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‹codex›
We code. We explore

NEWSLETTER

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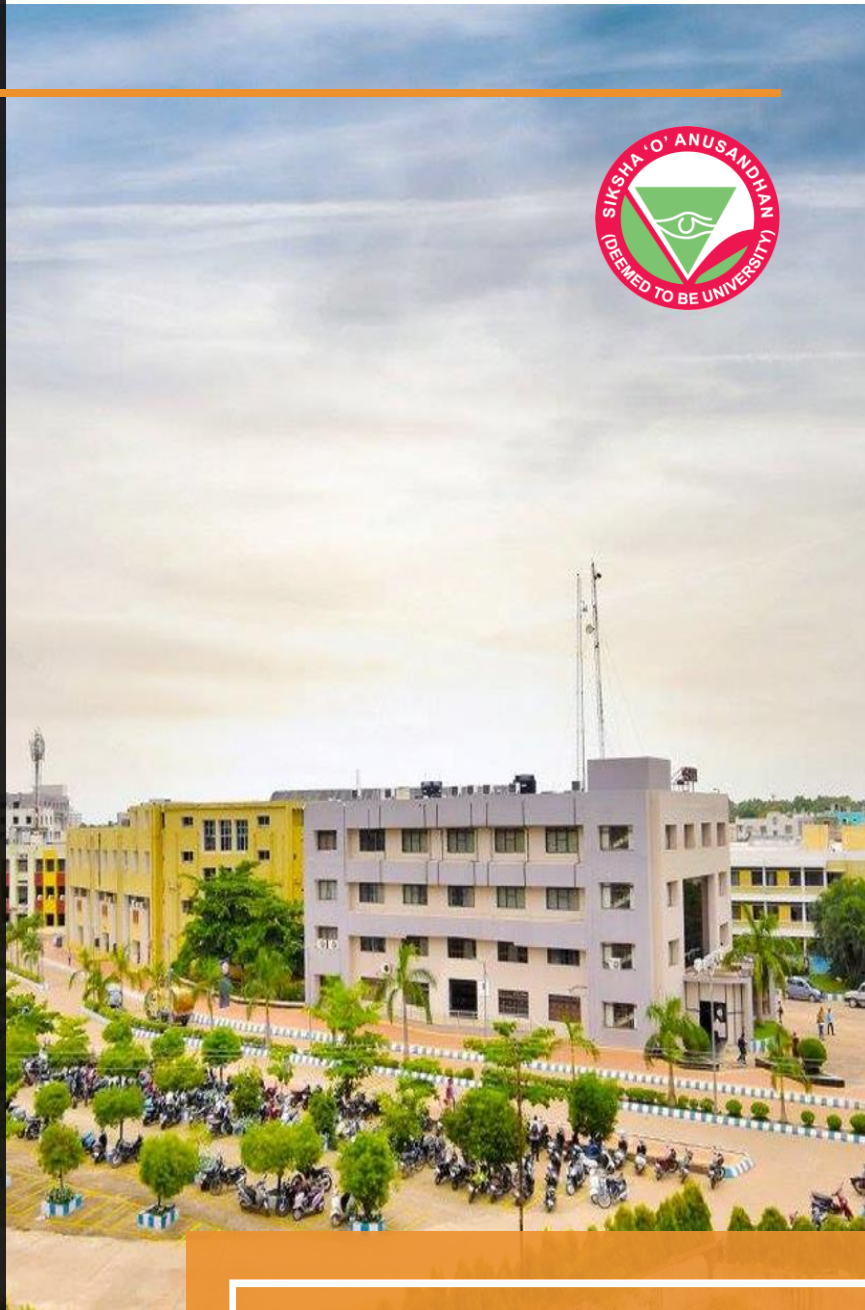
Celebrating International Day of Girl Child

11 October 2021

Hacktoberfest 2021!

Get Ready for the #Hacktoberfest2021

What is Hacktoberfest ?

Hacktoberfest is a month-long challenge. It happens every year in the month of October. **Hacktoberfest** is open to everyone and it marks the celebration of Open Source. It's the biggest Open Source event that encourages newbies to participate in Open Source and create their 1st meaningful PR.

How can we contribute?

Maintainers determine if their open-source projects participate.

Pull requests can be submitted to any opted-in repository on GitHub or GitLab.

Quality pull requests submitted on GitHub and GitLab are rewarded.

Engaged maintenance of **Hacktoberfest** tagged repositories are rewarded.

Speedup and earn your swags!

To get a shirt, you must make four approved pull requests (PRs) on opted-in projects between October 1-31 in any time zone.

This year, the first 50,000 participants can earn a T-shirt.

You have to make at least 4 PR to count and must be:

Submitted in a public repo, AND the PR is labelled as hacktoberfest-accepted by a maintainer. Or submitted in a repo labelled 'hacktoberfest' , AND Merged, or Approved

Congratulations! You have successfully achieved your reward. Let's share it on social media.

ICICC - 2021

The 2nd International Conference on Intelligent and Cloud Computing (ICICC-2021) aims at the crossroads between scientists, researchers, practitioners and students from diverse domains in cloud computing research.
 The conference aims at attracting contributions of system and network design that can support existing and future applications and services. In recent years, intelligent and cloud computing attracted significant attention both in research and industry.
This approach corresponds to natural human vision and is the best way to represent, generate and implement various contemporary achievements.
 ICICC-2021 will provide a forum that will bring together researchers, academia and practitioners from industry to meet and exchange their ideas and recent research achievements in all aspects of intelligent and Cloud Computing, together with their applications in the contemporary world. It is organised by the **Dept. of Computer Science and Engineering**
Faculty of Engineering and Technology (ITER)
Siksha 'O' Anusandhan Deemed to be University
Bhubaneswar, Odisha, India.

The Proceedings of ICICC 2021 will be published in Springer Book series **Smart Innovation, Systems and Technologies** [Approved]. The books of this series are submitted to Indexed by SCOPUS, EI Compendex, INSPEC, WTI Frankfurt eG, zbMATH, Japanese Science and Technology Agency (JST), SCImago, DBLP.
Official Notice

Technophilia - Poster Symposium

It is a splendid opportunity for all students irrespective of academic year or semester to participate in the **Technophilia - Poster Symposium,** where you can showcase concise ideas and innovation in the form of a detailed poster.

Check Notification

The Pitch Deck - Innovative Startup Ideas

CODEX, ITER has initiated a cumulation of entrepreneurial mindset in order to highlight and boost startup ideas amongst students exclusive to ITER. Under the canopy of ICICC - 2021 this event shall amass major attention and participation from students as well as the jury.

Check Notification

KNOW YOUR SLEEP

- Anushka Rath, CSE.

*We are introducing this dedicated column of **Lifestyle Articles** for you. Check out here inside every issue to know more on general themes of health, leisure, fitness, hobbies, work-life balance and lot others!*

Our generation loves working in the twilight and beyond. This apparent higher productivity during the night is leading to a parliament of owls struggling and juggling for sleep during the day. This is what has made a pressing need for better sleeping techniques that could make you fall asleep deeper and quicker.

Disclosure of these techniques would be futile if we are not aware of the basics of the mysterious science behind sleep. Let us make you delve deeper into the science of sleep and take you to a ride of the sleep cycle. As we sleep, our brain cycles through four stages of sleep:

- Stages 1 to 3 are what's considered non-rapid eye movement (NREM) sleep, a.k.a, quiet sleep.
- Stage 4 is rapid eye movement (REM) sleep, also known as active sleep or paradoxical sleep.

Each stage has a unique function and role in maintaining our brain's overall cognitive performance. Some stages are also associated with physical repairs that keep us healthy and make us ready for the next day. The entire sleep cycle repeats itself 3-4 times each night with every successive REM stage increasing in duration and depth of sleep. An adult spends more time in NREM sleep than an infant.

Entering Sleep

During the earliest phases of sleep, you are still relatively awake and alert. As the brain begins to relax and slow down, it lights up with alpha waves. It is in this phase that we have sensations of falling or of hearing someone calling our name.

NREM Stage 1

The first stage of the sleep cycle is a transition period between wakefulness and sleep. Our brain slows down and our heartbeat, our eye movements, and our breathing slows with it. Our body relaxes and our muscles may twitch. This brief period of sleep lasts for around 5 to 10 minutes.

NREM Stage 2

This stage lasts for about 20 minutes per cycle. We become less aware of our surroundings, our body temperature drops and our eye movements stop. Our brain gathers and processes new memories we acquired the previous day.

NREM Stage 3

Stage 3 is deep sleep and lasts about 20 to 40 minutes. During this stage, delta brain activity increases and a person may have some body movements. It is very hard to wake up someone in this stage.

> *Did you know that most of what we know about sleep has only been discovered in the last 25 years!!*

REM Stage

Known as the Rapid-Eye-Movement Stage, this is a phase of most brain activity. We do most of our dreaming during REM sleep. However, our body is temporarily paralyzed, as it prevents you from acting out your dreams! Our brain also uses this time to cement information into memory, making it an important stage for learning (*The power of the subconscious!*).

> *Did you know that around 8% of people have an episode of sleep paralysis during the course of their life!*

Having known those, we now know why the experts say that hitting a snooze alarm over and over again to wake up is not the best way to feel rested. This on and off again effect of dozing and waking causes shifts in the brain-wave patterns. Sleep-deprived snooze-button addicts are likely to shorten their quota of REM sleep, impairing their mental functioning during the day.

To help quiet your mind and learn how to increase the amount of deep sleep you get each night, practice the techniques below:

- **Make Your Bedroom a Sleep Sanctuary**
The environment where you lay your head each night should be sleep-friendly. That means no bright lights, no loud noises, and a cooler temperature. The best temperature for sleep is between 16°C and 20°C.

- **Listen to Pink Noise and Binaural Beats**
Those looking to increase deep sleep may benefit from listening to pink noise. Pink noise represents calming nature sounds like steady rainfall or waves crashing on a beach.

If you are the type of person that likes to doze off to music, add some binaural beats to your playlist. A binaural beat is when you hear a different tone in each ear with slightly different frequency. In order for it to work, the tones have to be listened to separately through each ear at frequencies less than 1000 Hz.

- **Work out with yoga during the day**
It is no secret that getting in a daily sweat sash is beneficial to sleep. Yoga is a great way to centre your body and mind besides promoting better sleep quality. It would be cautionary to avoid intense workout right before bed.

Try knowing your body better and figure out the right schedule for you. Avoid staying up at night if your body doesn't support it.

"Don't give up on your dreams so soon, sleep longer." ;)

Interview Bytes

Words of Experience from- Avinaba Ray, SDE, BlueOptima

Q: How should one prepare to be successful in the field of engineering? Any strategies for 1st, 2nd and 3rd year respectively that can aid to the cause?

In terms of preparations, I believe there are three core subjects along with Data Structures and Algorithms that you need to be good at – Operating System, Database Management System and Computer Networks. These will help you clear out your important theoretical queries. Mastery over Data Structures and Algorithms along with coursework subjects like Algorithm Design 1 and Algorithm Design 2 will be very helpful in actual interview scenarios. But the coursework only covers up the informative and fundamentals of algorithms. You have to implement those algorithms in various problem statements to get the actual hang of it (practice questions from GFG or Leetcode and competitive programming). I used to do Codechef and was also the president of our institution's Codechef chapter. Next you need development skills like working on a good applicative project, technical club activities, hackathon participations, good internships and work experiences. I had done three internships two of which were through Internshala which were actually quite a learning procedure.

Q:How important and necessary is competitive coding for placements and job interviews?

I feel competitive coding is great but you must focus more on Data Structures and Algorithms rather than Competitive Programming. How do we segregate them? Instantively, What we commit to on codechef and code forces is Competitive programming. What we learn at Geeks for Geeks and Leetcode is Data Structures and Algorithms . Most MNCs and high package companies like **Amazon**, **Microsoft** and even **Paypal** focus more on Data Structures and Algorithms. Competitive Programming is a tool to polish your Data Structures and Algorithms. Don't directly go to Competitive Programming and leave your Data Structures and Algorithms raw. For example If you were asked to sort a partially sorted array. Which algorithm would you apply there? A person versed in Competitive Programming would try to reduce the time and space complexity as his priority but a person versed in Data Structures and Algorithms would know all the approaches to solve the problem.

Q What is your opinion on learning by the reverse methodology. like work on projects to learn something new or learn something new and then work on related projects.

I would always go with the former. You can never learn something completely be it a programming language or framework or technology. But care should be taken that you don't jump blindly into it without having some theoretical knowledge and familiarity beforehand. I was given a problem statement in my recruitment process at **BlueOptima** which was a project given for four days and I was unfamiliar with the stack. We had to build an API and I wasn't too comfortable using the Spring framework which was a prerequisite but I was strong in java. If you don't know java you won't be able to apply springboot. As long as you know the basics of java like OOPs then you need only 2-4% of Spring to solve the problem statement. Thus you just need to know the basics and implementation of a tech stack along with a lot of googling to get your way around real life industry problems.

Q: How should one prepare to be successful in the field of engineering? Any strategies for 1st, 2nd and 3rd year respectively that can aid to the cause?

You should enjoy your 1st year as well as 2nd year, But from the beginning itself, you should have a particular dedicated amount of time which you devote to your academics. At that point you wont be knowing which field your heart lies in such as android development, web development or machine learning etc. You need to know what these are. Only then you would be able to pursue a career in CS. Explore everything bit by bit. Then you would be able to decide which track you want to go in. It's not like you have to know everything but all you have is surface knowledge. You have to be Jack of all trades and Master of One . My preferred track is Android development where my personal projects are in android, my hackathon participations as well as internships lean towards android development. Let me give you an internship hack. Usually in interviews they direct questions towards DSA and core subjects, But these are bound to be medium to tough and there are chances you may get caught up in something. But if you have good projects and internships up your sleeve you can easily drive the conversation towards that and get a familiar topic to discuss on since you did it thoroughly. This provides an edge.

Q: How far do you think college plays a role in preparing a student for industry and job situations? Are internships essential for the scope of industrial exposure?

College coursework is really important where you have to pick a few particular subjects and be strong at those. That will aid you in the theory interviews. All theory subjects play a major role like **Operating System, DataBase Management System , Computer Networking, Automata** etc. CGPA is utmost important to get shortlisted for most placement drives. 8 is the threshold for scoring a chance with every company, but most companies do come down to 7. Off campus are relatively more difficult than on campus since competition and there is an u

scale. There are people from past work experience who have an edge over freshers. Referrals work for freshers in some companies but not all like **Amazon** doesn't consider fresher referrals. The myth about high packages is that 40-45% percent of the advertised salary is in stocks or incentives which you can withdraw after a stipulated time period only. The base salary is always 50-55% of what is advertised. You must form a network with your seniors and internship colleagues. This helps in getting easy referrals and recommendations.

Q: How did you prepare yourself for final year placements? How would you rate your experience?

I started early on. The placement training and aptitude classes provided will be very helpful and clear your basics. Aptitude tests don't contain too difficult questions but you must have a practice of solving the aptitude questions in a short duration of time. I had appeared in an aptitude test where we had to clear 50 questions in 30 minutes of time. After handling my placement training and aptitude, I focused on my coding skills on different platforms. Internships helped me a lot in getting industry standard coding exposure and senior developer guidance. Start-ups don't usually require a high amount of expertise in Data Structures and Algorithms and competitive coding as compared to tech giants like **Microsoft** and **Deloitte**. What they focus on is how you act under pressure. When I was recruited under **BlueOptima** , I had to develop a project with three other members in 4 days. Out of 250 students that applied, only two of us were selected. After selection they had a project discussion round where they hammered me with questions even though they were aware that those questions were not generic or answerable by a beginner. They just want to check how you perform under pressure and your ability to handle stress.

- *Compiled By- Anushka Rath and Deb Adarsh Sahu*

TECH NEWS

Starlink to Focus on 10 Rural Lok Sabha Constituencies in India for Satellite-Based Internet Connectivity, aiming to have 200,000 terminals active in India by December 2022.

Starlink, the satellite-based Internet service operated by Elon Musk's SpaceX, is set to go live in India by focussing on ten rural Lok Sabha constituencies, a company's executive revealed. SpaceX aims to provide high-speed Internet access in remote areas using a constellation of satellites under Starlink. The Hawthorne, California-based company is projecting to offer "near global coverage" of its service in 2021. It is considering India amongst the key potential markets to grow the service in the coming future.

https://gadgets.ndtv.com/internet/news/starlink-india-launch-rural-lok-sabha-constituency-plans-december-2022-target-2563539

The New Startup: No Code, No Problem . Now you don't need to know any programming to launch a company. We've been approaching this moment for years.

DANI BELL WAS a British copywriter who hankered for her own marketing startup. Like many founders today, though, she faced a roadblock. She couldn't code.Normally, an entrepreneur in that situation would need to spend money, and maybe even raise it, to hire developers. But Bell did something different: She bolted together software from various online services

https://www.wired.com/story/new-startup-no-code-no-problem/

Discovering how we sense temperature and touch wins the 2021 medicine Nobel Prize

David Julius and Ardem Patapoutian found nerve cell sensors for heat, cold, pain and pressure.

Some touching research took the 2021 Nobel Prize in physiology or medicine. David Julius of the University of California, San Francisco and Ardem Patapoutian of the Scripps Research Institute in La Jolla, Calif., were awarded the prize October 4 for their research to identify sensors on nerve cells that detect heat, cold and pressure. The laureates discovered proteins called receptors that turn the burning heat from chili peppers or a hot stove, menthol's cooling sensation or the pressure from a

TECH NEWS

hug into nerve signals that can be sent to the brain. Those proteins are crucial to the sense of touch and for feeling pain.

https://www.sciencenews.org/article/nobel-prize-2021-physiology-medicine-julius-patapoutian-temperature-touch

World View to start flying passengers on stratospheric balloon rides in 2024
Seats are $50,000 apiece.

World View Enterprises is developing a balloon-based system that will carry people to the stratosphere, with the first commercial flights targeted for early 2024, the Arizona-based company announced today (Oct. 4). The typical ride will last six to eight hours and take passengers to an altitude of at least 100,000 feet (30,000 meters), where they'll be able to see the curvature of Earth against the blackness of space.

https://www.space.com/world-view-space-tourism-stratosphere-balloon

Human learning can be duplicated in solid matterFindings may help to advance artificial intelligence.

One of the fundamental characteristics of humans is the ability to continuously learn from and adapt to changing environments. But until recently, AI has been narrowly focused on emulating human logic. Now, researchers are looking to mimic human cognition in devices that can learn, remember and make decisions the way a human brain does.Rutgers researchers and their collaborators have found that learning -- a universal feature of intelligence in living beings -- can be mimicked in synthetic matter, a discovery that in turn could inspire new algorithms for artificial intelligence (AI)

https://www.sciencedaily.com/releases/2021/09/210922121828.htm

3D-printed objects that sense how a user is interacting with them.
MIT researchers have developed a new method to 3D print mechanisms that detect how force is being applied to an object. The structures are made from a single piece of material, so they can be rapidly prototyped. A designer could use this method to 3D print "interactive input devices," like a joystick, switch, or handheld controller, in one go.

https://techxplore.com/news/2021-09-3d-printed-user-interacting.html

By- Satyajit Panigrahi

Celebrating International Day of Girl Child

11 October 2021

Saniya Ahuja
-ITER, 3rd Year

An absolutely sincere and diligent student, I was a part of the student council committee in my high school and was also a Scholar Badge Holder in the same. Helping others comes very naturally to me, I have volunteered to teach young underprivileged kids in my past. Currently I'm in the 3rd year doing BTech in CSE. I'm one of the coordinators of the Codex club and I have been actively taking part in events such as ICICCI, Hackodex etc.

This year I completed two internships in the field of Web Development and recently I have taken up a freelance project as well. I think my biggest achievement so far that has always helped me move forward is to be confident with who I am. I have never seen myself pretending to be someone I am not.

I make mistakes but at the same time I accept them and keep thriving. On the occasion of International girl child day I would like to convey this message to every girl out there, we should learn to celebrate our individuality and uniqueness instead of trying to fit in somewhere. Our only aim should be at bettering ourselves for ourselves.

Ankita Sahu
-ITER, 2nd Year

In the 21st century, where technology is evolving with communities, it's really inspiring to have a community leader amongst us in ITER, I have been a part of more than 12 Indian and international tech communities, she has been on different roles with these communities from moderator, mentor, web-developer, operational-lead, outreach-manager to events-organizer. My endeavours were acknowledged by the Github India team and she was one of the 160 community leaders across India who attended the Github India Summit. I have hosted more than 30 events, and participated in more than 37 hackathons winning over a dozen of them. I am not just an open source enthusiast but also as a Microsoft Learn Student Ambassador. I have been helping and mentor more than 100,000 women to start and diversity communites to train and working extensively with women a tech journey, my efforts were recognized and awarded by WomenTech network and Girlscript Foundation.

I am a popular Google Crowdsource influencer featuring in two crowdsource newsletters. Also, I was specially invited by the Google crowdsource team to be a speaker for Google's indian crowdsource subcontinent huddle to train various other influencers to get started with hosting successful influencer led events!

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Akarshita Tiwary
-ITER, 4th Year

Born and brought up in a small town from Odisha called Keonjhar to get placed in top companies like Accenture and Cognizant, it was always a roller-coaster ride for me. More than dozens of internships, workshops and interviews made me learn adaptability, leadership and management. I also got my hands on different technologies and I was amazed to work extensively with them.

Also, I am one of the few students to be selected for an internship with High Radius corporation involving a dynamic workspace and high stipend. I was the sole participant from ITER to qualify the Flipkart Grid 2021 Challenge, making me only the second one from Odisha.

One piece of advice from my experience would be that we shouldn't hesitate in any way wondering that the tech world is currently male dominated. I've seen women reaching greater heights in the tech world and performing exceptionally well. When women are supported by role models of the same gender, it really does make a difference and there's much to gain. I'm one of the lucky ones and I want to encourage more women to realize the possibilities of everything that they can explore. Your focus should be on what change could you bring and should always work for it with determination. Never, I repeat, never underestimate yourself!!