Computer Science & Engineering

Tomorrow's World Through Today's Education

Leaflet

NEWSLETTER ✉

NEWS LETTER

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issue ① (June-July)

Principal's Message

Dear Parents and Students,

It is with great pleasure that I welcome you to our College (DIET) Newsletter.

As Principal I am hugely impressed by the commitment of the college and the staff in providing an excellent all-round education for our students with our state of the art facilities. We as a team working together, strongly promote the zeal towards academic achievement among our students. The cultural, sporting and other successes of all our students and staff are also proudly celebrated together.

I congratulate the staff and students who brought latest technologies and concepts onto the day to day teaching learning platform. As long as our ideas are expressed and thoughts kindled we can be sure of learning, as everything begins with an idea.

I appreciate every student who shared the joy of participation in co-curricular and extracurricular activities along with their commitment to curriculum. That little extra we do, is the icing on the cake. 'Do more than belong – participate. Do more than care – help. Do more than believe – practice. Do more than be fair – be kind. Do more than forgive – forget. Do more than dream – work.'

With a long and rewarding history of achievement in education behind us, our DIET community continues to move forward together with confidence, pride and enthusiasm.

I hope you enjoy your visit to the website and should you wish to contact us, please find details at the www.diet.ac.in

Yours in Education,

Dr.Ravi Kadiyala
Principal

Message From HOD

Dr. S. Suresh Professor & HOD,
Computer Science and Engineering

Greetings from the Department of CSE, Dhanekula Institute of Engineering & Technology, Vijayawada.!!!!

"It is a pleasure to be the head of the department of CSE. The department offers B-Tech (CSE) and M-Tech (CSE). The department has a team of highly experienced and motivated faculty members who are in process of tuning the young minds to make them globally competitive. The department is equipped with state-of-the-art laboratories where students can enhance their knowledge and skill. The strength of the department is highly motivated students who understand the dynamics of the industry and upgrade their skills accordingly. The scope of computer science is endless. The students of the computer science and engineering are highly demanded by the recruiters of the top companies. Depending upon the interest of the student, he/she may choose to go for higher studies or if employed can choose to do research, development, design, production, application, testing or management in the Information Technology industry. In our department we not only give emphasis on study but also apply our knowledge in understanding what computers are, how to efficiently program them, different tools and technologies, the interface between the computer and the user, the computer graphics, computer networking, managing the database, software engineering and testing them efficiently and more. Through innovative teaching-learning process a teamwork approach and leadership building experience, our students gain vital communication and critical-thinking skills. Our institution provides a platform for the students to enhance their employability skills through Industry Institute Collaboration."

I, Congratulate the team of faculty members and the students for their brilliant and original efforts. I wish all the Students and Faculty a great academic career.

Dr. S. Suresh Professor & HOD,
Computer Science and Engineering,
Dhanekula Institute of Engineering & Technology,
Vijayawada - 531 139.

Department Vision: To empower students of Computer Science and Engineering Department to be technologically adept, innovative, global citizens possessing human values.

Department Mission:

To Encourage students to become self-motivated and problem solving individual To prepare students for professional career with academic excellence and leadership skills. To Empower the rural youth with computer education. To Create Centre's of excellence in Computer Science and Engineer

Program Educational Objectives(PEOs)

PEO1: Excel in Professional career through knowledge in mathematics and engineering principles.

PEO2: Able to pursue higher education and research.

PEO3: Communicate effectively, recognize, and incorporate societal needs in their professional endeavors.

PEO4: Adapt to technological advancements by continuous learning.

DEPARTMENT ACTIVITIES:

The Department of Computer Science Engineering had conducted a PARENTS MEET on 27 - 07 - 2019 for 2nd, 3rd and 4th year students of CSE. The Parents meet was conducted at the CSE department seminar hall which started at 02:00 PM and completed by 04:30 PM.

Head of the Department Dr. S. Suresh, addressed the parents for an hour addressing different activities, policies and procedures following in the department with an insight on students class tests, remedial tests, R&D activities, Coding club activities, Association Activities and also on the different placement and training activities in the department and different certification courses imparted and also about the industry interaction via Internships, industrial visits later parents interacted with the respective class in charges, counselors and the subject teachers and collected suggestions and feedback forms from parents.

On the eve of 4th International yoga day 21st JUN 2019, College NSS unit have organized Yoga Session at college Auditorium premises, the session have received encouraging response from student volunteers of NSS.

Almost 50 Student volunteers with NSS Program officer and staff coordinators have participated in this and made the session fruitful. The session was headed by Mrs.L.Shanthi secretary of women yoga for Krishna District.

At the end of session student volunteers have asked the yoga remedies for their General health complaints and have learnt that doing yoga regularly improves the brain function, memory, concentration and improves blood circulation.

Event PICS With Description

At the end of session

During the Yoga Practice

During the Yoga Practice

During the Yoga Practice

STUDENTS ARTICLES

JAL

Water is most important for our life. It is one of the most main resource that we cannot survive without it. But what we are doing? The water is being polluted. We are wasting the water and the scarcity of the water is being increasing day by day.

SCARCITY OF WATER IN INDIA:

Water scarcity in India is due to both Natural and human made causes.

CAUSES:

Water contaminated with biological and Chemical pollutants. 33%of the country having access to traditional sanitation. Excessive use of ground water for irrigation has also caused the strain in the resource. A significant portion of water used for industrial and domestic purposes. And solid waste also pollute the water.

SAVING:

Rainwater harvesting is one of the best way to store and reuse the water. In our college "DHANEKULA" rainwater harvesting is being implemented effectively.

JAL SHAKTI

Recently our Central government took a new project named "JAL SHAKTI".It is formed on 31st May 2019. Our honorable Prime Minister Mr. Narendra Modi promised people about safe drinking water and now he started this Jal Shakti mission. The Government of India is seriously thinking about the connecting of main rivers with in India to the extent possible to make the water available to all states. Ministry of Jal Shakti was formed by merging Ministry of Drinking water and Sanitation with Ministry of Water resources and river.

Development. Sri.Gajendra Singh Shekhawat, Member of Parliament fromJodhpur, has allocated this portfolio. And Jal Shakti Ministry gets "Rs28,261 Cores" Budget allocation. All this has been going on for saving and having pure water. Finally "SAVE WATER & SAVE LIFE".

By Y.Jothsna

188T1A0560

II-CSE-A

VISUAL SEARCH

Visual search is an emerging development in the world of artificial intelligence (AI) and machine learning (ML) which has the potential to revolutionize how consumers find and buy products. By streamlining how we search, companies can move closer to the instant gratification that many consumers demand.62% of Millennial desire the ability to visually search over any other new technology, and the likes of Google, Amazon, Pinterest and Bing have already developed significant capabilities in this area.

The human brain is extremely visual - it can identify images within 13 seconds and 90% of all information received by the brain is visual. Given this, visual search is a natural evolution in enhancing how technology works best for us - however a human brain is very different from AI. When we look at a picture, we don't see a set of points and dotted lines. Instead, we can identify patterns and shapes immediately. The theory behind visual search is to teach machines to do the same.

When presented with an image, visual search identifies objects within it, and then searches for images related to those objects. Current technology can identify multiple shapes and outlines contained within a single image to allow users to match to different objects.

Visual search engines rely on neural networks which utilize machine learning technology, so the systems are constantly learning and expanding their field of experience. Companies with a lot of information – such as Google – benefit most, as their visual search application (Google Lens) has an enormous amount of data from which to improve its search functionality. Because of this, Google Lens can not only identify objects in an image, but also match them to local retailers, provide customers reviews, and sort listings.

K. Lakshmi Tulasi

188T1A0527,

II-CSE-A

3D GAMING

3D gaming is interactive computer entertainment that is graphically presented in the three dimensions of height, width and depth; the addition of depth to 2D gaming enabled the exploration of virtual worlds with more realistic representation. The best Android games currently available are

Price :- Premium

PUBG Mobile is a new release it's already among the most popular 3D games out there. It's a battle royale game with up to 100 players competing against each other. The game also includes a smaller arcade mode and some other modes for players. It also plays shockingly well for being a mobile shooter that is also this new. The game was free at first. However, updates brought a fermium element to the game. Thankfully, it's mostly customization stuff and not game play stuff.

FORTNITE

The most popular game in the world is available on Android, but you can't get it on Google Play. Instead, you'll need to get it from the Epic Games website. For the uninitiated, *Fortnite* is a battle royale-style game full of color and strategy. In the game, you'll need to master building structures to truly compete with the best — but even if you don't, it's still a fun time.

ASPHALT 9

Price : - Premium

Asphalt 9: Legends is the latest arcade racing game from Game loft. It's actually quite excellent for an arcade racer. You can unlock a ton of different vehicles, race in hundreds of various events (including special events), and customize your car to make it yours. There is, of course, online PvP mode as well. The graphics are above average for racing games and it is truly enjoyable to look at. Some other decent arcade racers include CSR Racing 2 and Real Racing 3. You could definitely do a lot worse with these 3D graphics.

FREEFIRE

Free Fire - Battlegrounds is a survival, third-person shooter game in the form of battle royale. 50 players parachute onto a remote island, where there is only one winner - the last man standing. Players freely choose

starting position, grab weapons and supplies to bolster your chances of survival in the battlegrounds. The battleground shrinks as time goes on, forcing players to engage each other in a tactical and diverse environment. Free Fire - Battlegrounds is the ultimate battlegrounds game with the most realistic graphics and easy-to-use controls.

G. Eeshwak Reddy

Roll No- 188T1A0513

II CSE-A
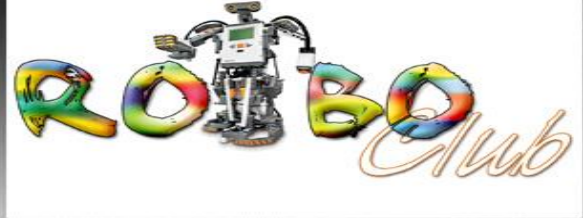
- "A robot is a reprogrammable, multifunctional manipulator designed to move material, parts, tools, or specialized devices through variable programmed motions for the performance of a variety of tasks." (Robot Institute of America)

"A robot is a one-armed, blind idiot with limited memory and which cannot speak, see, or hear."

Automation –Machinery designed to carry out a specific task, Bottling machine, Dishwasher, Paint sprayer, Robots – machinery designed to carry out a variety of tasks, Pick and place arms, Mobile robots, Computer Numerical Control machines, Pick and place, Moves items between points, Continuous path control, Moves along a programmable path, Sensory, Employs sensors for feedback, Moves items from one point to another, Does not need to follow a specific path between points.

Uses include loading and unloading machines, placing components on circuit boards, and moving parts off conveyor belts.

SENSORY

Uses sensors for feedback.

Closed-loop robots use sensors in conjunction with actuators to gain higher accuracy – servo motors.

Uses include mobile robotics, telepresence, search and rescue, pick and place with machine vision.

PERFORMANCE

- Accuracy

- The difference between the actual position of the robot and the programmed position

- Repeatability

Will the robot always return to the same point under the same control conditions?

Increased cost

Varies depending on position, load

KINEMATICS AND DYNAMICS

- Degrees of freedom—number of independent motions

  Translation--3 independent directions

  Rotation-- 3 independent axes

  2D motion = 3 degrees of freedom: 2 translation, 1 rotation

  3D motion = 6 degrees of freedom: 3 translation, 3 rotation

NEW DIRECTIONS

- Haptics--tactile sensing
- Other kinematic mechanisms,   e.g. snake motion
- Robots that can learn

FEEDBACK CONTROL

- Rotation encoders
- Cameras
- Pressure sensors
- Temperature sensors
- Limit switches
- Optical sensors

A 2-D "Binary" Robot Segment

- Example of a 2D robotic link having three solenoids to determine geometry. All members are linked by pin joints; members A,B,C have two states—in, out—controlled by in-line solenoids. Note that the geometry of such a link can be represented in terms of three binary digits corresponding to the states of A,B,C, e.g., 010 represents A,C in, B out. Links can be chained together and controlled by sets of three bit codes.
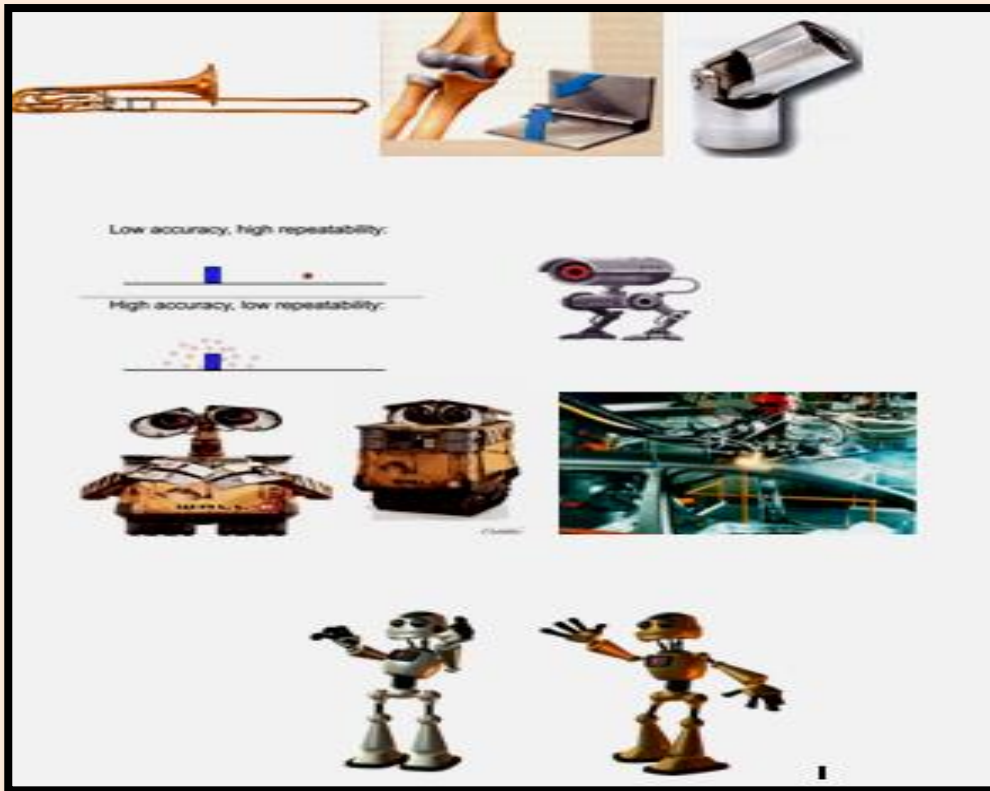
N.Yeshwanth

CSE-A II Year

188T1A0542

STAFF ARTICLES

An Overview of Soft Computing

Soft computing is an emerging approach to computing that gives the remarkable ability of the human mind to argue and learn in the atmosphere of uncertainty and distrust. Soft computing is based on some iological induced methods such as genetics, development, ant behavior, the warm of particles, the human nervous system,etc.

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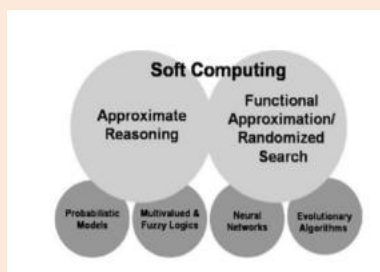
Now Soft Computing is the only solution when we do not have any mathematical modeling of problem-solving
(i.e., algorithm), in real-time, there is a need to solve a complex problem, adapt with the changed scenario and be implemented with parallel computing. It has massive applications in many application zones such

as medical diagnosis, computer vision, machine intelligence, weather forecasting, network optimization, LSI design, pattern recognition, handwritten character improvement etc.

Soft computing, as opposed to traditional computing, deals with approximate models and gives solutions to complex real-life problems. Unlike hard computing, soft computing is tolerant of imprecision, uncertainty, partial truth, and approximations. In effect, the role model for soft computing is the human mind. Soft computing is based on techniques such as fuzzy logic, genetic algorithms, artificial neural networks, machine learning, and expert systems. Although soft computing theory and techniques were first introduced in 1980s, it has now become a major research and study area in automatic control engineering. The techniques of soft computing are nowadays being used successfully in many domestic, commercial, and industrial applications. With the advent of the low-cost and very high performance digital processors and the reduction of the cost of memory chips it is clear that the techniques and application areas of soft computing will continue to expand. This paper gives an overview of the current state of soft computing techniques and describes the advantages and disadvantages of soft computing compared to traditional hard computing techniques.

Soft computing is an emerging collection of methodologies, which aim to exploit tolerance for imprecision, uncertainty, and partial truth to achieve robustness, tractability and total low cost. Soft computing methodologies have been advantageous in many applications. In contrast to analytical methods, soft computing methodologies mimic consciousness and cognition in several important respects: they can learn from experience; they can universalize into domains where direct experience is absent; and, through parallel computer architectures that simulate biological processes, they can perform mapping from inputs to the outputs faster than inherently serial analytical representations. The trade off, however, is a decrease in accuracy. If a tendency towards imprecision could be tolerated, then it should be possible to extend the scope of the applications even to those problems where the analytical and mathematical representations are readily available. The motivation for such an extension is the expected decrease in computational load and consequent increase of computation speeds that permit more robust system (Jang et al. 1997).

Importance of Soft Computing

The supplementation of FL, NC, GC, and PR is an important result: In many cases, any problem can be solved most effectively by using FL, NC, GC and PR rather than specially in combination. A great example of a particularly effective combination is known as "Neurofjie System". Such systems are increasingly seen as a consumer product ranging from air conditioners and washing machines to photocopiers and camcorders. There are less visible but perhaps even more important Neurofjie systems in industrial applications. It is especially important that in both consumer products and industrial systems, the use of soft computing technologies leads to systems that have high MIQ (Machine Intelligence Quota).

Application Soft computing

There are various **Applications of Soft Computing** are:

- Consumer appliance like AC, Refrigerator, Heaters, Washing machine. Robotic works in the form of Emotional Pet robots.
- Food preparation devices are Microwave and Rice cookers.
- For amusing gaming playing product like Checker and Poker etc.
- Recognition for Handwriting.
- Data compression/Image Processing
- For Architecture
- System to Decision-support

Some stunning **Application areas of Soft Computing** are:

- Agricultural Production Engineering

- Medicine and Biology Application
- Construction and Design Engineering
- Computer Engineering
- Sin Forecasting
- Computational Process
- Natural Environmental Engineering

By P.Sunitha, Asst.Prof, Dept of CSE

DNA Computing

DNA (Deoxyribose Nucleic Acid) computing, also known as molecular computing is a new approach to massively parallel computation based on groundbreaking work by Adelman. DNA computing was proposed as a means of solving a class of intractable computational problems in which the computing time can grow exponentially with problem size (the 'NP- complete' or non-deterministic polynomial time complete problems).A DNA computer is basically a collection of specially selected DNA strands whose combinations will result in the solution to some problem, depending on the problem at hand. Technology is currently available both to select the initial strands and to filter the final solution. DNA computing is a new computational paradigm that employs (bio)molecular manipulation to solve computational problems, at the same time exploring natural processes as computational models. In 1994, Leonard Adelman at the Laboratory of Molecular Science, Department of Computer Science, University of Southern California surprised the scientific community by using the tools of molecular biology to solve a different computational problems

The main idea was the encoding of data in DNA strands and the use of tools from molecular biology to execute computational operations. Besides the novelty of this approach, molecular computing has the

potential to outperform electronic computers.

For example, DNA computations may use a billion times less energy than an electronic computer while storing data in a trillion times less space. Moreover, computing with DNA is highly parallel: In principle there could be billions upon trillions of DNA molecules undergoing chemical reactions, that is, performing computations, simultaneously.

Principles of DNA Computing

DNA is the major information storage molecule in living cells, and billions of years of evolution have tested and refined both this wonderful informational molecule and highly specific enzymes that can either duplicate the information in DNA molecules or transmit this information to other DNA molecules. Instead of using electrical impulses to represent bits of information, the DNA computer uses the chemical properties of these molecules by examining the patterns of combination or growth of the molecules or strings. DNA can do this through the manufacture of enzymes, which are biological catalysts that could be called the 'software', used to execute the desired calculation.

A single strand of DNA is similar to a string consisting of a combination of four different symbols A G C T. Mathematically this means we have at our disposal a letter alphabet, $\Sigma = \{A\ GC\ T\}$ to encode information which is more than enough considering that an electronic computer needs only two digits and for the same purpose. In a DNA computer, computation takes place in test tubes or on a glass slide coated in 24K gold. The input and output are both strands of DNA, whose genetic sequences encode certain information. A program on a DNA computer is executed as a series of biochemical operations, which have the effect of synthesizing, extracting, modifying and cloning the DNA strands.

B.Swathi, Asst.Prof, Dept of CSE

Digital Light Processing

Digital Light Processing is the one of primary display technologies driving this rapid growth and maturation .it is a revolutionary way to project and display information based on the Digital Micro Mirror Device (DMD) Digital Light processing was invented in 1987 by Texas Instruments it creates the final link to display digital visual information.

Digital Light Processing creates deeper blacks, conveys fast moving images very well and uses a single, replaceable, white -light bulb . it is available in both front-and rear-projection models DLP is an excellent choice for people who watch a lot of sports or fast-action movies because of the speed at which it creates an image.

DLP Structure

A Digital Micro Mirror Device chip is the heart of Digital Light Processing projector, DMD can be described simply as a semiconductor light switch. The micro mirrors are mounted on the DMD chip and it tilts in response to an electrical signal. The tilt directs light toward the screen, or into a "light trap" that eliminates unwanted light when reproducing blacks and shadows. Other elements of a DLP projector include a light source, a color filter system, a cooling system, illumination and projection optics.
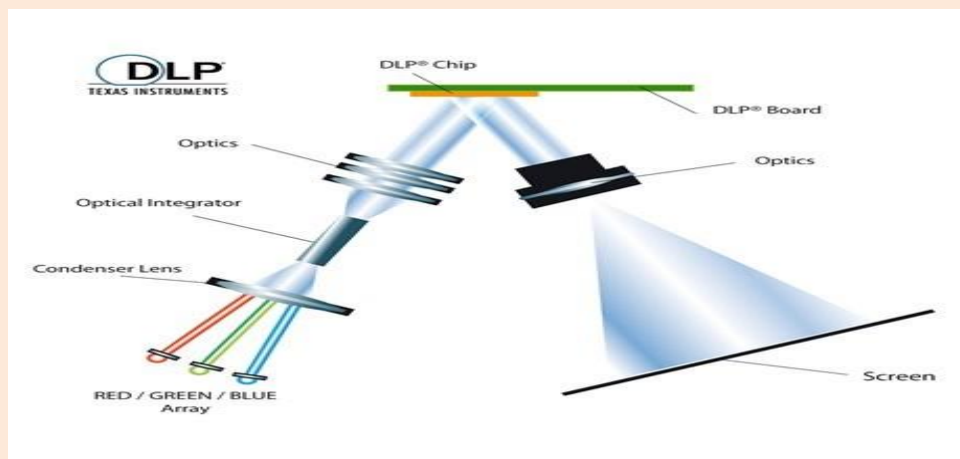
A DLP based projector system includes memory and signal processing to support a fully digital approach. Depending on the application, a DLP system will accept either a digital or analog signal. Analog signals are converted into digital in the DLPs front –end processing. Any interlaced video signal is converted into an entire picture frame video signal through interpolative processing. The signal goes through DLP video processing and becomes progressive Red (R), Green (G) and Blue (B) data. The progressive RGB data is then formatted into entire binary bit planes of data.

U.Sireesha, Asst, Prof, Dept of CSE

ART GALLERY
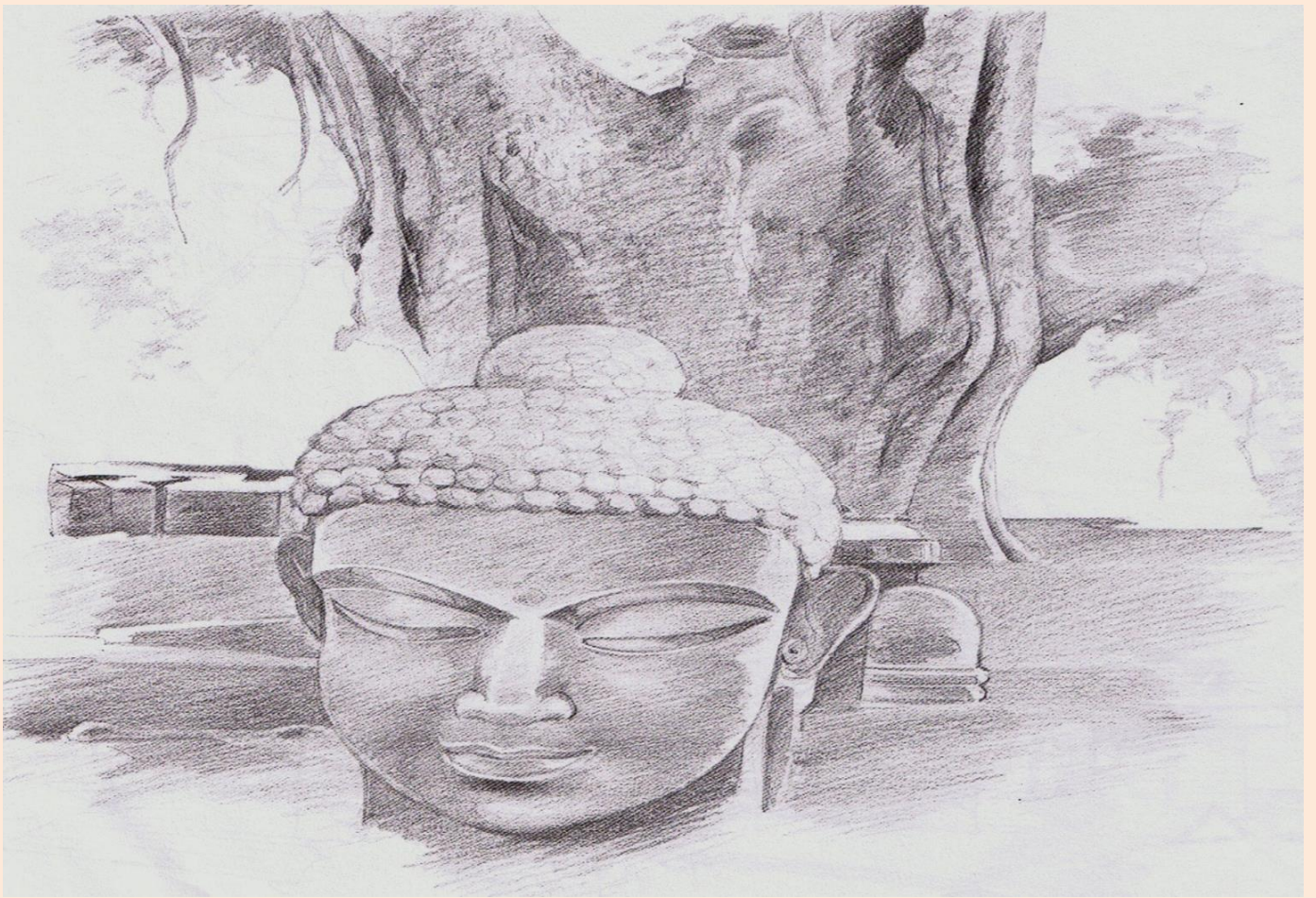
Art By N.Yeshwanth, II CSE - A, 188T1A0542

Art By K. Jayanth Sai, **II CSE - A,** 188T1A0522

TOPPERS

4TH YEAR 2ND SEMESTER				
S. No	Roll Number	Name of the Student	PERCENTAGE	Photo
I	158T1A0545	BANDLA KANAKA SRI BRAHMINI	85.5	
II	158T1A0549	UPPALAPATI LALITHA	85.17	
III	158T1A05A9	VEERAMACHANENI USHA	84.5	

3RD YEAR 2ND SEMESTER				
Rank	Roll Number	Name of the Student	SGPA	Photo
I	168T1A0561	MAHAMMED REHANA	9	
II	168T1A0536	GUDIWADA HIMAJA	8.86	
	168T1A0570	MOHAMMED FIRDOSE		
III	168T1A0573	MOVVA SRI VYSHNAVI	8.62	
	168T1A05B0	VANAPALA YAMUNA SAI		

**2ND YEAR 2ND SEMESTER**

Rank	Roll Number	Name of the Student	SGPA	Photo
I	178T1A0583	PASULA JAHNAVI	8.5	
	178T1A0594	REPANI PRASANNA		
II	178T1A0570	MUSUNURU SIRILAKSHMI	8.27	
	178T1A0573	NALLAGATLA MANASWI		
III	178T1A0550	MANDAVA DEEKSHA	8.23	

**1ST YEAR 2ND SEMESTER**

Rank	Roll Number	Name of the Student	SGPA	Photo
I	188T1A0506	BADE NAVYA	9.5	
II	188T1A0512	DONEPUDI NAGA SAI DHARANI	9.25	
III	188T1A0551	SIVA PUJA PASUPULATI	9.17	

Technical Review Committee

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Dr.A.Srinivasa Rao, Professor

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Faculty: Ms.P.Sunitha, Asst.Prof

Student Coordinators :

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