GeV

JULY 2019

idspiring. Roots

EDIT SPEAK

Through generations we've always had inspiration come to us from directions we didn't expect. And often the sources have come from humble roots.

The Inspiring Roots is a theme which brings to light the very fact that ideas and experiences gained in the process of sketching, sculpting and bringing the magazine to life. From working with team and brainstorming, creating an open forum for discussion and advice we've left no stone unturned. Just the way artists were inspired by literature, music, intellectual thoughts, scenery and nature, we hope to recreate their classic designs with a modern touch.

- Sudhakar Yadav (GeM Coordinator) & Editorial team

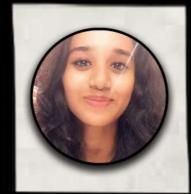
EDITORIAL TEAM



















SHREYA TEJAS AKASH

MEHER TAPASYA ADITYA MOHSAIN SAI KRISHNA LASYA



Graduation Day

"Graduation - is a time to celebrate new beginnings and say goodbye to everything that has given you a reason to smile. It is warm memories of the past and big dreams for the future".

6TH July 30, 2019, a day to be marked in everyone's calendar. A day to step into the real world with memories of the time



everyone laughed their heads off, teased each other, having each other backs through thick and thin, lessons, scolding's and punishments. A journey of ups and downs.

Gokaraju Rangaraju Institute of Engineering and Technology Information Technology Department organized the 19th Graduation Day which was held on 06 July 2019 in the



Seminar Hall-1. The dignitaries who have come to bless the students
The Chief Guest of the event Dr.V Kamakshi Prasad Garu, Director of Evaluation,
JNTUH, Guest of Honor Sri Harish Balan, Group Director, Synopsys, Dr. J Praveen,
Principal, GRIET, Dr. Jandhyala N Murthy, Director GRIET and the presiding officer Sri
M G Sekharam Garu, Chief Administrator, GRIET.

The event commenced with academic procession walking into the hall, with the Indian traditional tune played in the background, followed by a prayer song and Jyothi

Prajwalana.

Dr. J Praveen garu, Principal, GRIET has presented the academic report of the corresponding year mentioning various accomplishments. Sri Harish Balan garu, Group Director of Synopsys has explained the importance of three powers to be nurtured lifelong: Knowledge power, Relationship power and Personal power (unlimited) because ecosystem of business environment changes dynamically from moment to moment. He quoted," We cannot step into the same flowing river twice.





Dr. Kamakshi Prasad, Director Evaluation – JNTUH has stressed the
importance of three aspects of
Professional development: Continuous
learning to update in the domain
knowledge to protect ourselves from
irrelevance and obsolescence; Ethics of
always listening to the conscience;
Attitude of taking risk without remaining
in the comfort zone and deep
commitment.

The toppers were honored with medals by the chief guests and followed by distributing provisional certificates to the graduates.

Afterwards, led by Dr J.Praveen, Principal GRIET the graduates took a pledge to be honest in the discharge of their duties and serve for the cause of the nation.



This college has given me a rare mix of education coupled with practical knowledge and wholesome cultural development which has made me a better human being. This is what I believe sets apart GRIET from the rest. The memories I have made with my friends at ME-A will be forever cherished by me and I hope down the line I make this college proud with my name.

Thankyou
M. Parthiva
15241A0337





The journey from a student to an engineer is only possible when the student gets the best of all the resources from the institution thanks to GRIET,I am now an engineer which I am very proud of.I had a beautiful journey where I evolved as a person both academically and personally.

Thankyou V.Harshita 15241A0360

My time in GRIET has enriched my life in many ways. The perfect amalgam and cultural educational development moulded me into a skilful engineer I always aspired to be. I'm thankful for the excellent facilities and all the resources provided by the college and also to the faculty for the unparalleled support I've received. The memories I've made with my classmates are truly irreplaceable. My experience at Griet has been everything I could wish for.

Thankyou
M Hemanjali
15241A0329





College days have provided me a platform that has molded my personality and clarified my vision of the future endeavours. These four years remind me of the colourful stage, the vibrant classrooms and supportive faculty. This is one of the most important stages in life, that gave me an opportunity to explore. My biggest decisions towards the career are taken here at GRIET..

Thankyou Tejaswini Thumpala 15241A1256 Through many many up's and a few downs, I've grown and continue to.

These four years of my Btech in GRIET have proven to be the most worthful and productive phase of my life which exposed me to plethora of opportunities and helped me aquire the right skills at the right time, to make my mark in the highly competitive world outside.

I'd like to express a feeling of gratitude towards my college for giving me a challenging opportunity to serve as the President of Street Cause -GRIET which is indeed one of the most memorable achievement and which added a great deal of value to my life.



I'm finally graduating from the best phase of my life with a heavy heart but eyes full of dreams and to manifest them with the right attitude I've gained through my journey in GRIET.

Thankyou. Shriyah Maringanti 15241A0588



Graduating from GRIET (In 2019), which is one of the premier engineering colleges of Telangana state is highly exciting. Getting wonderful placement is a huge accomplishment which wouldn't have been possible if not for the support and encouragement I received from college management. I did it and that's something to be proud of. The four year tenure at GRIET are the best years of my life. I value and thank my entire teaching faculty for bringing the best out of me. I have gained lots of learning experience and am filled up with many sweet memories and emotions too.

I made some good friends who might last for lifetime. Last but not the least, the recognition I received from college management for my academics and work deeds is highly memorable. I feel blessed and honoured.

Regards to all P. Sai Manikanth Roll No. 15241A05A2



College days are the most memorable days in every student's life. They make friends, bond with them, learn with them. But what if the teacher becomes your friend? That's the best experience you can have in your study phase. You learn much more, with at most interest. This is what had been my experience in GRIET. I have got my friends in my college life, but also the teachers and staff have been friendly to me. They

guide you, encourage you, motivate you, laugh with you. Labs have been in great control and decorated with infrastructure necessary for students to practice their learnings. The aim of the college, for the individual student, is to eliminate the need in his life for the college; the task is to help him become a self-educating man, and I am a continuous learner now. College inspired me to think differently. It's like no other time in your life.

Thankyou
Tishant Ghode
15241A1255

I felt very happy because it fulfilled my parents dream and it gave a reason for my parents to boast "My daughter got a gold medal in her Post Graduation".

I thank my college for this honour, it makes feel great on being rewarded for the hard work that one does.

Thankyou K.Sahithi 16241D5815



AAC PROJECT EXPO

AAC, an independent student body that helps students to work multidisciplinary real-time projects, conducted Award Ceremony and a Project Expo where esteemed Industry Professional from NRSC. and Scientist along with the College Alumni members graced the occasion.



The students displayed some of the best ongoing projects done by AAC students under the guidance of their mentor. The dignitaries present on that day to congratulate the students were the Guest of Honor, Andugulapati V. V Prasad, Principal Praveen Kumar, Director Dr. Jandhyala N Murthy, Chief Administrator M.G Sekharam and Associate Dean of A.A.C Dr. Ram Murthy.

The event began with the Lighting of the Lamp to mark the occasion. The speakers spoke few words about their thoughts on the event and Mr Ramamurthy thanked the college for helping in establishing the first A.A.C lab with IoT enabled classroom environment and other provisional facilities. 554 students were enrolled, 32 mentors with 32 projects in 7 domains since 2004.



The guest of honor spoke about the importance of real-time projects and how they shaped the minds of students in the process. He said, "Just learning is not sufficient, you must understand and apply these things" and concluded that every student must find the real time problem statements.

Afterwards the "A.A.C website" and book "Internet of Things" by Shruthi Gutta were launched. Later awards, letter of recommendation to the mentors and certificates were handed over by the Sir A.V.V Prasad, The Principal, and the Director.

The event ended with AAC main Project Expo, the attraction of the event and definitely a crowd puller with Concepts like M.L. Deep (D.L), Learning Arduino systems, open C.V, Advanced Coding Web Languages, AutoCAD, and many others. Some of the notable projects done this year include Talking Fingers - Machine Learning



(M.L) and Arduino systems, Smart Band for elders - M.L and Arduino systems, Sales and Diabetics prediction - M.L and data analytic concepts, and many more. AAC continues to inspire students and help them in every way possible.







Street Cause GRIET & NSS GRIET

PLASTIC FREE DRIVE

Put your room neat!! Make sure the bed is not a mess! We hear all these statements from our mothers and grandmothers. Their intention is always to keep "our" surroundings neat but isn't it important to put the surroundings of the places we visit hygienic. With this thought the two social service oriented student bodies of GRIET clubbed to conduct a Plastic Drive in GRIET premises on 20 July'19.

Plastic Drive, an initiative taken up by the Street Cause GRIET and NSS GRIET to



portray the message, " KEEP THE SURROUNDING CLEAN AND HYGIENIC".

The college was divided into five zones and each zone was allotted a team of 12-14 with two faculty, a supporting faculty and a team lead. Each team was provided with a pair of gloves, two sticks, a gunny bag and few covers. Each volunteer was given a pair of gloves and a mask.

The main motto of the event is to make GRIET a plastic free zone. Plastic Drive began at 9:00 AM near the circle with a speech from Mrs Padma Mam, NSS Coordinator followed by the guest of honour Mr M G Shekaram, CAO of GRIET with a speech which focused on the measures everyone can follow to maintain the environment healthy and hygienic. Each team was parted to their respective zones and got to work with a stimulating energy. The event came to an end at 11:30 AM. The bags and covers were deposited at the circle. Each volunteer was given refreshments at the end.

SPICES

Maggi Pizza ...Popcorn masala... Crispy corn .and Gobi Manchuria.Don't these dishes sound like those that can be placed in a quirky restaurant?These turn out to be just a glimpse of a variety of dishes prepared by the students and faculty members during SPICES -2k19 on the 20 th of July,2019. The event was handled by the Civil Department under the supervision of Mrs G.Swetha,



Faculty of the Civil Department. This event was conducted in the fore noon hours i.e, from 10:00am to 1:00 pm,in Hall-2, opposite OBC Bank.



The event was inaugurated by the lamp lightning ceremony ,which was done by our Principal, Dr J. Praveen and beloved Director Dr J.N.Murthy. To organize this event in the best way possible, 15 student coordinators, all from the Civil worked Department with7 coordinators, which included faculty from all departments. There were about 33 teams

that participated enthusiastically in the event, out of which 7 teams were formed by the faculty of GRIET. Every participant was provided with an apron, pair of gloves, a team working space and a hat to cover the hair.

The participants were asked to bring their own raw ingredients for their recipe along with the dishes and utensils to cook and serve in.10 Gas stoves were provided . They were utilised in turns, so that every team could cook their final dish. Each team was given 15 minutes to dice their ingredients after which 45 mins were given to cook and about 10 minutes to plate. The scenario of this event was a feast to the eyes since it reflected joy, team —spirit, and ofcourse the delicious food. Some of the mouth watering dishes made were tacos, brown cake, milk mushroom fry, aloo sandwich, Badam milk, Brownie, Paneer Chatpata, millet jackfruit biriyani and the list goes on and on.

All these dishes were judged based on 3 main criteria:1.Level of Nutrition. 2.Description of the recipe, 3. Hygiene measures during the preparation. The event was judged by the Dean of Student Affairs, Jai Hari Sir, along with a few faculty from departments. There were cash given prizes to top winners, from students and a prize to the best dish from the



from the faculty teams. This event, turned out to be a very beautiful experience to the participants since their hidden talent was provided a platform to showcase it. Also this event highlighted the importance of nutrition and hygiene, these when paired with the look and feel of the dish take the dish to a higher level. The event was harmoniously organised hand-in-hand by the faculty and student coordinators, mixed with the active participation of the students made this annual event, an absolute success.



CSI,IEEE TALK



The student bodies started their term with the event, tech talk by Dr.V.Rama Raju on neuroscience in artificial intelligence. CSI collaborated with IEEE Sb Griet inorder to make this event even more larger.

DR..V.Rama Raju sir is a professional member of different scientific society of engineering medicine biology and computing in many reputed academies like IANs, NSI etc. Students from all the branches and years had turned up who made the talk more interactive.





DS FOR NOOBS

Ds For Noobs the first data science workshop was conducted on the 20th of July 2019. The workshop is centered around the idea of educating the juniors as well as students of all disciplines the basics of Python and how to use Python for Data Science.

Data Science has become the Industry trend and engineers must

competent enough to catch with all the recent technological advancements.



The workshop was conducted in harmony of Photography and Electronics club under the IETE, GRIET wing. C.Sai Teja Reddy, U.Pramod Kumar and Mahesh Varma were the resource heads for the workshop and the workshop grabbed the interest of second years of both ECE and Mechanical Students.



The first half was introduction phase where Python was exposed to all the participants had hands on with experience coding in Python and the session was quite interactive. This phase lead to the introduction of basic Science libraries like Data pandas and numpy. In second half the DataFrame class was introduced and operations such

data cleaning and reorganizing were done in the second half. To the top the day off algorithms like Linear regression, Random Forests, etc were done.

Guest Lecture on PLC AND SCADA

GokarajuRangaraju Institute of Engineering and Technology, Department of Electrical and Electronics Engineering organized a Guest Lecture on "PLC and SCADA" on 16th July 2019 at the Seminar Hall. The Guest speaker was Mr.M.Manoharan, Chief Executive Officer, AUTOMATION SOLUTIONS, Hyderabad.

The event started with a welcome address by Mr.Vinay Kumar A, Associate Professor. Later the guest lecture was preceded by a short talk by Dr.J.Sridevi, Head of the dept. HOD introduced the honorable guest and spoke a few words about him and



briefly introduced the topic of the lecture and its importance. Then she highlighted the various remarkable achievements of Mr.M.Manoharan and requested him to deliver the lecture.

Mr.M.Manoharan expressed his gratitude for being there among students and thanked the department for inviting and providing a platform to share his

experience and knowledge with students. He then gave his introduction and gave an insight into the area of automation. He gave a brief overview of applications of PLC and SCADA in the present day environment. He advised all the students to develop practical approach to widen their concepts and to involve in building projects to get real-time technical experience. He discussed the fundamentals in PLC Technology and shared some videos referring to real time scenario like water bottle manufacturing, etc. The second speaker Ms.J.Vishaka addressed students and faculty projecting the simulations used in the areas of PLC, HMI and SCADA. She exposed the audience to a very useful platform, TIA Portal in which various areas can be explored.

Guest Lecture on ROLE OF COMPUTER PROGRAMMING IN POWER ELECTRONICS SYSTEMS DESIGN

Gokaraju Rangaraju Institute of Engineering and Technology, Department of Electricaland Electronics Engineering organized a Guest Lecture on "ROLE OF COMPUTER PROGRAMMING IN POWER ELECTRONICS SYSTEMS DESIGN" on 27th July 2019 in the Seminar Hall (4412). The Guest speaker were Eswararao Kona and V.V.B.AnjaneyaPrasad.



The event started with a welcome address by N.Sai Anila. She welcomed the Guest Speaker ,Dr. J Sridevi EEE HOD and Mr. Vinay Kumar.A, EEC Faculty Co-Ordinator.

The event started with a brief explanation of the formal basics of power electronics by Eswararao Kona

sir.Initially he brushed up the topics like Converters; different Energy conversions (AC-DC,AC-AC,DC-DC) and examples of Power Electronics in daily life. Gradually, the importance and application of various software were introduced to the students along with the industrial examples. Remote Monitoring Systems (RMS) was also introduced to the students by which a system can be easily monitored from a remote area. Power Slew Rate Control in Renewable Power Sources requires an algorithm to monitor that there is not any fast rate of increase in the energy being generated and supplied.

The next lecture was followed up by Mr.V.V.B. Anjaneya Prasad. He started the speech with his experience in various industries in India and Internationally. He had designed switch gear protection systems for the Larsen & Turbo (L&T) while he was pursuing his diploma in Hyderbad. He also advised the students to practice yoga and meditation for better results and increased mental ability. Later he informed the students about the numerous core companies of which we are usually unaware of.

RURAL DEVLOPMENT PROGRAM

The future of India lies in the villages. Development of rural will be cherished for ages.

The concept of urban-rural relationships is beginning to appear more often in the academic literature as well as policy and programming documents. The evolution of the concept has a long history in the study of economics, geography and regional planning.

A small gesture was made by the students of the CIVIL Department of GRIET on 26th July 2019. 40 students along with 2 staff members visited a village by the name Usrikapally ,Medak District. In this program, the students interacted with the villages along with a few students from schools in the nearby area. They have spread awareness to the people on birth



control, child labor, gender discrimination and lots more.



Interacting with the villagers, they gathered a list of problems faced by them which includes transport, primary and secondary education, water and proper sanitation. They have also been requested to bring their village under government's notice for a 2-bhk scheme.

The team thanked everyone for providing the opportunity to help inculcate awareness among the

villagers and to help them develop their communication and team-working skills, to adapt well in a different environment in the best way possible.

ZENITH

What if there exists a fun filled event that focuses the participants core technical ,logical, reasoning and aptitude skills ,all in just 3 rounds? These rounds can be won only if the participants give their 100% .ZENITH, an event organised by the ISTE SB of our college have taken these points as a motto to organise a technical event which was held on 20th of July,2019. This event was conducted in ECE Seminar Hall .There were almost 20 teams that participated in this event.

This event, as said before had 3 rounds, each with a fascinating title and a set of rules associated with it. The game begins with a gift 50 points to each participant and points must be further earned by giving appropriate answers to the questions. Wrong answer could also cause deduction of the previously earned dollars. Also there will be qualifying points to the next round. That means there will be elimination too.







The first round was called the TECH-BOUNCE. This round had questions from the core subjects of the participants where they get to select the difficulty level by selecting a ball from a box. Green says it is easy, read being the mediocre and black being the toughest. Points were assigned to the questions , based on the difficulty level. Out of 20 teams that participated, 12 made it to the next round. The next round was called the 'LOGIC GATE'. Here ,a set of logic gates and inputs were given based on dice and a coin. Time constraints were applied and 8 of them made it to the last round.

The last round was called 'ALL ON BOARD' where they were regrouped into teams of 4. Here they were asked to design questions based on aptitude in such a way that no other opponent team could answer it. Given some time to think and design, two teams performed out of the box from which 1 was selected based on the technical skills they had. The winning team was provisioned with a free industrial trip from the ISTE team. They were also given merit certificates.

This event not only emphasised on the technical skills but it also reached the participants in a very creative ,yet joyful and an appealing way for everyone to widen their thoughts and perspective on technology and ways to connect with it.







3D MODELLING AND 3D PRINTING

3D modelling and 3D printing plays an important part in the Rapid Prototyping of a product. This requires an interdisciplinary problem-solving approach by the employees who has an ability to work and integrate multiple software environment. In order to enhance the employment opportunities of our students a hands-on exposure in working with multiple discipline software is being proposed. During this workshop, students had hands on exposure in Solidworks software which is used for 3D modelling and 3D printing.











SPIRALS IMPROVACT

Improvact is basically an event in which people gather and form teams to participate in various activities, and these are designed in ways to test and improve each person's dramatic, creative and communicative skills; while being fun and entertaining as well.



The event began around 10:15AM and started of with the introduction given by the anchors Netrhra & Balaram theatrical dramatics to start of the event with a fun and energetic vibe. Post the regular customaries, they introduced the Judges Sampreerth, Subitra along with two others who were ex-Spiral members i.e, klayan and Anusha. klavan and Anusha were then

invited onto the dais and asked to speak a few words. They shared their experience as to how they were able to connect with all and felt surreal to be back and experience it again. Post this the events began to unfold as follows: For every 2 teams a volunteer was assigned who was to assit them in all manners. Later the anchors announced in brief about the event i.e, Riddle Round.

Activity 1: This was the first round in which all participants were given a riddle to solve, and was timed by a volunteer. The timing was noted as per the time taken to solveit. Each were given three attempts if their answer were to be wrong. The team(s) with the least timing was awarded an advantage which would be disclosed later..While the results were being assessed by the Jury, an activity called dialog completion was initiated to keep all participants engaged.



ICI Field Visit



 \mathbf{E} ngineering is a great profession. There is the fascination of watching a figment of imagination emerge through the aid of science to a plan on paper. Then it moves to a realization in stone or metal or energy. Then it brings jobs and homes to men and women. Then it elevates the standards

of living and adds to the comforts of life. This is the engineer's high privilege. Civil engineering is the oldest and classical branch of Engineering playing an important role up to the life end. Without a strong beam and slab a building is impotent. Knowing the right measurement and materials to be used completes a civil engineer. So, Indian Concrete Institute (ICI) student chapter organized a field visit on 4th July 31, 2019 to gain field knowledge regarding concrete works. 68 students along with one faculty visited the construction site of GRIET Boys Hostel campus. This visit helped many civil students learn and gain knowledge on how the concrete work of beam and slabs are done. This has also helped them to understand the professional and ethical responsibility.

The students were grateful for the opportunity provided by ICI team to know the principles of civil engineering projects, analyze and interpret the data and to develop efficient ways to communicate with the engineering community and society.

ART POEMS QUOTES ARTICLES

ART





Akash CSE Dept

Ramya CSE Dept



POEMS

Problems?

If we, humans, can make and create problems,
Empower them with a meaning and a purpose,
Generate a realm of less self-love and more
self-criticisms,
Why Can't We,
Why Can't We MAKE THE PORTAL OUT OF IT?
Why Can't We BREAK AND DESTROY IT?
Why Can't We THINK OF A SOLUTION TO
ESCAPE IT?
Or simply,
Why Can't We JUST COME OUT OF THE

A Sai Krishna CSE Dept.

Italian Romance

As I roam through Rome, I feel calm and serene, For it has put me in an awe Cause all here is heaven green. Life here is small and sweet, Slow and steady, always happy, Cause life has given them a humble living, That has made them Beautiful, peaceful and serene. Its art and craft have Left me in awe, It's churches and monuments have Make me wanna know, That who had built and painted these magnificent pieces, That have left me in awe. The country is the land Of Adam-Eve, Love of God is shown in Full Glory, The mountains and valleys Are bursting in green, Showing how much they're Greenly in glee. If were unto me, Id stay here for eternity

> Tejas Nambiar ECE Dept.

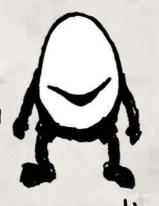
QUOTES

A leader will know how to respond instead of reacting, a true leader teaches a team how to respond instead of reacting.

MohsainDashti ECE Dept.

If you learn

A Smile
then you achieved
first step in
Success
of your life



If you think you know yourself, Give yourself some solitudeand ask that again.

Tejas nambiar ECE Dept.

Meher Viswanath CSE Dept.

- > Being weak is nothing to be ashamed of...However, staying weak is!!
- > Freedom isn't living without rules... It's just living by your own rules...

N.Venkata Naga Sai ECE Dept.

ARTICLES

Xiaomi's Redmi

Xiaomi's Redmi has entered into India's premium segment smart phones with the launch of Redmi K20 series. The company launched two variants named as Redmi k20 and Redmi K20 pro.

As for the pricing, the Redmi K20 Pro starts at Rs 27,999 for the 6GB+128GB variant and the larger 8GB+256GB variant is priced at Rs 30,999

The new Redmi K20 Pro is supposedly the first affordable flagship handset introduced by the company. In terms of design, the device carries the company's conventional Aura Prime Design with designs including fire and ice design and a carbon fiber back design. The new design includes a six-layer design enclosed in a 3D curved Gorilla Glass 5 back.

Coming to Screen, the Redmi K20 Pro features a 6.39-inch Full HD+ AMOLED full-screen display with a screen-to-body-ratio of 91.9%, which is further protected by Corning Gorilla Glass 5. To achieve the full screen 19.5:9 aspect ratio display, Xiaomi India, for the first time, had included a pop-up selfie camera on top. The Redmi K20 Pro further supports DCI-P3 color gamut and DC dimming feature. this device features In-screen fingerprint scanner.

Under the display, the Redmi K20 Pro packs in Qualcomm's flagship Snapdragon 855 SoC. The octa-core processor is built on a 7nm FinFET process packing an Adreno 640 GPU as well. The flagship K20 Pro is further equipped with either 6/8GB of RAM and 128/256GB onboard storage respectively. The company also claims to have added an 8-layer graphic sheet to maintain the heat dissipation while undergoing resource-intensive gaming. As for the software, the Redmi K20 Pro comes with Android 9.0 Pie-based MIUI 10, which brings exciting features like system-wide dark mode.

The optics, the Redmi K20 Pro being the first premium flagship smartphone from Xiaomi India – it also brings the first triple rear cameras, which is also the first in Redmi series. The K20 Pro comes with a 48MP Sony IMX586 sensor accompanied with a 13MP ultra-wide camera and an 8MP telephoto sensor. The rear camera further supports laser autofocus along with PDAF. On the front, the Redmi K20 Pro comes with a 20MP pop-up selfie shooter that also supports AI Face Unlock, for authentication. The video recording on these cameras is capable of capturing 4K for up to 60fps alongside 960 fps slow-mo video reciting as well. The rear cameras are further backed up by EIS (Electronic Image Stabilisation).

The Redmi K20 Pro packs in a decent 4000mAh battery that supports company's 27W fast charge via USB Type-C, however, the retail box includes an 18W charge adapter. The Redmi K20 Pro additionally comes with P2i's water-resistant nano-coating, which could save the phone from water spills. And, also Redmi K20 Pro features Always-On display, which is the first in the Redmi series.

-Pranay
CSE Dept.

Machine learning

Did you ever think about the products suggestion given by Amazon?, or the movies suggested by Netflix?. You will find rows and rows of coders hunched over their laptops to make this tech work. This tech is possible through Machine learning. What is machine learning?, you can just say that it is going to conquer the world in the future. In simple words machine learning makes our work easier by teaching/training the machine with huge piles of data. Face detection, pothole detection, iris flower detection and also the famous Google voice assistant come under this domain. The feild of machine learning is fast growing and changing over time. Choosing a career in this field would be very interesting. A sound mind and a great analysing power can make you a good machine learning engineer.

-Rakesh Reddy CSE Dept.

Chandrayaan 2

ISRO (Indian Space Research Organization) has been working very hard for the follow up machine of Chandrayaan 1. The major activities of the mission includes trans lunar insertion, lunar bound manoeuvres as the moon, closet comic body at which space discovery can be attempted and documented. Chandrayaan 2 attempts for a new age of discovery, increase our understanding in space, stimulate the advancement in technology and inspire a future generation of explorers and scientists.

Chandrayaan was launched on 22nd July 2019 from Sriharikota (Satish Dhawan space centre) was the second Mission to the moon. It revolves around the moon and gets the details about the lunar surface so, it is named "CHANDRA" means moon and "YAAN" means exploration.

Why moon??

The moon provides us the best linkage to Earth's early history and an undisturbed record of the solar system environment. Moon, as known Earth's natural satellite is 4.53 billion years old which may be less than that of earths, but provides a lot of information about earth. The mission was launched on an approximate lift-off mass of 3,850 kg. It was initially put in an Earth parking orbit of 170km and 40,400km by the launch vehicle. The man who played crucial role is ISRO's chief K. Sivan. He promised their mission will be successful as there are many efforts for the modification required and had their best man on.

Chandrayaan 2 will be aided in achieving its mission by some of India's most advanced engineering marvels. Its integrated module, which comprises technology and software developed across the country, includes ISRO's most powerful launch vehicle to date and a wholly indigenous rover. Some of the advancements on the spacecraft include:

Orbiter: Weight: 2,379 kg

Electric Power Generation Capability: 1,000 W

At the time of launch, the Chandrayaan 2 Orbiter will be capable of communicating with Indian Deep Space Network (IDSN) at Byalalu as well as the Vikram Lander.

The mission life of the Orbiter is one year and it will be placed in a 100X100 km lunar polar orbit.

Lander — Vikram

Weight: 1,471 kg

Electric Power Generation Capability: 650 W

The Lander of Chandrayaan 2 is named Vikram after Dr Vikram A Sarabhai, the Father of the Indian Space Programme. It is designed to function for one lunar day, which is equivalent to about 14 Earth days. Vikram has the capability to communicate with IDSN at Byalalu near Bangalore, as well as with the Orbiter and Rover. The Lander is designed to execute a soft landing on the lunar surface.

Rover — Pragyan

Weight-27 kg

Electric Power Generation Capability: 50 W

Chandrayaan 2's Rover is a 6-wheeled robotic vehicle named Pragyan, which translates to 'wisdom' in Sanskrit. It can travel up to 500 m (½-a-km) and leverages solar energy for its functioning. It can only communicate with the Lander.

-Pranay
CSE Dept

Vehicular Population

Technology has advanced a lot in a short period of time, this has, of course, resulted in a much greater quality of life.

One of the most prominent pieces in this advancement is "Automobiles". But like everything, they also come with their own set of drawbacks.

Yes, they have made commuting a million times easier, but haven't you lately felt that there are a lot more vehicles around you?

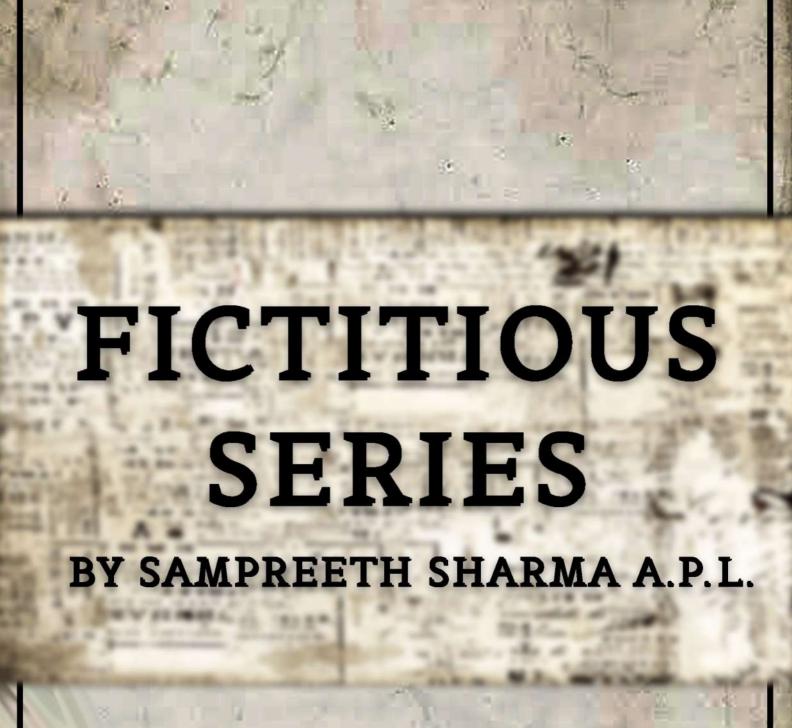
Well, this happens to be true as there has been a drastic improvement in the number of vehicles being used by people on a regular basis.

There are many reasons for this surge in numbers, but it can be narrowed down to a few major reasons.

- a) The quality of public transport: public transport is meant to be served for the people, but it isn't always the most comfortable or desired option. The public transport in our country is often unreliable, and hence a chunk of people tend to skip this option.
- b) The present economy: It's of no surprise to anyone that our country's economy has risen considerably, and that means the people in our nation are at a better stage and have a more comfortable lifestyle available to them. Hence they like to venture out and buy a private vehicle to aid their better lifestyle.
- c) The availability of vehicles: Our country has become a serious/major marker for the automobile industry, we are a population of around 1.7 billion. So the automobile industry has found ways to target the citizens of the country by presenting and coming up with cheaper options and hence vehicles have been more readily available to the general public.

In short, just like our country's population problem, we might soon be facing vehicular overpopulation, and we must come up with effective solutions to prevent this.

Karthik Veeravalli
CSE Dept



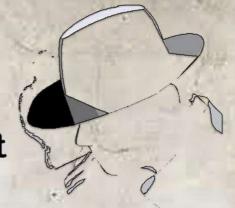
FOUR

- Chapter One -Operation Jack-Rabbit

30th December, 2018.

7.28 P.M.

The Commissioner's Office.



The police servers went down. There was havoc in the control room since no one had a clue of what was happening. The Tech team were working on it but had no clue of why all the computers went down. The Control room supervisor was persistantly called from the Commissioner's office about the progress being made and the media had its role to play in spreading the news that the Police servers got hacked. There was nothing more than confusion and induced conclusions being made by few news channels and jobless people. The entire city of Hyderabad was shocked by the news that police were unaware of the hack until a confidential paper was leaked in the internet about the blasts that were going to take place on the New Year's Eve. Many news channels embarked on the debate shows for the TRP ratings about the inability of the Police Department to detect hacks and stay updated, about the failure of the ruling Government and what not. All media wanted to show was anything but the same as the other channels, so they followed the strategy-convince or confuse.

The Police Commissioner has made a statement that created more confusion.

"The systems are up to date as far as the security measures are concerned. The hack looks like a very recent one, but the leak, that made the internet go mad, states that The Police Department knew that Hyderabad was under threat long time before the hack. It's highly ridiculous to believe that the entire Department had overseen the threat unless it is neutralised or is a fake warning. I want the citizens of the twin cities to have some faith in the Department because the Department is always in their service", he said.

Why would the Journalists accept their mistakes?

So now the new and the confusing news was Why didn't the Commissioner exactly specify if the threat was neutralised or fake?

They never stop, do they? ...

8.04 P.M.

Secunderabad.

A special team was formed to track the existence of the threat. Mohammad Abdul Rassak, IPS had his team ready and were all set to go out into the streets of the city without making noise about the operation. Krishnamachari Sharma and Saifuddin Karim were the undercover operatives for the mission reporting Abdul Rassak. Mohanlal Kannayya was the driver for the two when set out for pursuit. The undercover mission was named 'Operation Jack-Rabbit'. Jack-Rabbits are the suspects they were behind, a code name. Hyderabad is a place of diverse culture and a home to more than 10 million lives. It is difficult to say if anyone in the city has time to think about what's happening in the life of the person beside them, but that's the problem, there are so many people that you never know what they are up to Mr. Sharma and Karim along with Kannayya decided to keep a low profile for the next 28 hours. They meet at the Secunderabad Railway Station, the place that sees 5000 new faces every 10 minutes. It is just the reflection of how many different variations exist in the word different itself!

The three booked a room at Sri Balaji Lodge, a small hotel mostly visited by unmarried couples, right in front of the main entrance of the railway station and were given the room 107, the last in the corridor.

The climate cooled down and the wind started to blow considerably more than before and was an indication that it might rain, supporting the weather forecast of heavy downpour in the next 48 hours. ...

8.22 P.M.

Lodge.

Mr. Sharma always had an ear piece. Karim and Kannayya notice that Sharma, on the first night in the lodge, was speaking to someone over the phone right from inception. Karim gets excited to know who it was and asks Kannayya about who it was over the phone.

Kannayya is a person with a poker face. He tends not to show his feelings on

his face and is a tough nut to crack. He has been the driver for Sharma for over a decade now that they became such good friends that there are no formalities between them.

Karim on the other hand had been undercover for the past half a decade. He personally asked for the case of Lancer Vine, a drug lord that the entire Indian Police Department is after. Whispers were that Lancer Vine was in Hyderabad and is maintaining a low profile and so Karim wanted to lead the case and make progress in busting the drug lord. He had made considerable progress in solving the case and deducing the network of Lancer Vine and there were many instances when he broke into the places where he was hiding, but always missed him in a whisker.

Karim being the one dealing with a lot of crime world operations was hence selected to work with Sharma on this case.

KRISHNAMACHARI SHARMA. The most under-rewarded officer in the department. He had a lions share in solving the cases of Dawood Ibrahim and Ajmal Kasab. The last case he was involved in was the one of Hyderabad's most notorious criminal, Nayeem and went undercover since the success of the operation to track the other contacts of Nayeem. The network he has and the depth he went into his undercover operations were just impeccable and was a true soldier in the department for the nation. He never expected anything in return for his services which also led to his separation with his wife when she was a 7 month pregnant woman. He is officially still married but has never met his wife in the last 7 years not because of the differences they had about their personal lives, but also his disappearance in the plain sight. He never tried to approach his wife during his service period and has no intentions to blow his cover anytime soon. He prefers not to talk about his personal life on duty and so is a very serious officer on field. Kannayya answers Karim about Sharma saying, "I've been with Sharma for over a decade now and all I can say is that whatever he does, that's for good. He might be talking with the Tech team or the other informants or anyone, I don't know! I can't say! But when he's on it, he's on it."

When he's on it, he's on it!

Sharma gets information from the person over the phone and immediately asks Kannayya to take out the city map. The person over the phone says "Charminar, Uppal, Maula Ali and Khairthabad". Sharma marks those places on the map, cuts the call and makes no sound and show any interest in telling the others what it was about.

That awkward silence that day, after Sharma marked the points, it was the sign that the storm was about to hit Hyderabad, hard. No one had a clue of what it was about. Kannayya and Karim were looking at the marks and at Sharma alternatively in complete lack of knowledge of what was happening. They didn't speak.

Sharma was closely looking at the points with his jaws dropped and his palms trembling. He didn't speak.

The sounds from the fans and their breath was all that were making the oscillations in the ear drum. Sharma's heart was beating hard, hard that they could see the excitement in his eyes, they were popping out. Yet, he didn't utter a word.

To break the silence, Karim asked Sharma, with a lot of anxiety leaking out of his eyes, "Wh- What is it?" He was nibbling his finger nails waiting for Sharma to open his mouth. Kannayya adds asking "What's up Sharma? We are a team remember?"

Sharma finally opens up with a very low and soft voice. ...

8.27 P.M.

Lodge.

"The threat's real. We need to make a move", he said. "We need to make a move right now! The Interpol is involved in this. This is no more about finding out the credibility of the hack and the leak, it's real and there's no time. WE NEED TO MAKE A MOVE RIGHT NOW!"

Sharma explained Kannayya and Karim that the four places has potential suspects and that one of them would be the person behind the hacking of the police database. He also points out that no two places are nearby to each other and are placed in very crowded and sensitive areas all over the city. They decide to split up and catch all the four suspects and interrogate them without them knowing about others to get the real culprit.

Kannayya, though is not very experienced and trained in action, was with Sharma for over a decade and hence was trusted by Sharma to send him alone to Khairthabad to get the suspect. Since Kannayya was not completely undercover, he could even get the help of local police if required and that Khairthabad P.S. was where he worked as a constable before he was assigned with Sharma. So tactically, Sharma felt that it is the only way to divide work and sent Kannayya to Khairthabad to arrest the Jack-Rabbit 1.

Karim was more or less the Hyderabadi guy and so was assigned to trace and get hold of the Charminar suspect, Jack-Rabbit 2.

Sharma decided to take care of Uppal and Maula-Ali on his own and if required, for action, could take the assistance from his wide network of undercover cops. Kannayya and Karim set out for action immediately but Sharma stayed back to look into his arms and ammunition before the long night began. He carried his P92 with 90 extra rounds of ammo. ...

8.59 P.M.

Lodge.

Sharma makes a move out of the room after he sealed all the maps and guns.

Just as he locks the door, he notices someone peeping at him from the other end of the corridor.

The corridor is 40 meters long, which means it takes 17 complete seconds for an average human to walk from one end to the other. The power goes down in the building all of a sudden, just when a striking lightning lights up the place in bits and pieces. The only light in the corridor was the light from the lightning coming from one end of the corridor.

Sharma sees a person standing on the other end of the corridor. The thunder that followed the lightning was so unexpectedly loud that it got the shit out of Sharma. He shouts at the man on the other end.

Hey, who are you? What are you doing there?

No response from the man on the other end of the corridor as he stands still with his face not so clearly visible in the flashing lights. Sharma slowly takes out his gun and loads it silently and searches for his mobile. By the time he takes it out another instance of light shows up and the man is not there anymore

He immediately turns on the flash and slowly moves towards the other end of the corridor for the man. He notices the man going up the stairs and follows him to the fourth floor. The power comes back but voltage fluctuations make the lights flicker. He notices the door of room number 403 slowly closing in the flickering lights.

Sharma decides to get inside the room without knowing what might happen inside. He tries to open the door and realises the door is not locked from inside.

It was like a camouflage of espionage, a Cloak and Dagger operation for him. His heart was of course not in any control and his hands started to shiver. He opened the door and sneaked into it. The room was dark. The man who entered the room hasn't placed the key yet. He took two steps into the room without making noise absolutely. He could listen to his heart beating and feel his legs shivering.

Sharma falls into a dilemma whether to shout out to the man, calling him out, or wait for the man to make the first move. The words to call him out comes till his throat but stops himself from making the first move as he was unsure of the risk that he has taken.

His phone rings loudly!

Sharma gets panicked as his phone made loud noise which revealed his presence in the room, yet he answers the call.

It's Karim.

He answers the call through his ear piece when Karim says over the phone that "It seems the Jack Rabbit has been out in the evening and hasn't returned yet. If enquired more, the local people might start asking questions. What to do now? He isn't here!"

The lights turn on in the room and the man points the gun to Sharma from the back and says, "Cut the call."



