that they can attempt exams on the CISCO certifications with enough confident. This Training includes hands on sessions on various topics such as IP addressing, Subnetting, Configuring the NW OS, Ethernet, Network Layer, NW Protocols & Communications, NW Access, Transport Layer, Application Layer and Building a small Network.

Introduction to Networking: Understanding the importance and impact of networks in modern society. Basic Switch and End Device Configuration: Configuring and managing network devices using Cisco IOS. Protocols and Models: Overview of networking protocols, protocol suites, and reference models like OSI and TCP/IP. Ethernet Switching: Understanding Ethernet frames, MAC addresses, and switch operation. Network Layer: Characteristics of the network layer, IP packet structure, and basic routing concepts. Address Resolution: Address resolution protocols like ARP and IPv6 Neighbour Discovery. Basic Router Configuration: Configuring and managing routers, including interface and routing settings. ICMP (Internet Control Message Protocol): Overview of ICMP messages and utilities like ping and traceroute. Network Security Fundamentals: Identifying security threats, common attacks, and mitigation strategies. Building a Small Network: Designing and implementing small-scale networks, including device configuration and troubleshooting methodologies.

TIPS FOR LEARNING PROGRAMMING

Learning programming is a valuable and rewarding skill that requires patience, practice, and persistence. Whether you are a beginner or someone looking to enhance your coding abilities, here are some tips to help you learn programming effectively:

1. Start with the Basics

Before diving into complex concepts, build a strong foundation. Learn the fundamental principles of programming, such as variables, data types, loops, conditionals, and functions. Start with beginner-friendly languages like Python or JavaScript, which have simple syntax and are widely used.

2. Set Clear Goals

Define what you want to achieve through programming. Whether it's creating websites, building apps, or analyzing data, having a clear goal helps you choose the right programming language and resources.

3. Practice Consistently

Programming is a skill best learned through practice. Write code regularly to reinforce what you learn. Start with small projects, such as creating a calculator or a simple game, and gradually take on more complex tasks.

4. Use Online Resources

There are numerous free and paid resources available to learn programming. Websites like Codecademy, freeCodeCamp, and W3Schools offer interactive tutorials. Platforms like YouTube and Coursera provide video lessons. Choose resources that suit your learning style.

5. Understand, Don't Memorize

Focus on understanding the logic behind programming concepts rather than memorizing code. This approach will enable you to apply your knowledge to different problems and adapt to new programming languages easily.

6. Work on Real-World Projects

Apply your skills to real-world problems. Building projects not only improves your understanding but also gives you a sense of accomplishment. Consider contributing to open-source projects or creating a portfolio to showcase your work.

7. Debugging is Learning

Errors are inevitable in programming. Embrace debugging as part of the learning process. Analyze error messages carefully and use tools like online forums or documentation to solve problems. This helps you develop problem-solving skills.

8. Join a Community

Engage with the programming community by joining forums, attending meetups, or participating in online discussions. Websites like Stack Overflow and GitHub are excellent for networking and seeking help. Learning from others can accelerate your progress.
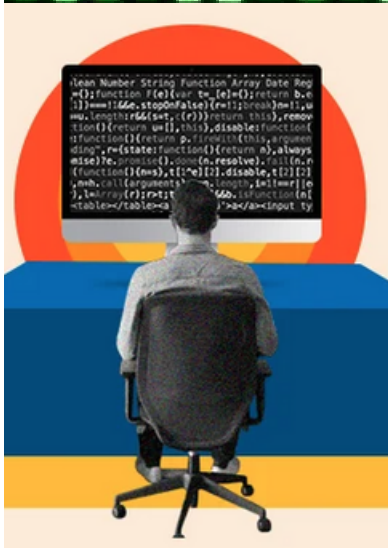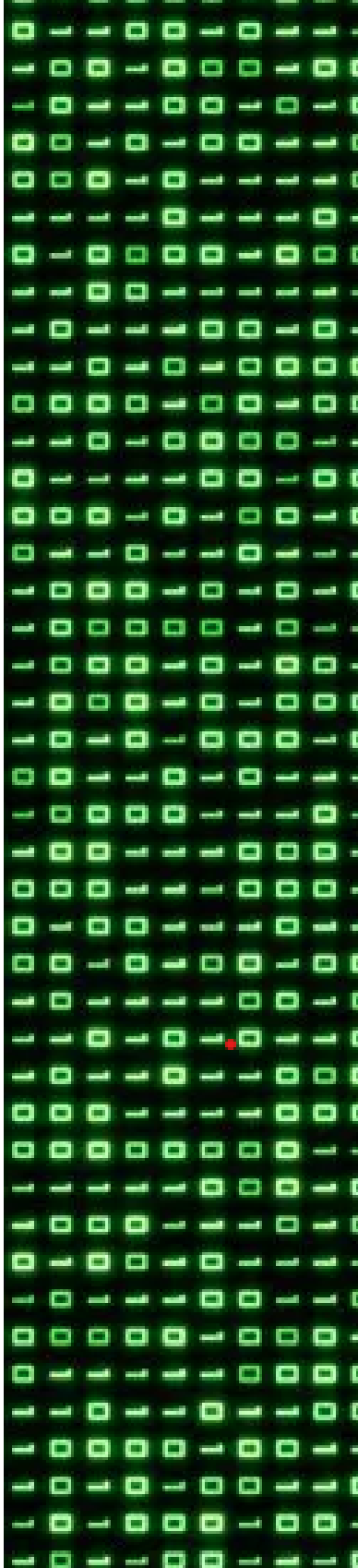
9. Stay Updated

The tech world evolves rapidly, so staying updated is essential. Follow blogs, subscribe to newsletters, and explore the latest trends in programming and technology.

10. Be Patient and Persistent

Programming can be challenging, especially for beginners. Stay patient and persistent, and don't be discouraged by failures. Break complex problems into smaller steps and tackle them one at a time.

Conclusion

Learning programming is a journey that requires dedication and consistent effort. By focusing on the basics, practicing regularly, and leveraging available resources, you can develop strong programming skills. Remember, every expert programmer was once a beginner. With time and determination, you can master programming and use it to create meaningful solutions.

ESPIRITO-2K24

The Techno cultural sports Fest will be conducted every Academic Year at Malla Reddy College of Engineering & Technology. Inter college technical fest EXUBERANZA-2K24 was held on 2 nd & 10th January 2024 at MRCET campus. Department of Computer Science & Engineering organizes ESPIRITO 2K23 for the B. Tech students of various aspirants from various college who can exhibits their talent in both technical and non-technical events. The inauguration of the event took place in Main Auditorium at Malla Reddy College of Engineering and Technology (MRCET) formally started with lamp lightning ceremony and continued with the elaboration on various events which was organized by various department of MRCET. Dr. V.S.K. Reddy, Director,Dr.T.Venugopal, Dean of Academics , Dr.S.Srinivasa Rao, Principal, and all other HOD'S made their presence in gracing the occasion.

The objective of ESPIRITO 2K24 is to provide platform for the students to showcase their talent with a competitive spirit. There were more than 300 participants for the two days technical and Non-technical events. The first day fest executed with a total of 14 events planned and organized at its best of quality and second day of with 14 events in which few events were organized on both the days due to the more number of participants. A unique event the " Instagram Reels"grab a special attention from the students in which they explore their reels in various theme like college life, Affection, Comedy, Friends and so on.

CAMPUS RECRUITMENT TRAINING

A Five days CRT classes was held at MRCET, CSE from 19TH February 2024 TO 23th February 2024 in Offline mode, which was conducted by Logik works. 233 students of CSE IIIrd B.Tech students attended these campus recruitment training classes. The intention of this training program was to train and provide more insights on the aptitude topics such as Percentages, Profit and Loss, Time and Work and Pipes and Cisterns, Syllogism, Puzzles Reasoning Ability, Calendars, Clocks. Non-Technical Topics include Recruitment Essentials, JAM Sessions, HR Questions, Resume building and tips have been discussed in detail. In order to improve the Technical skills of students, topics such as Collections-List, Tuple, Set, Collections, Dictionary, Functions Introduction, Function Parameters, Recursion, Higher order functions, Exception, Modules were discussed to aid the students in getting placements.

The CRT Training Program was interactive among the students and the trainers made the students well trained. Also they were provided with work sheets where they practiced on the concerned topics after the session was conducted. The students were very grateful to our beloved Principal Dr S. Srinivasa Rao Sir for facilitating the training sessions which were highly focused towards campus placements.

DATA ANALYSIS TECHNIQUES

The CSE Department constantly aims to provide students with cutting-edge instruction so they can grasp emerging technologies and industry demands. After speaking with our principle, Dr. Shanthi (HOD CSE) carried out a creative workshop on "Data Analysis Techniques" for CSE II year students.

Famous trainer Mr. Venkat from Dcode software Tech Solutions led a four-day session on "Data Analysis Techniques" for CSE II year students. E-Classroom of was the location. CSE students attended the workshop from II years and around 260 students got benefitted. The workshop on Web Application Development using Python Library and Django was held with the aim of providing participants with comprehensive knowledge and practical skills in developing web applications. The workshop covered various aspects of web development, including frontend and backend development, using Python libraries, and leveraging the Django framework for rapid development.

24HRS HACKATHON

▶▶▶▶▶▶

Bagged the 1st prize at GRIET (VIVITSU) 24hrs hackathon
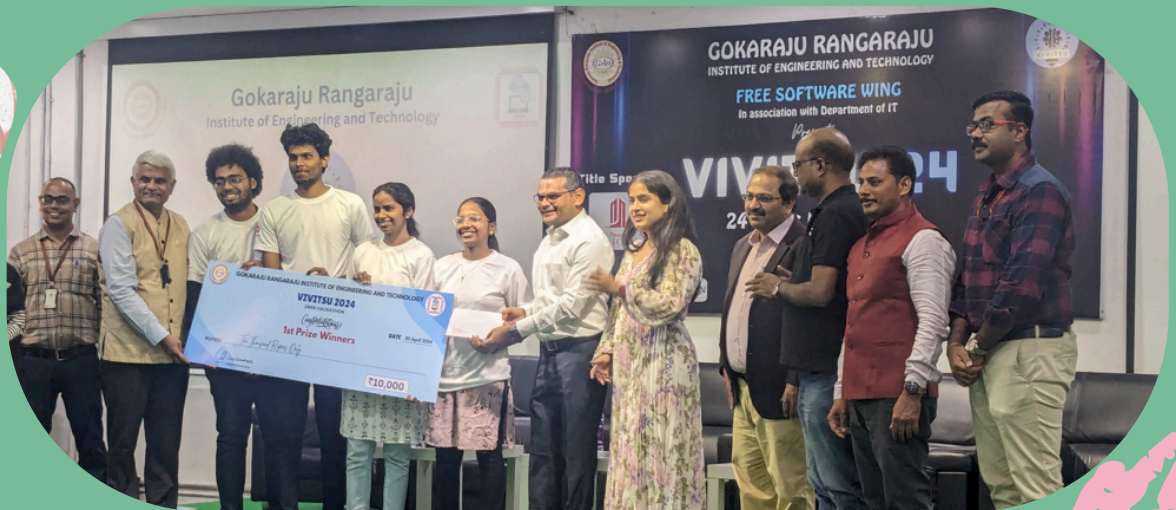With a cash prize of 10,000rs
Team:ANVIKSHIKI
B.Akshitha(21N31A0530)
E.Manaswini(21N31A0557)
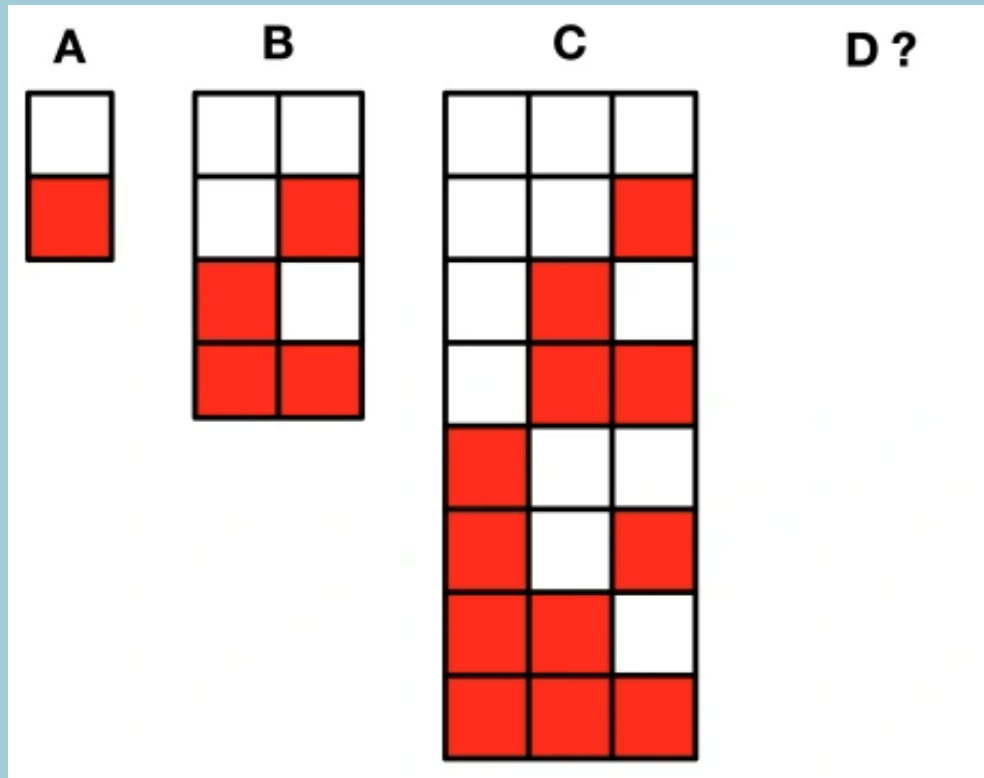A.Sreekanta Vallabesh (21N31A0513)
E.Sai Prakash Reddy(21N31A0558)

100% attendance

PUZZLE

Representing data is in part about algorithmically generated patterns. Understand the pattern to better understand the data representation. These puzzles give an active introduction to data representations though their underlying patterns.

Hint: Look for patterns in the columns. This pattern is the way numbers are represented in a computer.

BRAIN TEASERES

The Missing Dollar: Three people check into a hotel room that costs $30. They each contribute $10, handing $30 to the hotel clerk. Later, the hotel clerk realizes that there was a mistake, and the room only costs $25. The hotel clerk gives $5 to the bellboy and asks him to return it to the guests. However, the bellboy decides to keep $2 for himself and gives $1 back to each guest. Now, each guest has paid $9 (totalling $27) and the bellboy has kept $2, making $29. What happened to the missing dollar?

FAREWELL PARTY

The Department of Computer Science and Engineering (CSE) is extending a heartfelt farewell to our esteemed fourth-year students at the grand event "SAYONARA 2K24". This occasion marks a poignant moment as we commemorate the achievements, growth, and cherished memories of our graduating seniors. Your journey with us has been marked by dedication, passion, and excellence, and we are immensely proud of each of you.

Dr.VSK Reddy, our esteemed Director, has imparted invaluable wisdom and guidance to our graduating seniors during his address at the farewell event. He emphasized the significance of honing their skills and upholding discipline, both crucial elements for success in their future endeavors.

Dr.S.Srinivasa Rao, Principal, emphasized the importance of higher studies in abroad and congratulated all the final year students for their laurels to the department and college. He stated the doors of MRCET are always open for the Alumni and wished them for a colorful future.
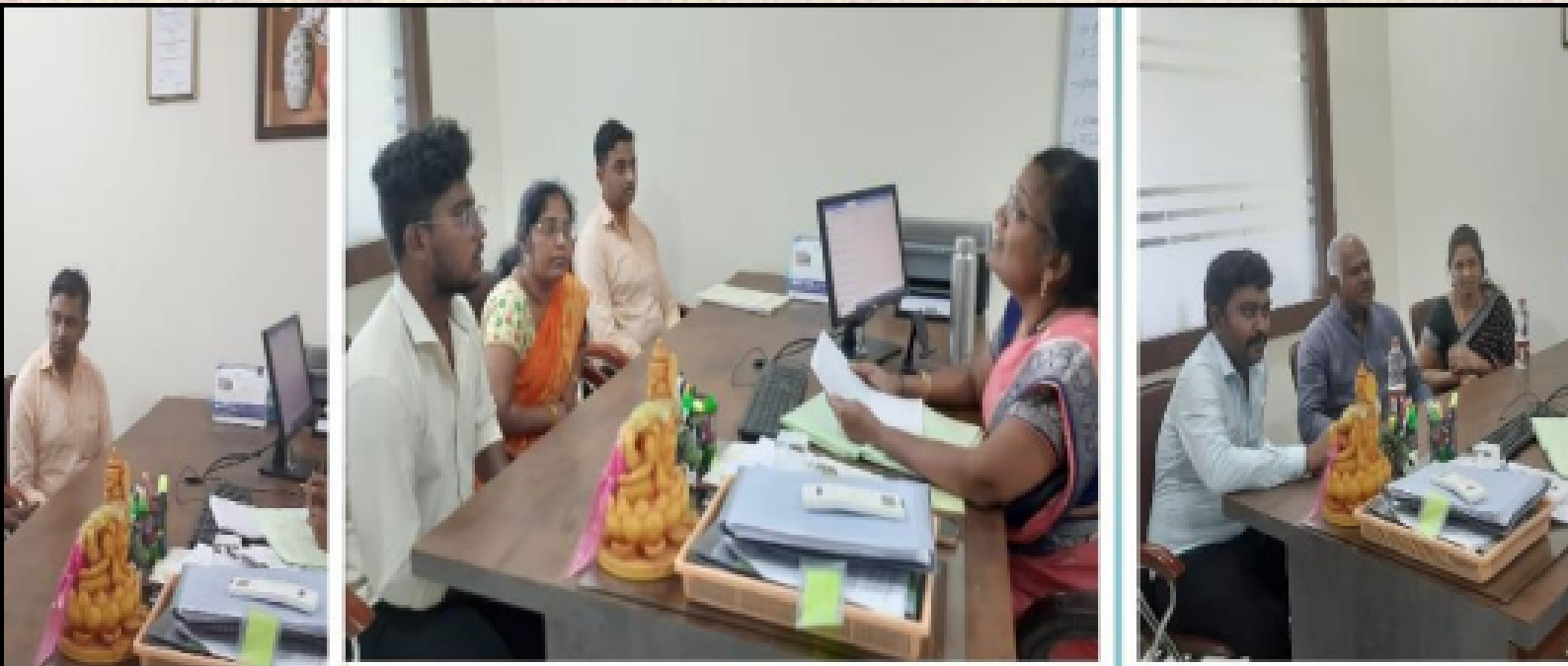
Dr.T.VenuGopal, Dean, expressed heartfelt appreciation to the third-year students for their exceptional contributions and accomplishments during the farewell event. He also congratulated all final years on completion of course with maximum placements.

Dr. S. Shanthi, HOD-CSE, extended appreciation to the third-year students for their diligent efforts in organizing this event and conveyed gratitude to our Director and Principal for endorsing and supporting this memorable farewell celebration.

PARENT- TEACHERS MEET 2024

A Parent-Teachers Meeting was conducted by the Department of CSE for current third years of CSE on 27th& 29th April 2024 at MRCET campus. The parents were intimated through messages and to the student official groups well in advance through class teachers and mentors. Around 50 parents came and visited the campus. Interaction between Parents, Class Teachers, Subject Teachers and Mentors was done. There was a discussion on student's performance on individual subjects in their MID-Exams, last year results (3-1 for third years, 2-1 for second years) students discipline in classrooms and their attendance percentage. All the four sections class teachers of third years and second years along with HOD of CSE has individually met the entire parent and discussed with their ward performance. Many parents has requested HOD to organize such an interaction once in every academic year.

EVOLUTION OF INFORMATION TECHNOLOGY

The history of information technology dates back to the early 20th century when the first mechanical computing devices were invented. The advent of computers in the 1940s marked the beginning of a new technological era. In the 1960s and 1970s, the development of mainframe computers and later personal computers (PCs) made IT accessible to businesses and individuals.

The real breakthrough in IT came with the rise of the internet in the late 1990s. The World Wide Web revolutionized communication, business operations, and information sharing. Today, IT has evolved into a global network of interconnected systems that drive innovations in fields like healthcare, finance, and entertainment.

Key Components of Information Technology

- Hardware: The physical devices used in IT systems, such as computers, servers, smartphones, and networking equipment.
- Software: The programs and applications that run on hardware, enabling users to perform tasks such as word processing, data analysis, and web browsing.
- Networking: The infrastructure that allows computers and devices to connect and communicate with each other, both locally (via LAN) and globally (via the internet).
- Data Management: The organization, storage, and analysis of data, which is critical for decision-making and business operations.
- Cybersecurity: The protection of IT systems, data, and networks from cyber threats such as hacking, malware, and data breaches.
- Cloud Computing: The practice of using remote servers hosted on the internet to store, manage, and process data, offering greater flexibility and scalability than traditional in-house IT infrastructure.

Applications of Information Technology

- Business
- Healthcare
- Education
- Entertainment
- Government

by shree hari (22N31A0548)

INKWELL

It's not just a college; it's a sacred haven where the legacy of excellence thrives, cultivating minds and shaping destinies.

Those who step into this realm are not merely students; they are like fledgling birds tasting their first flight of freedom, just as birds gain independence after the fledging stage.

Each year, the individuals who join this institution are not just learners but multitalented prodigies, harboring a myriad of skills. They are not merely dreamers but visionaries—future architects of nations and torchbearers of aspirations.

It's not just a college; it's an expansive ocean of students, where the ones who remain steadfast in their goals shine brighter than the moon amidst the countless stars in the sky.

It's not merely an institution but a treasure trove of abundant resources and gifted professors. Those who seize these opportunities mold themselves into the finest versions of their potential.

It's not just a meeting ground for people but a crucible where friendships blossom, unforgettable memories are forged, and strangers become family.

It's not just a college but a gateway where countless individuals leave their hometowns, carrying dreams of creating a life more prosperous and fulfilling than their parents ever imagined.

It's not just a campus of scattered blocks, but each block holds its own world of discoveries waiting to be unraveled by curious minds.

It's not merely a campus but a playground of boundless opportunities, offering arenas to play, laugh, and create joyous moments.

It's not just a college but a sanctuary accompanied by an expansive library—a beacon of knowledge that rises like the sun, infusing wisdom into every learner's mind, day by day.

Ultimately, we're all here to bring a radiant smile of pride to our parents' faces—a joy that reflects the fulfillment of their dreams through our achievements.

At last, we aspire to embark on a transformative and triumphant journey, as proud MRCETians, ready to write our own stories of success and greatness.

Written by ShivaKrishna
23N31A05J7
2nd yr Cse-C

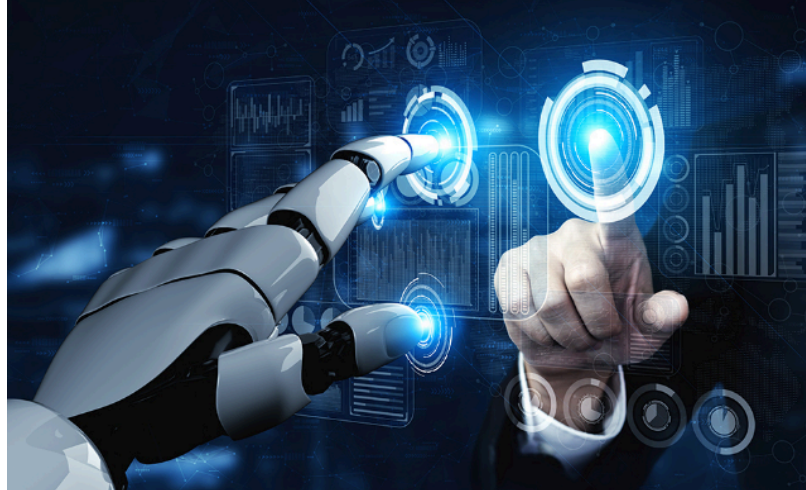# THE ROLE OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

How AI and ML Work Together:

AI and ML are deeply interconnected. Machine learning is one of the key components of AI systems, and it allows AI systems to improve over time through data-driven learning. In other words, while AI focuses on mimicking human intelligence, ML provides the techniques that allow these AI systems to continuously learn and adapt.
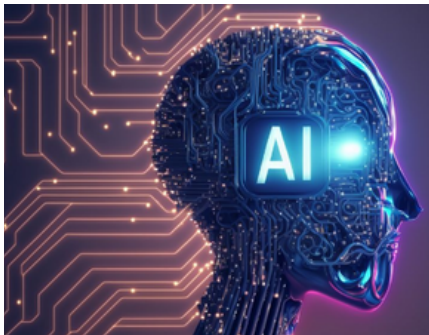
For example, in natural language processing (NLP), which is an AI field, ML algorithms can help machines understand and generate human language. Chatbots, like Siri or Alexa, use ML to continuously learn from conversations and provide better responses over time.

The Future of AI and Machine Learning

The future of AI and ML is incredibly promising, with these technologies expected to continue evolving and becoming more sophisticated. Key developments on the horizon include the expansion of AI in healthcare (e.g., personalized medicine, drug development), the growth of autonomous systems (e.g., self-driving cars, drones), and the potential for AI to solve global challenges such as climate change and resource management.

Applications of AI and Machine Learning

1. Healthcare

AI and ML are revolutionizing healthcare by enabling more accurate diagnoses, personalized treatment plans, and improved patient care. Machine learning models are used in medical imaging to identify conditions like cancer, heart disease, and neurological disorders. AI-powered tools help doctors analyze patient data, predict outcomes, and even suggest treatment options.

For example, AI algorithms are employed in drug discovery, reducing the time and cost required to develop new medications. Additionally, AI-driven diagnostic systems are being used to detect diseases at earlier stages, allowing for timely interventions.

2. Finance

In the finance industry, AI and ML are used for fraud detection, algorithmic trading, risk assessment, and customer service. ML models analyze vast amounts of financial data to detect unusual patterns that may indicate fraudulent activity. AI-powered trading systems can execute trades faster and more accurately than humans, optimizing portfolio management.

Customer service is also enhanced through AI chatbots, which provide round-the-clock support for customers, answering questions and resolving issues in real-time.
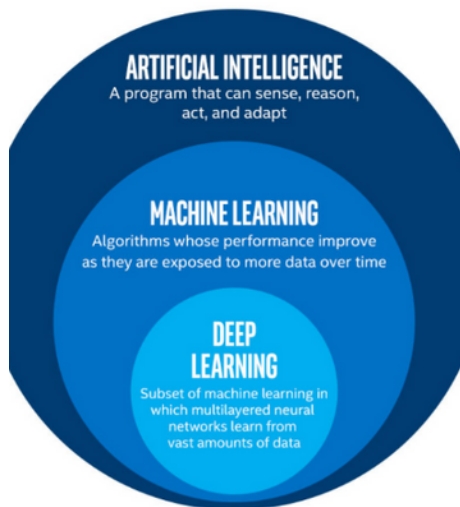
3. Retail and E-Commerce

Retailers use AI and ML for inventory management, demand forecasting, and personalized shopping experiences. Machine learning models predict customer preferences and recommend products based on browsing history and past purchases. This has led to personalized marketing and targeted advertising strategies that increase sales and customer loyalty.

For example, platforms like Amazon use AI to offer personalized recommendations, while in-store technologies powered by AI, such as smart mirrors and automated checkouts, enhance the customer experience.

4. Autonomous Vehicles

AI and ML are the driving forces behind autonomous vehicle technology. Self-driving cars use machine learning algorithms to process data from sensors, cameras, and radar to make real-time decisions, such as stopping at red lights or avoiding obstacles. These technologies are being continuously improved to increase the safety, efficiency, and reliability of autonomous vehicles.

BY B.RAM TARAN REDDY
(22N31A0535)

Cybersecurity

What is Cybersecurity?

Cybersecurity refers to the practice of defending computer systems, networks, and digital information from attacks, theft, damage, or unauthorized access. The field encompasses a variety of measures, including technical solutions, policies, and strategies, designed to protect against cyberattacks and safeguard sensitive information. Cybersecurity is critical for maintaining the confidentiality, integrity, and availability (CIA) of data—often referred to as the "CIA triad."

- Confidentiality ensures that sensitive information is accessed only by authorized individuals.
- Integrity ensures that data is accurate and has not been tampered with.
- Availability ensures that systems and data are accessible when needed.

As cyber threats evolve, cybersecurity must adapt, involving multiple layers of defense, continuous monitoring, and proactive strategies to detect, respond to, and mitigate risks.

As cyber threats evolve, so do the technologies and strategies used to combat them. Some emerging trends in cybersecurity include:

Artificial Intelligence and Machine Learning:

AI and machine learning are increasingly being used to detect and respond to cyber threats in real time. These technologies can analyze vast amounts of data and identify patterns or anomalies that indicate potential attacks, enabling quicker responses to mitigate risks.

Zero-Trust Security:

The zero-trust model assumes that no one, inside or outside of an organization, should be trusted by default. This approach requires continuous verification of users and devices, regardless of their location, before granting access to sensitive resources.

Blockchain for Cybersecurity:

Blockchain technology offers a decentralized and secure way of managing data and transactions. It has the potential to enhance cybersecurity by providing a transparent, tamper-proof record of transactions and reducing the risk of data manipulation.

Cloud Security:

As more organizations adopt cloud-based infrastructure, securing cloud environments becomes essential. Cloud security includes the use of encryption, identity and access management, and monitoring to protect data stored in the cloud

Cybersecurity is no longer just an IT concern; it is a critical component of business strategy and risk management. As the digital world continues to expand, so too does the need for robust cybersecurity measures.

BY B.ram taran reddy(22N31A0535)

TECHNICAL EVENTS

Cyber security
21st August 2023 to 26th August 2023
1. Mr.Pawn, Web Developer, Path creators
2. Mr. Dattatreya Goud, Decode Soft Tech Solutions Pvt Ltd
3. Dr. Mohana Sundaram, VIT University, Vellore
FDP
Mr.Dastagiri, Asst.Professor-9966676005
Mr.N.Sivakumar, Asst.Professor-9490920500
Ms.R.Sujatha, Asst.Professor-9585512744

Applications of Deep Learning in Cyber Security
2 nd - 4 th November, 2023
1.Dr. K. Venkateshwara Rao, NIT Warangal.
2. Dr Garimella Rama Murthy, Mahindra University, Hyderabad,Dr. K. Nagaraju IIITDM, Kurnool,
3.Mr. Krishana Chaitanya, CEO, CYCOPS, Hyderabad
NATIONAL SEMINAR
Dr.Rahamat Basha, Assoc.Professor-8919209298
Mr.A.Sandeep, Asst.Professor-9290519502
Ms.P.Honey Diana, Asst.Professor-9390401050

Statistical Methods and Techniques Using R
2nd -6th January 2024
1.Mr. Himanshu Singh, Data Scientist & Al Corpo- rate Trainer
2.Mr. Rajasekhar Reddy, CEO at Peramson's Software Development Private Limited
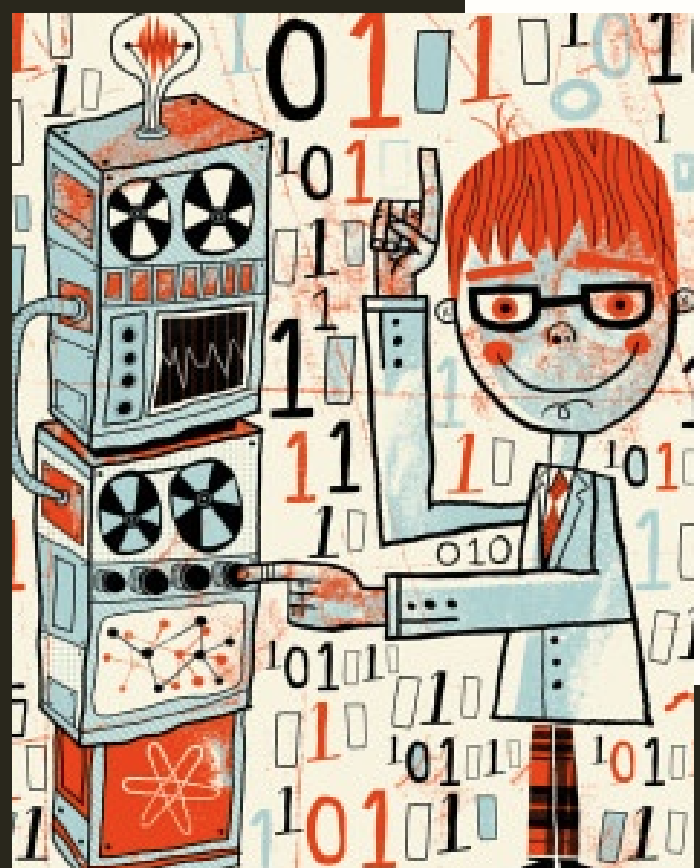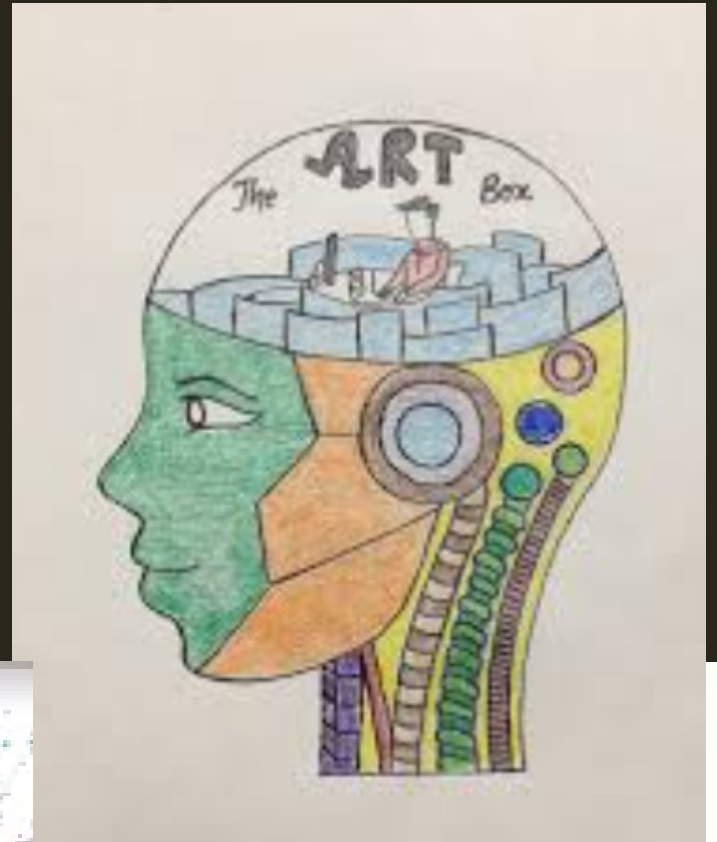3.Dr. V. Ravi, Professor, IDRBT, Hyderabad
FDP
1. Dr.S.Shanthi,HOD
2.Dr.Rahamat Basha, Assoc.Professor-8919209298

ARTWORK

VISION STATEMENT:

To acknowledge quality education and instill high patterns of discipline making the students technologically superior and ethically strong which involves the improvement in the quality of life in human race.

MISSION STATEMENT:

To achieve and impart holistic technical education using the best of infrastructure, outstanding technical and teaching expertise to establish the students into competent and confident engineers. Evolving the center of excellence through creative and innovative teaching learning practices for promoting academic achievement to produce internationally accepted competitive and world class professionals.

SPECIAL THANKS

We extend our heartfelt gratitude to The Principal , Head Of The Department, and the faculty of CSE Department whose contributions made this college magazine a reality. It is through their dedication, creativity, and unwavering support that we have been able to showcase the vibrant talent within our Department