



CVR COLLEGE OF ENGINEERING

An UGC Autonomous Institution -Affiliated to jntuh 4 branches accredited by
NBA under TIER-1 NAAC 'A' Grade

Vastunagar, Mangalpalli (V), Ibrahimpatnam (M), Rangareddy (D), Telangana 501 510



DEPARTMENT OF INFORMATION TECHNOLOGY

SOUVENIR



TECHSHAstra - 2K17

12th - 15th, DECEMBER, 2017

Dr. Raghava V Cherabuddi
PRESIDENT & CHAIRMAN

Dr. K. Rama Sastri
DIRECTOR

Dr. KS. Nayanathara
PRINCIPAL

Dr. Bipin Bihari Jayasingh
H.O.D (I.T), CONVENER

CO-ORDINATORS

Mr. C V S Satya Murty, Assoc.Prof.
Mr. A. Seetharam Nagesh, Sr. Asst.Prof.
Mrs. S. Jyothisna, Asst.Prof.
Mrs. D. Mamatha Rani, Asst.Prof.

INGENUITY PRESIDENT

Sai Shouri Gupta

STUDENT CO-ORDINATORS

Mr. SRIDHARA PAVAN. CH
Mr. SHREYAS ADAPA



CVR COLLEGE OF ENGINEERING

(An UGC Autonomous Institution)

DEPARTMENT OF INFORMATION TECHNOLOGY



SOUVENIR

INGENUITY

(A STUDENT TECHNICAL ASSOCIATION)



TECHSHAstra - 2K17

(A STUDENT LEVEL TECHNICAL SYMPOSIUM)

12th - 15th, DECEMBER – 2017

EDITORIAL BOARD

Prof. U V Ramana Sarma

Dr. R Seetharamaiah

Dr. H N Lakshmi

Mr. K Brahmanand

Mr. C V S Satya Murty

Mr. B Vikranth

Mrs. E Jyothi Kiranmayi

Mr. AMalla Reddy

Mr. A Seetharam Nagesh

Mrs. N Pavani

Mr. S Anupkanth

Mrs. G Bhagya Sri

Mrs. G Sunitha Rekha

Mrs. A Srichandana

Mr. D Bhanu Mahesh

Mr. NayaniSateesh

Mrs. S Jyothsna

Mr. M Srinivas

Mrs. D. Mamatha Rani

Mrs. J Yashasree

Mr B Satheesh Kumar

Mrs. T Nishitha

Mr. S. Bhargav

Ms. K Anusha

Mrs. V. Reshma Sree

Dr. G.N. Balaji

Dr. S V Suryanarayana

Dr. J Sengathir

CORE COMMITTEE MEMBERS: (2016-2017)

President – Mr. T. V. Sai Shouri Gupta (14B81A12B4)

Vice President -Ms. BK. Manasa (14B81A1236)

General Secretary – Mr. B. Vivek (14B81A12B8)

Joint Secretary – Ms. V. Nithisha (14B81A1252)

Events Chair – Ms. B. Spandana Reddy (14B81A1299)

Treasurer – Ms. P. Radha Jahnvi (14B81A1258)

Management Chair – Mr. G. AnilKumar(14B81A1209)

CORE COMMITTEE MEMBERS: (2017-2018)

President –Mr. Sridharapavan. CH (15B81A1299)

Vice President -Ms. Harika (15B81A1231)

General Secretary – Ms. B. Saadhika (15B81A1272)

Joint Secretary – Mr. Sushanth Reddy (15B81A12A6)

Events Chair – Ms. K. Divya (15B81A1226)

Treasurer – Mr. A. Shreyas (15B81A1293)

Management Chair – Ms.Mona (15B81A1227)

CONTENTS

TOPICS	PAGE
1. PAPER PRESENTATIONS	1 - 12
2. TECHNICAL EVENTS	13 - 15
2.1 CODE PARTNERS	
2.2 WEB DESIGNING	
2.3 TECHNICAL QUIZ	
2.4 TECH TALK	
2.5 WHAT NEXT	
2.6 ENTREPRENUR GAME (THINK BIG!)	
3. NON TECHNICAL EVENTS	16 - 18
3.1 PAINTING	
3.2 PHOTOGRAPHY	
3.3 NON-TECH QUIZ	
3.4 OPEN STAGE	
3.5 MINUTE TO WINIT	

PAPER PRESENTATIONS

TO PROTECT LINUX COMPUTER FROM REMOTE ATTACKS

Name: A.Madhu

Branch: Information technology,

ABSTRACT

Introduction: Governments around the world are hacking into any computer that they can find. They are not just targeting large companies, but any computer that has information that they can sell.

Checking: First of all, if you are behind a "NAT", it doesn't mean that you are safe. NAT is the mechanism where several computers share the same IP address; if that's the case, those computers are -- in theory -- invisible from the outside. While historically most attacks happen when computers have a public IP address, there is a lot that can go wrong even with NAT.

For entertainment value go ahead, open a terminal and type

```
Cat /var/log/auth.log.
```

The only entries in it should be readily identifiable logins by yourself, root, and CRON jobs. There may be other entries depending on what you've been doing, but what you shouldn't see any entries that show someone from some unidentifiable IP address, trying to login to your system. If you see a lot of them, then it's time to start worrying and do something about it.

Protecting: by using fail2ban we can protect our system. Fail2ban is simple to install and configure. Briefly, what Fail2ban does is detect if someone from any IP address tries to login more than a certain number of times, within a certain amount of time (default is 3 tries in 10 minutes) and bans that IP address for 10 minutes.

Conclusion: Fail2ban will help immensely in preventing hackers from logging into your computer. However, this still allows them 3 tries, of which one may be successful.

GAME ENGINE

Name: Lalith Krishna Prakash

Branch: IT

ABSTRACT

A video game is an [electronic game](#) that involves interaction with a [user interface](#) to generate visual feedback on a [video device](#) such as a [TV screen](#) or [computer monitor](#). The word video in video game traditionally referred to a [raster](#) display device, but as of the 2000s, it implies any type of [display device](#) that can produce two- or three-dimensional [images](#). Some theorists categorize [video games as an art form](#), but this designation is controversial.

The electronic systems used to play video games are known as [platforms](#); examples of these are personal computers and [video game consoles](#). These platforms range from large [mainframe computers](#) to small [handheld computing devices](#). Specialized video games such as [arcade games](#), in which the video game components are housed in a large, typically [coin-operated](#) chassis, while common in the 1980s in [video arcades](#), have gradually declined due to the widespread availability of affordable home video game consoles (e.g., [PlayStation 4](#), [Xbox One](#) and [Nintendo Wii U](#)) and video games on desktop and laptop computers and [smartphones](#).

The [input device](#) used for games, the [game controller](#), varies across platforms. Common controllers include [gamepads](#), [joysticks](#), [mouse devices](#), [keyboards](#), the [touchscreens](#) of [mobile devices](#), and buttons, or even, with the [Kinect](#) sensor, a person's hands and body. Players typically view the game on a video screen or television or computer monitor, or sometimes on [virtual reality head-mounted display](#) goggles. There are often game [sound effects](#), music and, in the 2010s, voice actor lines which come from [loudspeakers](#) or [headphones](#). Some games in the 2000s include [haptic](#), vibration-creating effects, [force feedback peripherals](#) and [virtual reality](#) headsets. In the 2010s, the [video game industry](#) is of increasing commercial importance, with growth driven particularly by the emerging Asian markets and [mobile games](#), which are played on [smartphones](#). As of 2015, video games generated sales of [USD](#) 74 billion annually worldwide, and were the third-largest segment in the U.S. entertainment market, behind broadcast and cable TV.

Game Design is the art of applying [design](#) and aesthetics to create a [game](#) for entertainment or for educational, exercise, or experimental purposes. Increasingly, elements and principles of game design are also applied to other interactions, particularly virtual ones (see [gamification](#)).

Game design creates goals, rules and challenges to define a [board game](#), [card game](#), [dice game](#), [casino game](#), [role-playing game](#), [sport](#), [video game](#), [war game](#) or [simulation](#) that produces desirable interactions among its participants and, possibly, spectators.

Academically, game design is part of [game studies](#), while [game theory](#) studies strategic decision making (primarily in non-game situations). Games have historically inspired seminal research in the fields of [probability](#), [artificial intelligence](#), economics, and [optimization theory](#).

A game engine is a [software framework](#) designed for the creation and development of [video games](#). [Developers](#) use them to create games for [consoles](#), mobile devices and [personal computers](#). The core functionality typically provided by a game engine includes a [rendering engine](#) ("renderer") for [2D](#) or [3D graphics](#), a [physics engine](#) or [collision detection](#) (and collision response), [sound](#), [scripting](#), [animation](#), [artificial intelligence](#), [networking](#), streaming, memory management, threading, [localization](#) support, [scene graph](#), and may include video support for cinematics. The process of [game development](#) is often economized, in large part, by reusing/adapting the same game engine to create different games,^[1] or to make it easier to [port](#) games to multiple platforms.

DELIVERY DRONES

Name: CHINTHAKULA BHARATH

Branch: IT

ABSTRACT

The drone consists of Sensors and ability to take current locations and update, it also have camera to track the issues which are going around. It has battery in order to function. Special instructions are given to DRONE to hold/release Objects. Admin is companies' staff. Admin will look after those kind of stuff....regarding the battery (by checking the conditions of the drone technically then it will be sent). Even if the item is too delicate we can handle by packing it with

necessary arrangements in a box made with sheets which protects (wheels of the drone is smooth and made with rubber in order to protect the items while placing).

Even if the item is light weight it doesn't matter, comparing to road transport the one which we implemented is less cost. In terms of investment it will be invested only once, in other cases giving salaries to employees who are delivering the products will be quite expensive. Here the main aspect is about online shopping, food order, so hope it will not exceeds 10 kgs. It sends the notification to admin in case of any technical issues. After placing your order you will receive an OTP. After the order is at your place, then enter the OTP to release the order at your place. After receiving your order, for confirmation a notification is received from the platform where you have placed an order.

CHATBOT

Name: Kotnakal Rishab Desai
Branch: IT,

Name: Sahit Paidi
Branch: IT,

ABSTRACT

A chatbot (also known as a talkbot, chatterbot, Bot, IM bot, interactive agent, or Artificial Conversational Entity) is a computer program which conducts a conversation via auditory or textual methods. Such programs are often designed to convincingly simulate how a human would behave as a conversational partner, thereby passing the Turing test. Chatbots are typically used in dialog systems for various practical purposes including customer service or information acquisition. Some chatterbots use sophisticated natural language processing systems, but many simpler systems scan for keywords within the input, then pull a reply with the most matching keywords, or the most similar wording pattern, from a database. The term "ChatterBot" was originally coined by Michael Mauldin (creator of the first Verbot, Julia) in 1994 to describe these conversational programs. Examples of chatbots are virtual assistants like goolgeassistant, etc., The process of creating a chatbot follows a pattern similar to the development of a web page or a mobile app. It can be divided into Design, Building, and Analytics. These find applications in messaging apps, websites, in toys, etc.,

CONVOLUTIONAL NEURAL NETWORKS

Name: Pragna Munukutla

Branch: IT

ABSTRACT

Convolutional Neural Networks are made up of neurons that have learnable weights and biases. Each neuron receives some inputs, performs a dot product and optionally follows it with a non-linearity. The whole network still expresses a single differentiable score function: from the raw image pixels on one end to class scores at the other. ConvNet architectures make the explicit assumption that the inputs are images, which allows us to encode certain properties into the architecture. These then make the forward function more efficient to implement and vastly reduce the amount of parameters in the network. We use three main types of layers to build ConvNet architectures: Convolutional Layer, Pooling Layer, and Fully-Connected Layer. Each Layer accepts an input 3D volume and transforms it to an output 3D volume through a differentiable function. A ConvNet architecture is in the simplest case a list of Layers that transform the image volume into an output volume (e.g. holding the class scores).

APPLICATION OF WASTE PLASTIC AS AN EFFECTIVE CONSTRUCTION MATERIAL IN FLEXIBLE PAVEMENT

Name: Chakrapani T

Branch: Civil

ABSTRACT

Preservation of road infrastructure requires a systematic approach for the good performance of roads keeping in mind the future condition and maintenance scenarios. Now-a-days pavements are subjected to various kinds of loading which affects the pavement performance condition that causes various distresses. These distresses include rutting, fatigue cracking, and temperature cracking. Looking forward to the environmental condition, complete ban on plastic cannot be made. Thus, using of plastic as an innovative technology not only strengthened the road construction but also increase the road life.

This paper includes the results of the various laboratory tests conducted on bitumen, aggregate and bitumen-aggregate plastic mix. Amount of replacement of plastic with aggregates is 0%, 5%, 10% and 15% and the adopted various tests to investigate the results on aggregate, bitumen and plastic and aggregate-bitumen-plastic mix. The tests conducted were Water Absorption, Aggregate Impact, Loss Angeles and Aggregate Crushing Test for aggregates and Softening Point, Penetration Test and Ductility Test for bitumen.

Index terms – Waste plastic, Aggregate, Bitumen, plastic-bitumen-aggregate mix, plastic modified bitumen and plastic.

TO MAKE A ROV THAT LOOK EXACTLY LIKE A STARFISH

Name: Sanjay
Branch: Mechanical

Name: Pramod
Branch: Mechanical

ABSTRACT

ROV, It's defined as underwater remotely operating vehicle, which are used in military, aquaculture, scientific use like research etc. One of the most important problem by a modern ROV is it is disturbing the aquatic Creatures, all the aquatic creatures are being affected by this alien type device, unlike this there are other kind of problems like it has Complex controlling system and in the case of military the Enemies are easily to identify it is a spy and high cost many more and scientists, military and other research group are trying to make a Rover which has a perfect stealth mode and overcome the modern Rovers problems.

How about a Rover which looks exactly like a starfish and Mimic it exactly and can be like a stealth vehicle. Unlike most ROV's, this is made of soft robotic part, technically artificial muscles. All the mechanical movements are made by hydraulic fluids which expand and contract the arm which gives a moment to the Starfish and help it to go in desired direction, as it mimics exactly like a starfish aquatic animals doesn't get disturbed by it it can overcome all the problems faced by a modern ROV . It can be a tool for scientist for doing research aquaculture farmers and military so on.

Index terms – Rover, Starfish, aquaculture, research, soft robotics, artificial muscles.

STENT MANUFACTURING AND IMPLANTATION PROCESS

Name: D R Abhishek
Branch : Mechanical Engineering

ABSTRACT

Revascularization by endovascular implant (stent) has great importance in the treatment of coronary artery diseases. Stents are high-technology implants that are the creation of the knowledge of health sciences, physics, chemistry, material science and engineering. Its development can be carried out only by the involvement of these areas of knowledge. Mechanical engineering concepts play a vital role in design, analysis & production of stents. The stents are made of biocompatible materials: 316LVM stainless steel, Co-Cr alloys and nitinol. Unfortunately, stainless steel is not fully compatible with the human body and implantation usually is followed closely by restenosis and thrombosis. In addition, stainless steel can pose difficulties related to some types of imaging, such as magnetic resonance. The materials used in stents must be flexible, supportive, capable of expansion, and biocompatible. Stents made from wires are produced by weaving, or reeling and resistance projection welding. Nowadays, stents are produced mostly by high-precision laser cutting. These were large steps forward in the development of production technology, following the appearance of balloon catheters. Independently of what kind of manufacturing process is used, it has to be very precise because a connecting goal of the development is to increase the biocompatibility of the stents with surface treatment and to create a coating that is able to carry drug on the smooth surface. Also it is explained that how are stents implanted in the human organs. The paper presents the antecedents, achievements and main future objectives in micro manufacturing speciality of that special medical device, that is just before the surface treatment and coating process of the stent.

***Index terms* –Stent, Stent Design, Manufacturing & Surface coating to Stent and Micro Manufacturing.**

ROLE OF TECHNOLOGY IN DELIVERING THE PRODUCTS
GARDENING AUTOMATION

Name: Susheel
Branch: ECE

ABSTRACT

Gardening automation device is an innovation done by susheel. This is an innovation done on the basis of survey. Usually, many people dream to have few pots with plants in cities due to lack of space availability. But, it's been observed that many people initially tend to buy plants and plant them. But, due to many reasons, they are not able to maintain these plants this even happened with government initiative to improve greenery (harithaharam) initially people planted plants at their houses but, many couldn't maintain them. Currently, there is a company they do automation of gardening for Rs20,000 and it's not fully automatic. By using this product, cost would be cut down to 25% of its current cost for automation, by making it affordable to everyone. Its prototyping was done and tested. Its real time model is done by using the world's first linux computer. This product can water your plants from pots to lawn. It's flexible. It basically doesn't need any human to water the plants or just ring a number to water or use an app to water plants. It just does watering by itself and according to the seasonal change, it waters the plants according to their needs. It's completely automated and its power consumption is less. It's under development to create a database record of watering and notifying the user when ever watering is done, they get notified as they receive messages in their phone and this can be even manually operated by using mobile or computer to water the plants.

SMART ANTENNA TECHNOLOGY

Name: Aishwarya
Branch: ECE

ABSTRACT

As the growing demand for mobile communications is constantly increasing, the need for better coverage, improved capacity and higher transmission quality rises. Thus, a more efficient use of systems comprises several critical areas such as individual antenna array design the radio spectrum is required. Smart antenna systems are capable of efficiently utilizing the radio spectrum and thus for an effective solution to the present wireless systems problems while achieving reliable and high speed, high-data-rate transmission. In, fact smart antenna, signal processing algorithms, space time processing, and network performance. Smart antenna solutions are required as the number of users, interference, and propagation complexity grow.

Their smarts reside in their digital signal-processing facilities. Like most modern advances in electronics today, the digital format for manipulating the RF data offers numerous advantages in terms of accuracy and flexibility of operation. Interest in Smart Antenna Technology for wireless communication systems is increasing in recent years. Considerable amount of research and fields trials is being conducted to improve the performance of the system in terms of increasing the capacity and range. The different types of Smart Antenna systems like switched beam and adaptive antenna array techniques can be used in multiple access schemes in wireless communications, like FDMA, TDMA, CDMA and SDMA.

BRAIN PORT DEVICE

Name: Lakshmi.P
Branch: ECE

ABSTRACT

A new device to help the blind see has been developed by scientists. The electric lollipop or BrainPort vision device captures images using a tiny camera and then converts the image into tiny tingles on the tongue. The tingles are then sent to the brain which then converts the tingles into pictures. After a few days practicing people, who otherwise couldn't see, were able to make out shapes, read signs and even read letters. This amazing new device may help people to interact with their environment in ways never before experiences.

Using the unique resources of the DOE national laboratories in materials sciences, micro fabrication, microelectrode construction, photochemistry and computer modeling, the project's goal is to construct the device, capable of restoring vision, with materials that will last for the lifetime of a blind person. Just as blind people read words by touching Braille bumps, some are now able to "see" objects via a special lollipop that stimulates their taste buds. The extraordinary device converts images captured by a tiny camera into a series of electrical tingles, which can be felt on the tongue. Nerves then send these messages to the brain, which turn the tingles back into pictures.

THE SUBMARINE- STEALTH SEA MONSTER

Name: D.V.S Sairam
Branch:EEE

Name: K.Sai Vandith
Branch: EEE

ABSTRACT

Submarine (or simply sub) is a watercraft capable of independent operation underwater. It differs from a submersible, which has more limited underwater capability. The term most commonly refers to a large, crewed vessel. It works on Archimedes Principle (Law of Buoyancy).

According to law of Buoyancy the weight of any object in water naturally works against the water, wanting to sink. The displaced fluid naturally works against the object and pushes back up. If these two forces pushing each other are equal, then the object will float. If the density of object increases to the density of displaced water then the object will sink.

Although experimental submarines had been built before, submarine design took off during the 19th century. Submarines were first widely used during [World War I](#) (1914–1918). Military

usage includes attacking enemy surface ships (merchant and military), attacking other submarines, [aircraft carrier](#) protection, [blockade](#) running, [ballistic missile submarines](#) as part of a nuclear strike force, [reconnaissance](#), conventional land attack and covert insertion of [special forces](#). Civilian uses for submarines include [marine science](#), salvage, exploration and facility inspection and maintenance. Submarines can also be modified to perform more specialized functions such as search-and-rescue missions or [undersea cable](#) repair. Submarines are also used in tourism, and for [undersea archaeology](#).

The submarine has ballast tanks and auxiliary, or trim tanks, that can be alternately filled with water or air. As the submarine dives, the ballast tanks are flooded with water and the air in the ballast tanks is vented from the submarine until its overall density is greater than the surrounding water and the submarine begins to sink (negative buoyancy).

***Index terms:* Nuclear reactor, propeller, ballastic tanks, torpedo.**

TECHNICAL EVENTS

1. CODE PARTNERS

How optimally can you write the code so that it helps the other to continue?(Team of 2).

RULES -First partner gets 30 minutes to read the question and write code.

Second partner gets 35 minutes to understand the code written and continue with the remaining to get the output.

DATE: 12th December, 2017.

2. WEB PAGE DESIGNING

Did not like the way the cursor hovers over a menu bar, why not change it. Come design your own web page.

DATE: 13th December, 2017.

3. TECHNICAL QUIZ

Have the habit of staying updated with the technical developments, come test your memory. It's not KBC so come along with a friend(Team of 2).

DATE: 13th December, 2017.

4. TECH TALK

WHY ANDROID, a technical talk was given to the students which helped them to understand the basics of android. Insights were given as to what the new marketing trends are and how and

where we can learn these topics by G.Sandeep, Software Engineer, Android Development New Global Tech., Hyderabad.

DATE: 13th December,2017

5. WHAT NEXT

Career guidance, was provided to the students so as to keep them updated with the current trends going on in the industry and how they can improve their skill sets to fit in perfectly. The lecture was delivered by Mrs. Vijaya Mair, Head, Corporate & Campus Relations, CVR College of Engineering.

DATE: 14th December,2017

6. ENTREPRENEURSHIP GAME (THINK BIG!)

Ever dreamt of owning a company sitting in the back benches of a boring lecture, come hone your skills and prove others that dreams do come true at least virtually. (Team of 5).

DATE: 15th December,2017.

7. GUEST LECTURE

A guest lecture was arranged for the students in order to cater the latest development of the IT industry to suite the requirement of placement agencies. The lecture entitled “Cloud Computing Virtualisations and Challenges” was delivered by Dr. R. Seetharamaiah, Professor of the deaprtment

DATE: 13th December,2017.

NON-TECHNICAL EVENTS

1. PAINTING

Bored of drawing on the college benches, come along we'll provide you with drawing sheets to show us your creativity.

Theme: On Spot

DATE : 15th December, 2017

2. PHOTOGRAPHY

An awesome opportunity to justify to people as to why you have a photography page on Facebook and Instagram. Tag along even if you don't have a page.

Theme: On Spot

DATE: 15th December, 2017

3. OPEN STAGE

A perfect platform for the students to showcase their hidden talents. Helpful to get rid of 'STAGE FEAR'.

DATE: 15th December,2017

4. NON-TECHNICAL QUIZ

That section of a Daily you love to read. Movies, TV Series, Sports, diehard fans, time to show that the section you read is somehow helpful.(Team of 2).

DATE: 15th December,2017.

5. MINUTE TO WIN IT

Our own adaptation of the popular reality show. Do you have the nerve to hold it?

- **REMOTE CARS**

The car race game, but with a time limit and few twists and turns.

- **BLIND DARTS**

How good is your memory?, You get see the target for first thirty seconds, try to get your aim right in the next thirty seconds

- **PYRAMIDS WITH CUPS**

Build your own stable pyramid with the cups in less than a minute.

- **BLOW BALLOON**

Try controlling the amount of air that come out of the balloon so as to drop cups placed on top of each other into the plates put behind them.

- **LIP READING**

A game which requires great observational skills. Try lip reading what your partner is trying to speak, but with earphones playing music at a high volume.

- **GUESS A SKETCH**

Just to test your pictographic knowledge.

DATE: 15th December,2017.