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The Compendium

Institute of Aeronautical Engineering (Autonomous)
Hyderabad , Telangana. ESTD in 2000.

VOLUME 1 *ISSUE 1* *AUGUST 2019*

CONTENTS PAGE

"IARE ATTAINING NEW HEIGHTS"

Find out to what extent the college has developed and been beneficial to under graduates pursuing their engineering here as we get into a conversation with two of the fourth year students of IARE.

(Read the full article on page 1)

GOOD WORDS FOR THE DAY!

"Taking responsibility - practicing 100 percent responsibility every day - is about seeing ourselves not as right or wrong, but as an agent, chooser, problem solver, and learner in the complex interrelationships of our lives so that we can better integrate with the people and the world around us. When we do this, we enjoy a better and more productive way to live and lead."
- Christopher Avery, The Responsibility Process

In Conversation with the Seniors

INSTITUTE OF AERONAUTICAL ENGINEERING has carved a niche for itself in the past couple of years. From the rapid renovations in the infrastructure to the amendments brought into the core curriculum, or the way the classrooms are structured, name it and the college has done it all and more. But to what extent has this been beneficial to undergraduates pursuing their engineering here? Let's find out as we get into a conversation with Sahithi and Jay Karan from the Information Technology and Computer Science domains.

Sahithi, a proud owner of 3 offer letters from TCS, Mphasis as well as Netelexir, and runner-up for her project at T-hub says that as a student of the R15 batch, under the non-autonomous status, there were little to no placements during her 1st year. But as they approached the end of their undergraduate education in 2019, approximately 90% of students were placed. "All of it was possible due to the changes made in the infrastructure and curriculum,"she claims.

Jay Karan, a competitive programmer and machine learner from the R16 batch, seconds Sahithi's claims that the teaching methods and the curriculum changed the way the college functioned year after year.
On being questioned about the changes that took place in the last 4 years in regards to the technology in the classroom, "The college now has digitized classrooms with 33-inch televisions, projectors and ACs along with a *No Chalk and Talk policy*, affirm the seniors. When asked about the advancement of the labs, the students state that the labs have some of the top notch equipment besides high speed nework and wifi connection.

One of the best advancements that the college has incorporated is the Start-Up Incubation Center for encouraging young entrepreneurs with brilliant ideas to make real-time automated products. By also financially supporting them to pursue such projects and ventures, the institute aids their intellectual freedom, say the seniors. IARE is proud to announce that it has tied up with universities in Bangkok, Singapore, USA, Malaysia, Indonesia, and Vietnam for student-exchange programs.

Thanks to the Principal, Dr. L.V. Narasimha Prasad, the college website has undergone several major changes. He has made sure that all information about the college is digitalised. A CMS portal is assigned to each and every student with details about their respective courses.
All lab work is verified online where students are marked for their cumulative daily performance. IARE has gone as far as including a portal for paying fees online, be it examination fees or college tuition fees. Proficiency tests such as the Build IT-coding sessions, C programming, aptitude development, code snippets, paragraph writing, and email writing are available on every Sunday from 9 a.m. to 9 p.m. All these initiatives have proven to be of a great advantage to the students. For every course offered, the course outcomes, syllabus, course resources, lecture notes as well as a tutorial question bank are also provided. Every part of the college website is very detailed and has been meticulously created.
Apart from excelling in academics and proving themselves from time to time, students are also paving a path of excellence in the field of co-curriculars for a long time.
The IARE football team, led by Anand Rao and Prudhvi Raj Naik, has done a tremendous job so far in bringing laurels to the college by participating and winning in most of the tournaments. "Everyday is a second chance for us to keep getting better. The dedication, teamwork, and integrity that we work on everyday show in the game that we play," says Kalidas Kashiwale, the goalkeeper. Even the basketball and volleyball teams have proven their mettle in many competitions. A vast number of achievements and participations also include from the immensely talented dancers of the college who have represented the college in various competitions.

Considering all the given perks, we do believe that Institute of Aeronautical Engineering provides a "holistic approach towards excellence".

"The Face of Modernization at IARE"

Revamping IARE like an ace is the Principal of the college, Dr. L.V. Narsimha Prasad, whose motto "An effective principal must be visionary" drives him towards excellence. Being humble and consistent, he is friendly with the students and inspires the young minds.

He makes sure that all his students give priority to the discipline . His 23 years of experience makes him constantly ensure that his students undergo experiential learning and learning through practicality during workshops, seminars, and technical events.
Open to new methodologies, he is dynamic enough to handle the administration and lead the college on the path of success.
Dr. Prasad pursued his UG degree in B.Tech in the field of Electronics and Communication Engineering from Andhra University in the year 1991.
He is also a member of the Department of Electronics and Communication Engineering of IARE. He acquired his PG degree in M.Tech Engineering Systems from Dayalbagh Education Institute, Agra, in the year 1996 and received his Ph.D in Computer Science Engineering from Sri Venkateshwara University in the year 2018.

Triumphing with his papers being published in various journals and conference publications, he has also authored many books which include 'Recruitment and Selection', 'Computer Programming in C', 'Design and Analysis of Algorithms' and 'Data Structures through C'. He specializes in several areas such as Artificial Intelligence, Image Processing, Remote Sensing using Data Mining and Soft Computing Techniques for the Study of Aerosols, Clouds, Temperature and Water Vapour, Aerosol Cloud Interaction, and Satellite-Probed Understanding of Aerosols and Clouds.

IARE is thriving under the able guidance of Dr. L.V. Narsimha Prasad who ensures to set new bars from time to time.

Research and Development : IARE

Our faculty have chosen a variety of fields to work with like technology, verbal phonemes and carbon nanotubes. Now let's findout three such astounding projects and the faces behind them.

1. TECH MINING: ANTICIPATING INNOVATION PATHWAYS THROUGH BIBLIOMETRIC ANALYSIS FOR SUSTAINABLE SMART CITIES

Dr. Myneni Madhu Bala from the Department of CSE is the Principal Investigator of this project. This project is funded with 25.64 lakhs by Department of Science & Technology (DST), New Delhi.
In the next twenty years for every minute, on an average, 30 Indians will migrate from rural areas to smart cities for their livelihood. As per this prediction, India needs to create 500 smart cities in the forthcoming twenty years to cater to the rising number of the urban population.
Tech mining involves analysis of technological opportunities by mining electronic bibliographic data sources like publications, patents, etc., to generate intelligence in emerging technologies.
The outcomes include forecasting innovation pathways on emerging technologies in smart cities' development. It furthermore provides insights of statistical and visual presentations, literature growth in India, comparative analysis with global statistics and a route map to young researchers and stake-holders.

2. MACHINE CHARACTERIZATION OF TELUGU PHONEMES

Dr. M. V. Krishna Rao from the Department of ECE is the Principal Investigator of this project. This project is funded with 4.41 lakhs by the University Grants Commission (UGC), New Delhi.
Machine analysis of speech finds applications in speech compression, speech recognition, speaker identification, text-to-speech synthesis, speech therapy, speech enhancement, and Human-Computer Interface. There are several programs to analyze English but in Telugu, there are rare to none. Telugu is a beautiful language which has a range of nasals, whispers, fricatives, and plosives. Dr. Krishna Rao has explained how electroglottograph (EGG) signal recordings will be used along with speech signals.
This will help us know more about our ancient relics and Indian classical music while unwrapping our folds of history. It also gives an equal contribution to the modern technology in speech therapies, Telugu translation systems and machine processing of Indian Classical music and the assessment of voice Disorders.

3. INDIA'S ROLE ON CARBON NANOTUBES IN GLOBAL RESEARCH OUTPUT: A TECHNICAL FORECAST USING BIBLIOMETRIC AND SCIENTOMETRIC ANALYSIS

Dr. CH V K N S N Moorthy from the Department of Mechanical Engineering is the Principal Investigator of this project. This project is funded with 26.91 lakhs by the Department of Science & Technology (DST), New Delhi. The project highlights how Bibliometric and scientometrics are academic fields which are developing very rapidly day-by-day. This research project is all about using them to find out India's role on carbon nanotubes in global research output.
This will benefit the academicians and young scientists to explore India's requirements in the field of CNTs.

Congratulations to our faculty for their intense research & effort which has brought fame to the institution.

Not only the faculty of IARE, but even the students have been active in research and paper publication. Four such students from the Department of CSE presently studying in their fourth year got their papers published. Read on to know in detail about their research work.

Novel Approach for Image Text Recognition and Translation.

AUTHOR: Srinandan Komanduri - 16951A05L3
Under the guidance of Y. Mohana Roopa
This paper was published at 3rd International Conference on Computing Methodologies and Communication (ICCMC) in Surya Engineering College. It was published at IEEE Xplorer Digital Library.
ISBN: 978-1-5386-7808-4.

ABSTRACT:
One of the major problems of today is to exactly translate the text present in an image to a human readable text. This has been gaining attention these days because of the immense work done by the Computer Vision Community.
The main important concept behind this technology is something called as OCR – Optical Character Recognition. With the help of the OCR, we can search and recognize the text in electronic documents and can easily convert them into human readable text.
It converts electronic documents' text into related ASCII character and if the document is a handwritten one, then the OCR uses database to recognise what character it is and tries to solve it to its highest accuracy

Player Performance Analysis in Sports: with Fusion of Machine Learning and Wearable Technology.

AUTHOR : P. Sri Harsha Vardhan - 16951A05K3
Under the guidance of : Y. Mohana Roopa.
This paper was published at 3rd International Conference on Computing Methodologies and Communication (ICCMC) in Surya Engineering College.
ISBN: 978-1-5386-7807-7

ABSTRACT:
Sports are the most important recreational activity. Sports are of many types. Some may be played individually, while some are played in teams. Every country wants to get fame at the global level in different sports. In order to achieve fame, countries are investing in sports and games to enhance the performance of their teams and players. Many people are involved in the analysis of the performances in a sport for instance a notational analyst, who makes strategies and tactics for a game; bio-mechanist, who takes the responsibility of fitness of players and tries to get extraordinary results; team managers and coaches. With the advent of machine learning in sports, there is a lot of improvement in the analysis of performances. In near future, the teams may not have coaches to analyze their performances. In this paper, I am going to discuss about the analysis role of machine learning in the improvement of performances of players and the team in different sports and how the wearable technology helps the players to know their performance levels and further improvements.

Improvement in travel experience using cognitive computing.

AUTHOR: Tejaswini Mandava - 16951A05P3
Under the guidance of : Y. Mohana Roopa.
This paper was published at 3rd International Conference on Trends in Electronics and Informatics(ICOEI) 2019 in SCAD College of Engineering and Technology.
ISBN: 978-1-5386-9439-8

ABSTRACT:
The cognitive agent refers to a primary chatbot which fetches the required details and provides accurate details which help to minimize traveler's search on the internet. According to a recent survey conducted online about cognitive computing in the travel industry, 25% of the travel agencies online prefer the cognitive agents i.e chatbots to minimize the workload of their employees by answering regular questions from the users. Siri, and Alexa, the Google assistants both act as chat bots and a few platforms are present where these chatbots could be developed. The chatbots are mainly developed from the IBM Watson platform where it is assigned with the desired features and queries.
This paper presents mainly how these chatbots are developed,what kind of queries are inserted, and how the chatbot resolves when user passes these queries. The paper determines how a cognitive agent can help and improve a journey enthusiastic to travel-wise. The cognitive agent i.e the chatbot or simply a bot fetches the details from the user considering the user preferences and planning according to them. This paper also determines at what phases of traveling the cognitive agent helps the user to improve the experience like at the timeof flight delays, hotel bookings, tourist places near the destination they chose and much more. Risk management here includes the variations in travel time, bookings, etc. This paper also helps to analyze the risk management during travel and how cognitive agent helps the situation.

Sorted Round Robin Algorithm.

AUTHORS : R.Srujana - 16951A05L4, M. Datta Sai Krishna Mohan - 16951A05QO
Under the guidance of : Y. Mohana Roopa
This paper was published at ICOEI 2019
ISBN: 978-1-5386-9439-8

ABSTRACT:
Process scheduling is an important and necessary task of a multiprogramming operating system where the process manager handles the selection and removal of processes based on a strategy. One such strategy is the Round Robin algorithm, where each process is given a time quantum for its execution. Our algorithm is a combined product of the shortest job first (SJF) algorithm and Round Robin (RR) algorithm. It retains the advantage provided by these algorithms that may have an impact on the overall performance of the CPU and hence, is used to overcome the drawbacks in the RR algorithm by developing the strategies in use. Also, a detailed analysis is performed to compare the proposed algorithm and the existing algorithm in terms of performance and output.

"Batch 2019 Campus Placements witnessed a great start for the Students"

In 2018, IARE has seen students getting placed in around 33 companies, with Lakshmi Sravya from Computer Science Engineering receiving the highest package of 6,00,000 at TEK Systems. 52 students got placed in Capgemini, 48 in HGS, 36 in Mphasis, 21 in IGS, 23 in Armentum, 37 in Genpact, 33 in Regalix, and 25 in Aliens. Other companies that students seized placements from include Pike, NTT Data, Globactive, DQ Entertainment, Infosys, Randstad, Biztime, Tech Mahindra, Sterling and Wilson, AIR India, ICICI Bank, Maple Constructions, Amazon, BPR Infratech, Cyient, IBS Software Solutions, Pole to Win, Mediamint, Syntizen, NetElixir, NCR Corporation, Vision Craft Technologies, Technovert, and Value Momentum.

IARE takes pride to say that 2019 pass out students have seen greater placements with around 90% of the graduates getting placed.
This year, 60 companies hired more than 450 students. About 50 students got placed in Tata Consultancy Services Ltd. after clearing the exam - TCS Codevita. Two students, Abhilash Challaa and Sheetal Bhyravajosula, from Computer Science and Engineering branch bagged placements at Tata Consultancy Services Ltd. with an annual package of 7,00,000 INR.
These two students, after clearing TCS Codevita, went on to clear TCS Digital. On clearing the TCS Digital round, they got placed with the highest package of 2019. Infosys conducts an exam called TASK in which many students participated and secured placements. More than 90 students got placed in Capgemini, around 41 students in Mphasis, 44 in Atos Syntel, 24 in Onegene, 20 in Cognizant, and 28 in Wipro.

Also, companies and industries such as Global Edge, Efftronics, Netelixir, Napier Healthcare, Tvarana, SmartData, CoreCompete, Hexaware, Vistex, CtrlS, LG Soft, Virtusa, Dispatch Track, Iconma, Cocubes, Znalytics, Autoliv, Justdail, L&T Infotech, Monocept, Zenopsys, Optum, CouldAce Technologies, Oorwin, Onegene, Gaian Consultants, BinOct Technologies, Navayuga Infotech, TA Digital, Next Education, Verizon, Soctronics, United Systems, Wissen Infotech, UL Technology Solutions, MU Sigma, Belcan, Infor, Byjus, Epam Systems, and Ninjacart hired the young graduates of IARE with utmost pleasure.

CONCOCT 2019

One of the biggest achievements of civilization is the mobility, the way we travel these days. We've some set of rules to do the same.
Drinking and driving is a punishable offense, but there's something else which we aren't quite conscious and aware of.
It's driving in the state of drowsiness. Road accidents due to drowsiness contribute to the majority of deaths anywhere in India.
Currently, apart from self driving cars, there is no solution to prevent such accidents. If answered very honestly, not many of our families in India can afford expensive luxury cars like BMW, MERC, TESLA, etc. , to save ourselves.

So, two CSE students of IARE, Jay Karan Telukunta and Hardik Nahata, decided to build a compact system which is smaller than a ruler and with a price almost equal to AirPods. This system can make the driver alert when he feels drowsy or falls asleep during driving in any car which has the device installed in it.
They have built the product prototype with very less complexity which made it very reasonably priced. With just two libraries used in Guido's Python along with a high quality webcam to record the driver's face and a buzzer to alert, the algorithm would be installed in the product's heart - the ODRIOD.

The algorithm triggers the camera to record driver's face as soon as he / she starts the vehicle. The buzzer goes off with a loud sound, if the driver feels drowsy. It will start ringing if the driver's eyes are closed for more than 2 seconds. The presentation of these students in CONCOCT 2018-19 has won a cash prize of 10,000/-
This easy-to-install product can make your vehicle safer to drive. Kudos to the students who are looking forward to evolve it further for giving the consumers a safer driving experience.

IARE: Career development centre (CDC)

The career development centre at INSTITUTE OF AERONAUTICAL ENGINEERING works to support students in shaping and managing their careers by providing the key ingredients required for a professional career.
The CDC's wide range of services to the students provide them with the best facilities like resources, opportunities, higher education and some services related to career like internships as well as workshops which are important for their placements.
Institute of Aeronautical Engineering (IARE) has initiated collaborations with many top-level universities around the world with countries like Indonesia, Malaysia, Vietnam, Korea, Singapore, Thailand, and the United States of America. Collaborating with other universities and sharing knowledge and resources with universities and other academic communities throughout the world is an important part of Institute of Aeronautical Engineering's global mission.
International collaborations between IARE and universities abroad extend students opportunities at internationally-renowned, accredited partner institutions while giving an exposure to a different study environment. It prepares the students to adapt and also excel in a global work environment, while helping them understand different cultures, work styles, and mindsets.
Each year, the CDC hosts a wide variety of events including career fairs, workshops, meetings with potential employers, and mock interviews giving students and alumni the edge they need to succeed upon graduation.


S. S. Sameeksha, Secretary General, Sententia MUN 2019

"IARE presents Sententia MUN 2019"

"Together is the KEY!" declares the Instagram page of IARE's MUN society, Sententia MUN. Sententia MUN is not a name that IAREians aren't familiar with. From the persistent social media updates to closing off deals with companies, it does seem like there's nothing that this group of students can't accomplish.

"Wait, hold on a second. What is a MUN?" If this is what you are thinking, then read on to find out more as we explore the complete MUN experience, and what Sententia MUNSOC has to offer in the words of the Secretary General - S. S. Sameeksha from ECE IV.
Model United Nations or Model UN or MUN is an academic simulation of the United Nations that aims to educate the delegates about civics, current events and diplomacy. The United Nations, as most of the students are aware of, is an intergovernmental organization tasked with maintaining international peace and security, developing friendly relations among nations, achieving international cooperation, and being a center for harmonizing the actions of nations.
MUN is an extra-curricular activity in many schools and universities, where students assume the roles of countries and organizations represented in the United Nations in specific committees and debate about issues concerning the world.
A MUN comprises Delegates, the Executive Board (Chairperson, Vice Chairperson and Special Rapporteur), the Secretariat and the Organizing Committee
A delegate is a student who assumes the role of a representative of a member state or observer in the Model UN committee. Each of the delegates are assigned a country. Their task is to form teams, research about their country, take the roles of diplomats, investigate international issues, debate and finally develop solutions to the world problems. The Secretariat consists of the Secretary General, Director Generals and the Under Secretary Generals (USGs) and Directors. Now that our basics are set well, let's dive into the conversation with the Secretary General of Sententia MUN none other than our beloved Sameeksha!

"It all started approximately a year ago, around August 2018,"says Sameeksha when asked about where she got the thought of starting a MUN society in IARE and where it all started. "When I first got to be a delegate at The Asia World MUN. This is a really big thing, for people who know what a MUN is. So, when I shared my experience on my social media handles, I came to realize that a lot of people in IARE are not aware of any such conferences happening around the world." She continues, "To be honest, I don't think I have the experience required to be a Secretary General so soon. But as I kept attending more MUNs, I realized I love speaking. This is what I like the most, and this is what I'm good at. That's when I realized that MUNs are fun! It's not just about the debate, it's about the whole environment altogether."

"I learnt a lot, especially networking and confidence. Everyone thinks people who are able to speak in front of a huge crowd lack stage fear. I just think they're really good at not showing it. The first MUN I attended was the GITAM MUN. It taught me how to speak and present myself. AWMUN happened in the last week of January.
That's where I learnt a lot about life. It was like living in a different country, amongst such diverse cultures, along with people from all around the world. Only experiences like these can teach you how to talk and interact with people", she says about the changes she observed after attending Asia World MUN.
When we inquired about her confidence and her hopes to start such a society in a college where students aren't primarily even aware of a MUN and whether she would receive a positive response, she promptly replied, "I'm currently in my 4th year, and I'm not really someone who can sit in the class for hours together and listen to a lecture. I want to be out there doing something! I started falling in love with our college from the 2nd semester, especially with the college management.
I've realized that any college management is ready to give immense support to any student who's ready to come up with new ideas. Over the past couple of years, I've been a part of many small-scale, big-end events in our college where I met a lot of students who also had the same mindset as mine - they wanted to do something for the college. So I knew it was a feasible idea to go with it."

When MUN eventually started how many people were involved? Sameeksha says, "Two of my good friends: Pallavi Dash and Akhila from IT. Akhila and I attended a couple of MUNs together, so I knew she had to be on the team. I knew Pallavi would give her 100% towards anything that she sets her mind to. We made a Google form and it went viral. There were people who didn't even know what a MUN is, but we got around 300 applications. We took many interview calls with the help of people outside our college as well in order to be unbiased. 50 of the best were picked. Our next target was making people aware of the MUN.
We can't expect people to put their best foot forward, when they don't know what they're getting into. So we wanted to conduct a workshop to host a mock MUN session, with a very reasonable fee to make them understand how an actual MUN functions. The workshop took place in April and it was a hit. We got approximately 400 delegates for the workshop itself! People were super excited about when the actual MUN would take place. We assessed the delegates from the workshop based on how committed they were and made them our Secretariat. We're a very strong secretariat of 30 people now."

Your Instagram page has a big outreach, with around 900 and climbing followers. How do you feel about it and your Secretariat? She says with a big smile, "I have the loveliest secretariat, I swear. The amount of dedication they show towards Sententia boggles me. Because it is not my society, not their society, it is OUR society. They get the work done, no excuses. We are among the very few MUNs which have a website and a .com domain.
It was actually designed by one of the members of the Secretariat, Srinandan and we've received many compliments from the Executive Board. We're the first college in Telangana and Andhra Pradesh to have global partners, the 4th college in India to do so.
Apart from the Secretariat, we have our lovely OCs who are working."
Who are their global partners and how big are they? She replies,"We're partnered with Asia World MUN and Asia Youth MUN. Both are continental MUNs."
What committees are present in Sententia 2019 and which one is your favourite?
"We have 5 committees: UNGA-DISEC (United Nations General Assembly- Disarmament and International Security), UNHRC(United Nations Human Rights Council), WHO (World Health Organization), The Lok Sabha and the UNODC (United Nations Office on Drugs and Crime)." She continues, "My personal favorite is UNHRC." "My secretariat", says Sameeksha when asked what she feels is the best thing about Sententia. She continues, "They're all really close to my heart.

It'll be really sad after the MUN, because I won't be able to work with them again." When we ask about the one thing she wants to change, with almost a passive anger she says, "We've also received some negative feedback about starting a Secretariat with absolute first timers. We want to prove that you don't need to have MUN experience to make it a success".

To a student, SENTENTIA MUN provides a platform to become an active and more concerned global citizen. In this era of globalization, being globally aware is of utmost importance than ever before.

The society strives to build confidence, leadership, diplomatic skills, public speaking, and integrity. These are skills that we will need throughout our career, and SENTENTIA MUN gives everyone a chance to practice them while you're a student.

"Our dedicated team works like a charm around the clock to give Hyderabad the best MUN it has ever seen. We believe in the saying, 'Together is the key'. We work hand in hand, side by side to deliver what we set out for. Our respected and ever-so-caring Secretary General, S.S. Sameeksha, drives the team as one big family, to a destination we all hope and desire for. As she says, 'No one can whistle a symphony. It takes a whole orchestra to play it.' These words when uttered by the Secretary General, no matter how simple they may sound, boost our motivation furthermore. This dedication saw a huge expansion in our family which we all loved," says a member from the Secretariat.

"A dedicated team, a firm leader, a determined objective and a well thought-out plan is all what we require at SENTENTIA. Through this formula of ours, we have partnered with the biggest MUN in the world, the Asia World MUN. We are the first MUN in Telangana and the fourth in India to achieve such a global partnership," says another proud member of the Secretariat.

The Secretariat of Sententia MUN consists of Secretary General: S. S. Sameeksha from ECE 4, Director General: Vaishnavi from MLR college, Deputy Secretary General: Pranay from ECE 4, Charge D'Affairs: Harsha Vardhan from CSE 4, USG Finance: Preethi from ECE 3, USG Delegate Relations: Sparshitha from Civil 3 and Gayathri from Aero 3, USG Logistics: Harshit from Mech 4, USG Public & Corporate Relations: Nandan from CSE 4 and Koushik from CSE 2, USG Marketing: Anju from Civil 3 and Jahnavi from ECE 3, USG Hospitality: Umair Khan from Mech 2 and Shweta from IT 3, USG Design: Akhila from IT 4 and Kartik from CSE 4, USG Administration: Harshini from CSE 4, Organising Committee heads: Vennela Manmohan from Mech 3 and Rohith ECE 3.

The Directors of Sententia MUN: Pallavi Dash from IT 4, Rishita from ECE 3, Sai Teja from ECE 3, Anusha from IT 3 and Satyadev from Civil 2.

"SENTENTIA MUN is a chance given to every student to speak. Your voice is being heard, your ideas are going global. It is your chance to dream, to travel the world, gain a lifetime full of experiences and get out of your comfort zone!

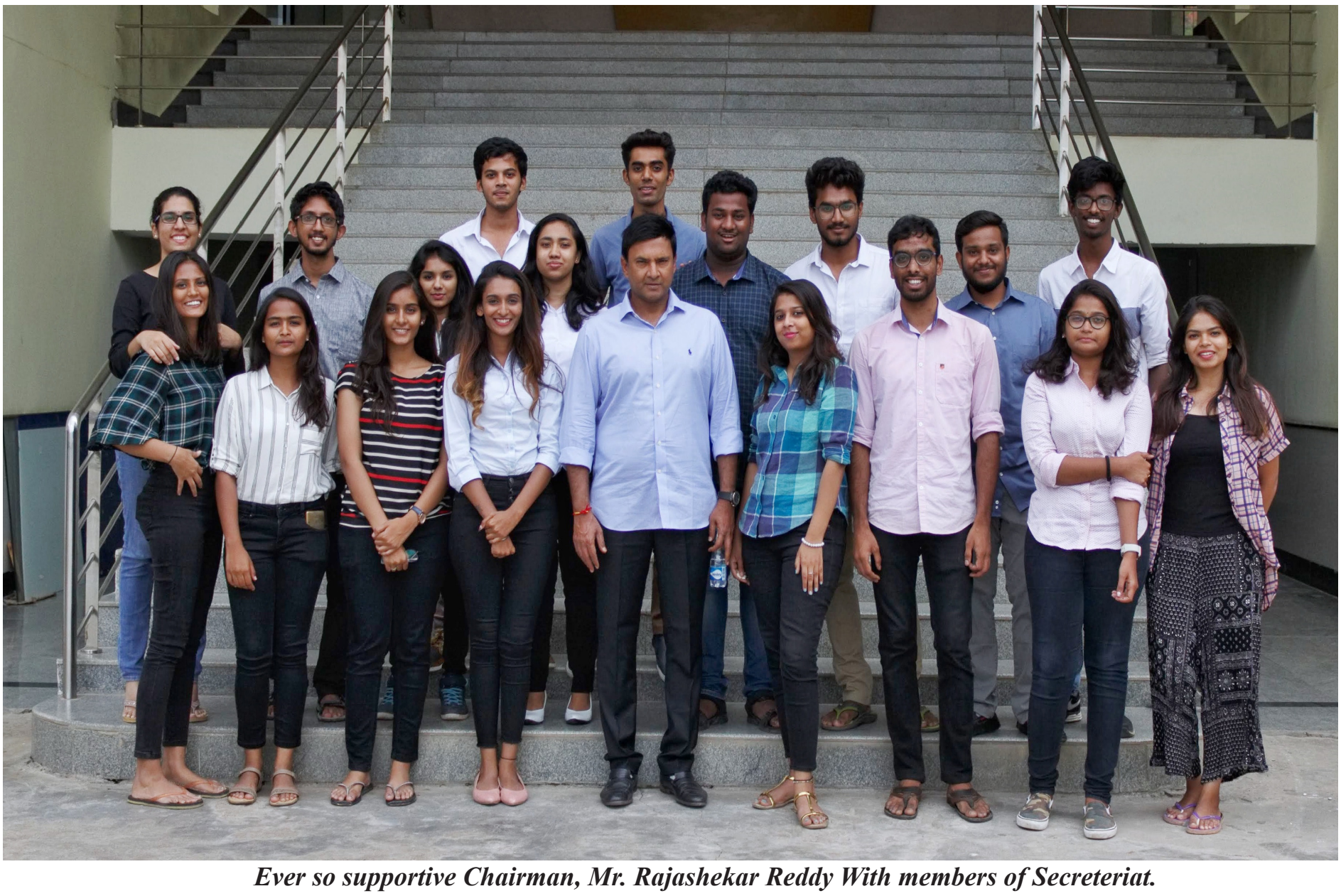
It is a way for students to understand the world just outside their comfort zone. It helps them build a strong mind with the ability to think and process matter in a non-dependent state of mind. It helps them realize the real world problems."

As a student, it is our duty to serve and provide. SENTENTIA MUN equips them with the tools to do so. It helps them think as a global citizen.

"To all my lovely juniors, we have been working very hard for the past 5 months to give you guys the best MUN experience you can ever get. So we would all be really glad if you guys took the time to come to attend the MUN and delegate and have the time of your life as you network with a whole different set of people. And we're definitely not your average MUN. You'll have a lot of fun. We promise it," Sameeksha continues as she wishes to invite all of our readers to the maiden conference of Sententia 1.0, 2019. As promised, Sententia MUN is all buckled up to bring IAREians the best MUN experience they can ask for! Don't miss out on this opportunity of a lifetime.

Mark your calendars for 29, 30 & 31st August, and they will meet you there!

-Reported and written by Pallavi Dash and Bhavana Priya



Ever so supportive Chairman, Mr. Rajashekar Reddy With members of Secreteriat.

TALENTS

- SRIKANTH, ECE-3

- MEGHANA, AERO-2

- MOKSHITHA, IT-3

- SHREYA, CSE.-2

Thunderstorms and you.

People used to tell me that
you would come back.
One day.
One day, when I would have
learnt to smile again
without feeling their strain
on my cheeks.
When I would no longer
turn left to avoid
it's still you that I seek.
When I would have stopped
dreading the songs
hidden in my music vault.
When I would have ceased
writing poems that
vilify the spring to glorify the
falls.

People would tell me that
on that day,
I'm supposed to run.
As fast and as far as I can.
But, I won't be lying
if I tell you
that a small part of me
wanted it to come,
only for the possibility
of seeing you once again.

And then it happened.
The day came. You didn't.
But, I hadn't expected
to be relieved about it.
I hadn't expected
that spring evening
to do nothing to bite me.
I hadn't expected
I'd quit holding grudges
against the universe
that I had been blaming.
And I hadn't expected
I'd open the vault and let
the music devour
the silence of the empty room
only to realize that
maybe, it was never about you.
Maybe, it was just about
an idea of us.
And maybe, this time I've
truly let you go
with no remnant of your wave
still clinging to my shore.
But, that was until,
to a stormy 2:00 am I awoke.
Turns out, I'm still scared of
those.

Because when thunder strikes,
I still do nothing.
Nothing but stare.
Stare at the ceiling.
And I count all the ways in which
I could have loved you.
More than stars, more than rain.
More than poetry, more than
pain.
More than the stories
of the most beautiful adventures.
And maybe, just maybe...
even more than grey metaphors.
Turns out,
I'm still scared of stormy 2 ams.

- UDBHAV, IT -3

WHAT A WHITE PAPER WANTS TO SAY?

I'm a white paper. I'm beautiful and soft. I'm easy to carry and convenient to write but you know what struggle I went through? I've born in a thick forest.
I was strong and tall. I was separated from my parents and carried in trucks. I was broken into pieces and rolled in heavy machines, finally they turned me as white sheet.
Now you think my journey is so easy? No? Even I don't think your life is easy! I don't need your past, even your life is a white paper if you accept it. I accept everything which you write on me and your life accepts everything which you do. You can write a poem, prose, crime or love story. Everything has its own identity but if you write from other book it's called a copy and even in your life, do what you know but not what others suggest.
If you utilise me
properly,
I'll be prominent for your work otherwise I'll be straight away thrown into a dust bin.
If you misuse your life, you will be thrown out of game.
All colours you add brings beauty for me, every feeling and emotion bring the same to your life.
If you don't write anything on me, no one will pay attention and if you don't do any good thing in your life, no one will notice your
presence.

It's ok if you write something by mistake, you can change it in next line and it's ok if you commit few mistakes in your life, you'll get another chance. Keep on writing but don't tear me into half, if you do, what you have written till now is wasted and don't end your life in middle.

YOU ARE BORN NOT TO QUIT, YOU ARE BORN TO COMPETE AND COMPLETE.

- AKHIL, ECE -4

"ISRO Launches PSLV-C46"

India's PSLV-C46 successfully launched RISAT-2B satellite from of Satish Dhawan Space Centre (SDSC) SHAR, Sriharikota. Satellite 'RISAT-2B' will beef up India's surveillance capabilities in the sky and help track and tackle hostile activity, such as infiltration or gathering of militants.

PSLV-C46 lifted-off at 05:30 Hrs (IST) on May 22 2019, from the First Launch Pad of SDSC SHAR, Sriharikota. PSLV-C46 was the 72nd launch vehicle mission from SDSC SHAR, Sriharikota. In this mission, the 'Core-Alone' configuration of PSLV was flown (without the use of solid strap-on motors).

About 15 minutes and 30 seconds after lift-off, RISAT-2B was injected into an orbit of 555 km at an inclination of 37 degrees to the equator. RISAT-2B with a lift-off mass of 615 kg, is a radar imaging earth observation satellite. The satellite is intended to provide services to Agriculture, Forestry and Disaster Management domains. This is the 72nd launch vehicle mission from SDSC SHAR, 48th flight of PSLV and 36th launch from the first launch pad. And the14th flight of PSLV Core-Alone 3rd launch in 2019.

- Usha Raj, Sub-Editor

"Chandrayaan's Mission to Moonwalk"

Chandrayaan II is the second lunar exploration mission launched by ISRO on 22nd July 2019 at 2:43 p.m. IST from the second launch pad Sathish Dhawan Space Centre with the country's heaviest rocket Geosynchronous Satellite Launch Vehicle Mark III. It was originally scheduled to be launched on 14th July 2019 at 2:51 a.m. IST but was called off at the last hour (T-56 minutes) before lift-off due to a technical snag which was noticed while fueling the rocket with cryogenic fuel. The delay in the launch of the mission was considered to be a preemptive measure. Chandrayaan II will send an orbiter, lander and a rover to explore the moon's south pole and is expected to orbit 1 Lunar day (14 Earth Days).

Chandrayaan II mission was started on 18th September, 2019 originally and the launch window was prepared from 9th July 2019 to 16th July 2019. The vehicle is expected to land on 6th September at a latitude of 67° S to 70° S latitude with the help of Vikram lander and Pragyan rover between two craters — Manzinus C and Simpelius N. When this is done, India will be the fourth country besides the US, Russia and China to successfully have done a soft landing on the moon.

- Vennela Manmohan, Editor.

"Is Cloud gaming the future?"

The concept of cloud gaming is slowly turning into a reality by several service providers including Google. The tech giant launched its own cloud gaming service named Google Stadia.The cloud gaming concept revolves around the idea to replace the load of computationally intensive work done requiring people to buy expensive hardware with a highly sophisticated large scale server and directly stream games by rendering it to our devices via the internet. This has been more like a theory or a fantasy for a long time and created a buzz among tech enthusiasts all around the world.

But by huge advancements in technologies and internet capabilities, this has been more leaning into the reality for quite some time.

Using this method, it is now possible to play high compute hungry games on our mobiles, televisions, ultrabooks and other low powered devices as well.

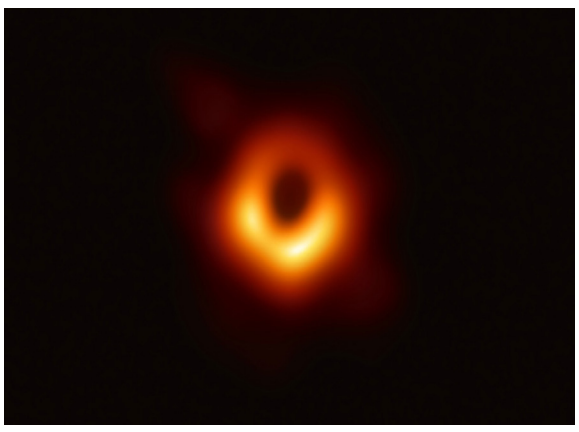
A major drawback to this technological marvel is the latency that is created due to servers being located thousands of kilometers away from the user and also low internet speeds.

But Google tends to resolve this constraint as them being one of the biggest cloud computing infrastructures means they've got more and more servers in more places leading to lower ping and latency overall. For all the graphics and number crunching for the games, Google is said to use several arrays of AMD Radeon GPUs known to offer 10.7 teraflops of gaming power. At the moment, Google recommends a minimum of 25mbit/s internet data transfer speed for 4K 60FPS gameplay.

This sounds to be an excellent innovation but it might be more difficult to implement than it sounds because in some regions such as India, it is bottlecapped by the Internet capabilities and ISP's.

- K. Gangadhar Akshay, Editor.

"Capturing the First Image of the Black Hole."

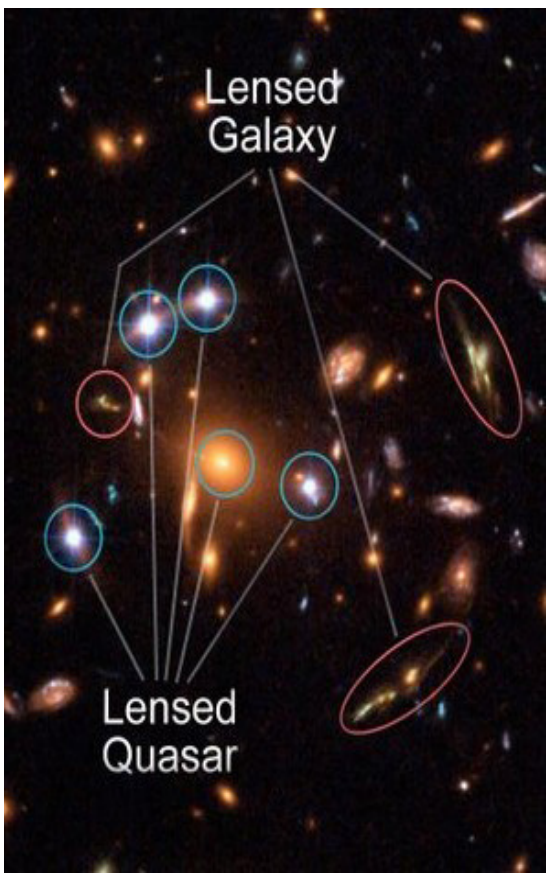


The Black hole is said to be the region of space having an intense gravitational space that no matter, space or even light can escape. After decades of trying to understand and capture the image of the black hole, NASA has revealed the first image of the Black hole in April 2019 by creating a network of telescopes known as the Event Horizon Telescope. Though scientists had theorized they could image black holes by capturing their silhouettes against their glowing surroundings, the ability to image an object so distant still escaped them.

They then set out to capture an image of a black hole by improving upon a technique that allows for the capturing of far-away objects, known as Very Long Baseline Interferometry, or VLBI.

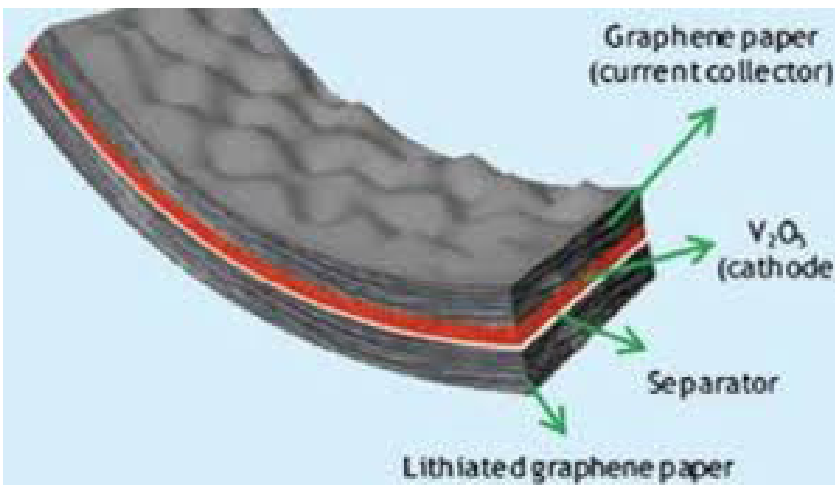
The Very-long-baseline interferometry (VLBI) is a technique of astronomical interferometry (a method of measurement using the phenomenon of interference of light, radio or sound waves) used in radio astronomy. In VLBI a signal from an astronomical radio source, such as a quasar, is collected at multiple radio telescopes on Earth helping develop and capture the image.

The image of the black hole was then successfully captured at the center of the galaxy M87 (Messier 87), 53.49 million light years from Earth.



- Vennela Manmohan, Editor.

"This New-Age Battery can Charge up before you complete your Breakfast"



Graphene, a honeycomb sheet of carbon atoms, is immensely recognized as a "Wonder material" thanks to the myriad of wonderful attributes it holds. It's a potent conductor of electrical and thermal energy, very skinny and with chemicals inert, and versatile with an oversized extent. It's additionally thought of eco-friendly and possible, with limitless potentialities for various applications. Due to its compact property the battery created using graphene are often light-weight.

It's additionally been discovered that making hybrid materials may be helpful for achieving battery sweetening. A hybrid of metal chemical compound and graphene, as an example, are often used on Li-ion cathodes and grant fast charge and discharge still as giant battery backup.

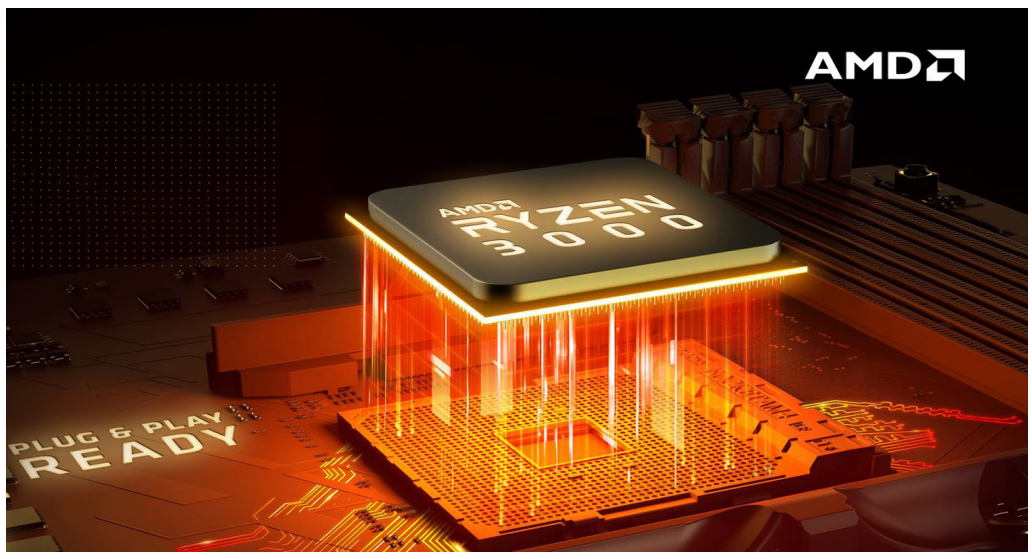
Iin step with Log nine materials, the graphene employed in the conductor is ready to extend the battery potency by 5 times at third the value.

Samsung developed a singular "graphene ball" that would build lithium-ion batteries which last longer and charge quicker in the Gregorian calendar month, 2017. Samsung Advanced Institute of Technology afore mentioned that exploitation the new batteries can increase their capability by forty fifth and make their charge time 5 times quicker.

It absolutely was additionally afore mentioned that the Samsung battery which will use this graphene material is going to be ready to maintain a temperature of sixty degrees Celsius that's needed to be used in electric cars. Various different corporations also are functioning on incorporating graphene into varied forms of batteries.

- Sattarapu Rahul, Sub-Editor

"An End to Intel's Monopoly?"



For the past 10 years, Intel has maintained their monopoly over the CPU market in all the platforms due to lack of any real competition. AMD made a strong comeback in the CPU industry a couple of years ago launching their Ryzen and Threadripper line of CPU's and APU's. It took 10 years for AMD to compete with Intel at a recognizable scale.

But in this year's Computex 2019, AMD stole the show and has made direct attacks toward Intel over markets in all categories including Datacenter, mainstream as well as mobile platforms.

This has been made possible due to several technological advancements and techniques AMD has acquired such as the latest 7 nanometer process technologies, High performance Cores based on new updated Zen 2 Architectures and also the notable chiplet style Architectures and more notably, the 7 nanometer process chips.

All these summing up might soon create huge domination over the competitors. The recent launch of the 3rd gen Ryzen CPUs with Zen 2 architecture shows extremely high price to performance ratios compared to Intel.

This has also been carried out into the server grade platforms.

The launch of the first mainstream 12 core 24 thread Ryzen-3900X which is literally less than half the price of the competition provided by Intel chip is one of the highlights that was a real head turner.

They have also launched the new PCI Express gen 4.0 providing up to double the bandwidth compared to the previous generation.

All this has led to a lot of heat on the Intel side causing them to slash down their pricing drastically as a hopeless comeback to mitigate the competition.

In the end this is has been a great News for both the Tech Enthusiasts and also Customers as this creates a healthy competition pushing companies towards more R&D and innovation as well as better pricing & value.

- K. Gangadhar Akshay, Editor.

"Shree Ganesha, Tree Ganesha"

"One Step Further In An Eco-friendly Ganeshotsav"
The idols are made from red soil and the base of the idols are stuffed with organic fertilizer and seeds. The clay is conditioned to be remodeled into idols. To avoid any kind of chemical usage, the team of sculptors avoids color.
'Two Problems, One Solution' that's how artist Dattadri Kothur from the sprawling metropolis of Mumbai likes to call his eco-friendly initiative. Ganapati idols made by the 31-year-old aims to tackle air and water pollution. Dattadri's quest for environment-friendly Ganesh festival started young, at the age of 15, to be precise. In September 2002, when his teenage friends were busy savoring different delicacies and welcoming colorful Ganapati idols at home, Dattadri was busy calculating the amount of electricity being used in lighting up the streets and individual houses.
One entire day is dedicated to making one idol and this year the 15-member team has got an order of 2,000 idols. From 12 inch to 20-inch Ganpati, from seeds of tulsi, marigold, neem to ladyfinger, 'Tree Ganesha' has a wide range of idols. Depending on the size, the idols range anything between Rs. 2,000 and Rs. 4,000.
At the end of the ten-day festival, all one has to do is to immerse the idol in the plant pot. Within eight to ten days, the idol will dissolve, and the seeds will germinate into plants over time.
But why should you use eco-friendly Ganesh idols? Being responsible citizens, we can achieve something for our environment. Plaster of Paris is non-biodegradable made of toxins and unsafe colors and it severely contaminates the sea life and water bodies.
Just by changing the material used to create the idol, they managed to change the way people looked at immersions during the festival. To complete the immersion ritual with a Tree Ganesha idol, all we need is a sprinkle of water and the best part is, it can be done in one's backyard instead of carrying it to a waterbody. This exciting unique format instantly struck a chord with people. It not only solves the water pollution issue but also creates a huge environmental impact on water bodies that get polluted every year. During festivals, it is easier to forget our responsibilities towards the ecology, but those are the times which affect it the most. Therefore, make merry by eradicating pollution.
Surprised at the demand of idols from Hyderabad, the team has set up pick up point in the city.
Pickup point in Hyderabad is Dishabhanu apartments Jai Hind Nagar (Opposite Survey of India), Uppal.
Contact Numbers: 8879672071, 7718096167, 7718996158. Email: info@treeganesha.com

- Anusha Vajha, Editor-in-Chief

"Liquid Gold"

Scientifically speaking, food as we know it on our plates is a collection of mixtures—believe it or not, there's very few processed or natural foods out of supermarket shelves that comprise entirely of a single ingredient.
Chocolate is a mixture and it is definitely NOT an emulsion, which is best described as a medium where both non-polar and polar molecules are held together over a long period of time.The percentage of chocolate depends entirely the percentage of cocoa solids included in the original ratio—most people think this means brown bits, but will be COMPLETELY blown away to realize is primarily white bits of cocoa butter, which comprises 55% of the actual bean.
This finding remains consistent with the idea of chocolate being a colloidal suspension while there are mixtures where the continuous phase is significantly lesser than the dispersed phase. This isn't typically the case of cocoa particles and sugar in fat, and also debunks all the nonsense out there that white chocolate isn't actually chocolate.
The primary composite of cacao beans is distilled, deodorized and perfumed, often with vanilla, to make the pristine white confection. Stop shaming it. Processing chocolate from bean to bar is exactly as difficult as it sounds. The shape and texture of chocolate depends entirely on the fat (wouldn't it be wonderful if that's all the world depended on?) Chocolate is a specialty. It's a niche all its own.
It gets on absolutely everything and makes it impossible to keep chef whites clean, which has probably short-circuited many an OCD-baker-brain, but understanding it and delving into the composites of this magnificent mixture that has somehow become synonymous with comfort, compassion and late night rom-coms is a process that can take a very long (happy) lifetime.
It is culinary science at its very best: a spectacular exhibit of molecules interacting in ways that they really shouldn't thanks to human intervention, transmuting the humbly dull cacao bean into a versatile, patisserie miracle.

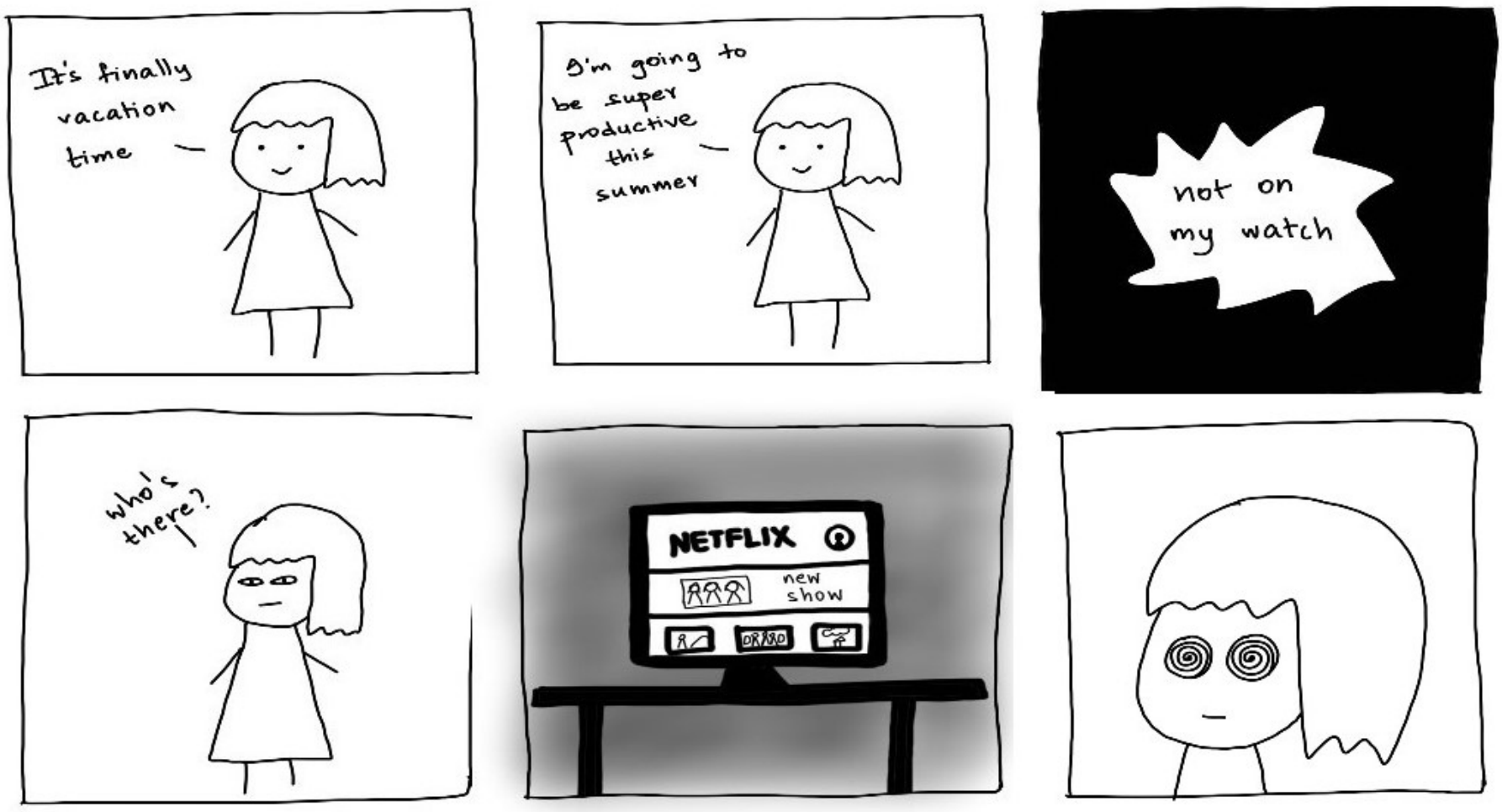
- D. Rohit, Editor

"Humanitarian Crisis in Venenzuela :will it ever End?"

What is this crisis?
Termed as the Largest Exodus in Latin America, this is a socioeconomic and political crisis marked by hyperinflation, climbing hunger, disease, crime and death rates and massive emigration.
What makes it even more gruesome is the fact that it's worse than "The Great Depression".
How did it start?
It all started as a result of low oil prices in Venezuela in early 2015. Instead of overcoming this problem both the Chavez and Maduro governments dealt with this problem by denying that it even exists. What a smart move! Kudos to you. As oil production and its exportation is the main livelihood of the majority of the population in the country, it resulted in closure of companies, unemployment, gross economic mismanagement which led to much more worsening of the crisis.
Different people have different takes on the cause of the crisis. Supporters of Chavez and Maduro say that it resulted from an economic war on Venezuela and delimitation of oil prices, international sanctions and the country's business elite. But some others say that it is completely because of economic mismanagement and corruption. The latter seems more likely as the government didn't take necessary steps even when the problem was recognized.
The crisis has completely changed the lives of people in Venezuela on all levels. It led to more than 10 percent of Venezuelans (3.4 million) emigrating the country. Venezuela led the world in murder rates and 75% of the population had lost an average of over 8 kg.
Women and girls are suffering disproportionately in Venezuela. Trafficking of women for sex and forced labour is increasing throughout the region. Their often-illegal status in countries within the region, along with the high number of women travelling alone, also increases their vulnerability to exploitation and abuse.
There is a shortage of around 85% of all medicines in the country. 13,000 doctors have left Venezuela in the past four years.
Inflation is projected to grow to 10,000,000 percent this year, up from 112 percent in 2015.
Where are the Venezuelans fleeing to?
Venezuelans are fleeing their home country to neighbouring countries including Columbia and Brazil, and to others in the region such as Peru, Panama and Ecuador, as well as islands in the South Caribbean.
Columbia is currently hosting the largest number of Venezuelans-more than 1 million.
These people resort to selling services (such as: doing manicure or washing windows) or small items like candy, bread and coffee on the street just to feed themselves and their children.
How is the world responding to this?
Several organizations and millions of people have tried to help these refugees. Organisations such as MERCY CORPS, CARE are providing prepaid debit cards, prescriptions for medicines, emergency cash.
We can give to this problem as humans and make their lives better. For this:
*Donate today.
*Tell your friends.
*Start a campaign.

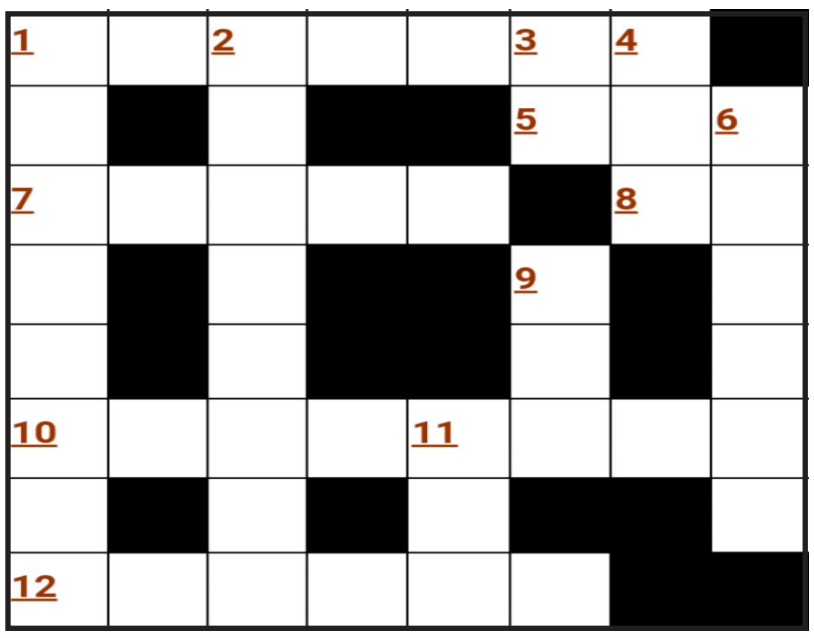
- Vaishnavi, Sub-Editor

COMIC STRIP



Comic by Akhila (@aki_comics)

ARCADE SECTION



CROSSWORD

Across:
1.Computer screen
5.Total amount
7.Consists of Proton
8.Sodium's symbol
10.The Big Bang began it
12. Force or power

Down:
1. Group of bonded atoms
2.Less than zero
3.Operating system
4.We need cars that____ on electricity
6.A Piece of iron that attracts iron
9. Type of graph.
11.unit of '12 Across'.

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Word Scramble

EARTLLS:

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AIRATONTVGI:

VESPURNOA:

NCGEIMAT:

ANSNRAEEICS:

AMTNUQU:

LNRIUEOOVT:

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