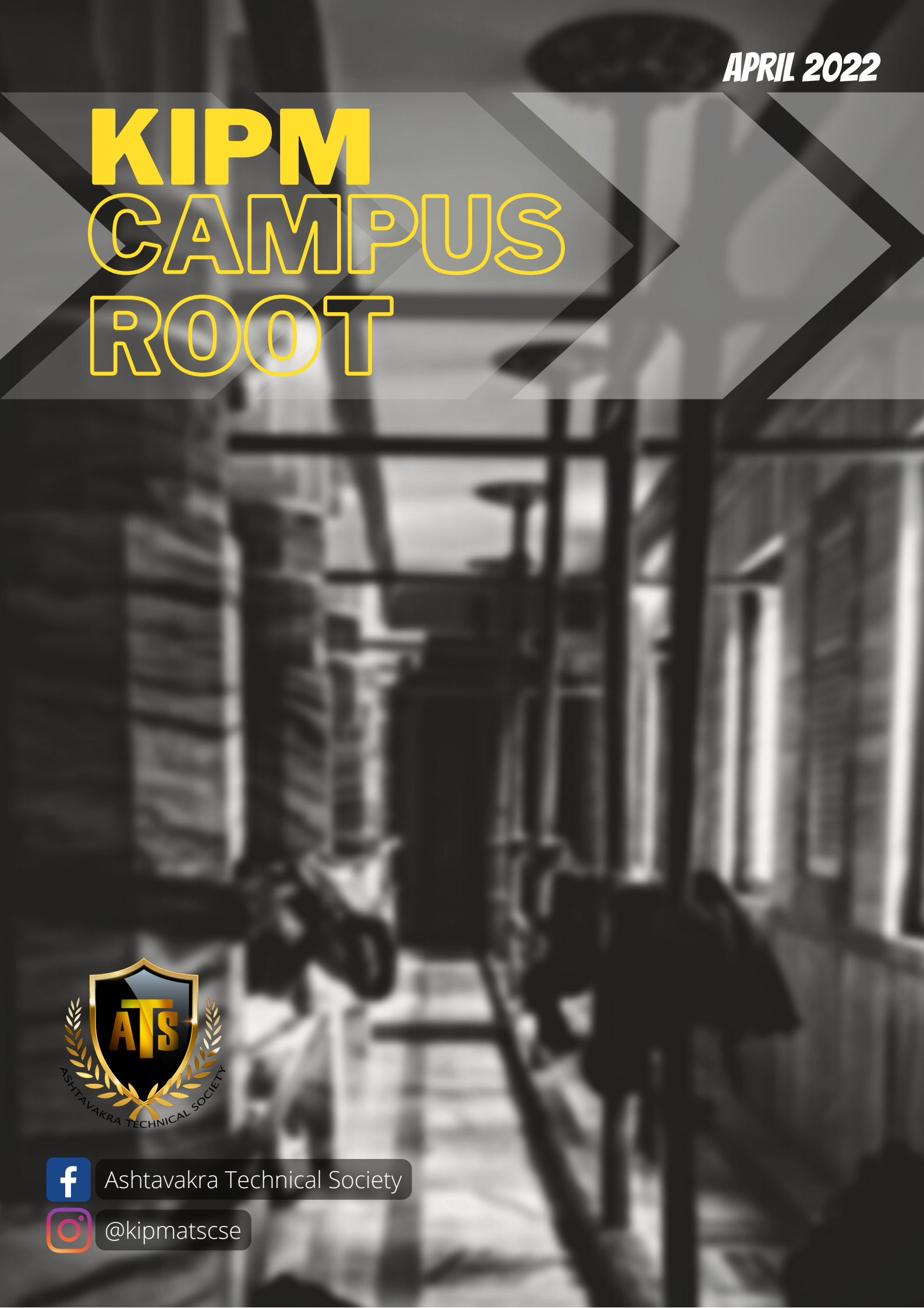
APRIL 2022

KIPM CAMPUS ROOT



ASHTAVAKRA TECHNICAL SOCIETY

Ashtavakra Technical Society

@kipmatscse

Message From The Editor's Desk

With a perfect blend of ingenuity and contraption, we the editorial board of ATS, the association of CSE brings to lime-light, the CAMPUS ROOT, an embodiment of cutting-edge technologies and astounding facts, flashing some light on the innovative minds of our blooming engineers. Computer science is an ever expanding field and the power of what technology holds today is definitely beyond one's imagination, rendering dazzling set of ideas and therefore, "CAMPUS ROOT" is themed as "Idea is dawn. Dawn is an inception".

We use this opportunity to express our fervent gratitude and recognize the stead fast dedication of our Placement Coordinators who paved way for talent to meet opportunity. We express our sincere thanks to all association facilitators for their eminent efforts in organizing and indulging students in activities conducted by our association. At the outset, we thank our beloved faculty members for their perpetual brace and supervision in all our endeavors. We hope, you, the readers, will enjoy reading as much as we loved creating CAMPUS ROOT.

Happy reading buddies!!!

Message From Our Chairman

ER. R. D. Singh
Chairman
KIPM Technical Campus
GIDA, Gorakhpur

Dear students, these four years are very important in your life. The choices that you make and the effort you put in, will be a major determinant for success in your professional and personal lives.

Our Features

- An Institute that has a good reputation, and where the best faculty. students and recruiters come.
- An institute that gives you personalized attention so that you don't remain just a face in the crowd.
- A program that is so rigorous and continuously evolving that it places you ahead of your peers.
- Faculty who are dedicated, hard-working and passionate towards your success, and who can be role models for you.
- A Hi-Tech environment that constantly exposes you to the latest technology and utilizes the latest techniques.
- An environment which encourages your all-round development besides focusing on academic excellence.
- An intitute that lays strong emphasis on traditional values so that tomorrow you not only become a successful professional but also a responsible human being
- An institute that works hand-in-hand with the corporate world so that tomorrow you are fully equipped to handle any challenges in the real life corporate situations.

Message From Our Managing Director

Mr. Vinod Kumar Singh
Managing Director
KIPM Technical Campus
GIDA, Gorakhpur

'Shaping young minds with skill-oriented and value-based education'- these words acceptably symbolize the mission and execution of KIPM Technical Campus. KIPM aspires to advance knowledge and educate students in various disciplines of Engineering, Management, Computer Applications and Pharmacy.

My dear students, KIPM is not elitist in its approach. While we do try to select brilliant students, we also accept those who are potentially sound. KIPM rather than restricting itself to the quality of students coming in, emphasizes on the quality of students going out from the Institution. A strong academic orientation lays the foundation for life-long learning. Thus, all activities at KIPM are oriented towards creating opportunities for students to discover, explore and learn not just within the confines of their curriculum but also outside the boundaries of classroom.

I welcome you all at KIPM which is not only an institute, but also a place of culture that strives at producing the new breeds of professionals.

Message From Our Director

Professor(Dr.) Suryakant Pathak
Director, KIPM - College of Engineering & Technology
GIDA, Gorakhpur

Dear Students,
My every endeavor for this college will be dedicated towards advancement of knowledge and educate our students in Science, Technology, and other distinguished areas of scholarship that will best serve the community, society, Nation and the world in the 21st century at large.

I hope to serve my students with all my might for as long as I could and provide them every assistance, be it in academics, or in co-curricular field, which is possible from our side. I wish that every student that enters this institution is of some worth after leaving this institution and we will ensure that this does happen.

Message From Our Assistant Director

Professor P C Srivastava
Assistant Director, KIPM - College of Engineering & Technology
GIDA, Gorakhpur

Dear Students,
A strong academic foundation supports most of the pillars of life and so, we, at KIPM ensure that the students here are served with the best knowledge that is possible at our level. I assume that you all might have some expectations from a college and thus we always strive to live up to your expectations.

The faculty here are well experienced and will be helpful in providing all sorts of information, knowledge and wisdom.

Message From Our Dean

It is with tremendous pride that I am serving as the Dean Academics of KIPM-College of Engineering & Technology during this time of contiued growth and opportunies for the college and for our students. It feels great to see the iniatives of our CSE department, including all the faculties as well the students that come up with innovative ideas to stand apart from the crowd and achieve new heights.

Dr. Rakesh Kumar Pandey
Dean Academics
KIPM - CET
GIDA, Gorakhpur

Message From Our H.O.D.

Dr. Ashish Kumar Sharma
Head Of Department- CSE
KIPM - CET

Welcome to the Department of Computer Science and Engineering in KIPM College of Engineering and Technology, GIDA, Gorakhpur. The Department of Computer Science and Engineering directs at bringing out the technical and inherent abilities of the young and future Engineers. The Department aims to motivate young professionals in building cognitive characteristics and improve the rising engineers with the latest trends in technology. The programme is designed to provide students both theoretical knowledge and practical skills in the newest technology. This curriculum is good enough for academia, government, research industry, engineering, and management positions. The Department is committed to continuously improve the quality of education by enhancing the knowledge of students and staff members. The Department of Computer Science & Engineering is well equipped with centralized laboratories having the latest configurations and software.

MESSAGE FROM OUR MENTORS

Nurturing creativity and inspiring innovation are two of the key elements of a successful education, and this technical magazine CAMPUS ROOT 2021, is the flawless amalgamation of both. No doubt this creative endeavor will bring out an assortment of technical, artistic and scientific articles with distinct individual autographs of CSE students. It harnesses the creative energies of the students' community and distils the essence of their inspired imagination in the most brilliant way possible.

Er. Ranjeet Kumar Rai
Chief Proctor

Er. Anurag Singh
Assistant Professor

"Knowing and believing in our own potential is the primary requisite for being successful in all our endeavors". Believing in our own potentials more, motivates to prove ourselves. "Strive for progress, Move towards perfection" is the slogan behind ATS. It works with the motto of try, progress, never give up even if you make mistakes and improve continuously until perfection is reached. ATS has been functioning, successfully in full swing throughout the academic year 2021-2022. ATS secretary is the backbone behind all the activities of ATS. Office bearers and facilitators as the pillars of ATS have raised the students' association to the elegant level. We take this opportunity to appreciate all the ATS members for their magnificent efforts.

We, as CSE Students Association (ATS) faculty in-charges feel proud in writing this cover note for the technical Magazine 'CAMPUS ROOT 2021'. It gives us immense pleasure to work along with the editorial team and association office bearers in giving shape to CAMPUS ROOT 2021 and releasing it successfully as per schedule, which in itself is an achievement, considering the effort and time required.

Er. Alok Kumar Srivastava
Assistant Professor

Er. R. K. Singh
Assistant Professor

The association members of CSE are rapidly progressing towards zenith of Computer Science knowledge. It helps to depart from the existing academic world and to explore the new trends in technologies and development.

I wish to extend my deep appreciation to all those who have so generously volunteered their time and talents for publication of the ATS Magazine. Special thanks goes to our Publications Team and Editor who have shared their valuable effort in shaping the magazine and bringing out with a nice collection of articles.

Er. Ranjeet Kumar Dubey
Assistant Professor

A FEW WORDS FROM ATS MEMBERS

Ayush Pratap Singh
President
CSE - III Year

As the President of ATS 2021-22, I feel dazed with the splendid experience I've procured by working with concurring peers and networking with budding juniors. ATS has provided me with the dais to elevate my standards to one more level. My journey as a fragment of ATS has been prolific and fun filled by organizing events and activities for juniors, mentoring them with industrial requirements and enhancing their skills in technical aspects. ATS is all about team spirit and there is no place for trivialities. We are not a team because we work together.. we are a team because we respect, trust and shoulder each other. I extend my genuine gratitude to the ATS staff in-charges for putting their faith in me and granting me freedom to accomplish my plans to actions. I use this opportunity to thank all those who spared a couple of minutes to take a peek into 'CAMPUS ROOT', an evidence of our zealous efforts. Lastly, my best wishes for those who become a part of ATS in the impending years, for they play a vivacious in escalating ATS to greater heights.

Alka Mishra
Vice- President
CSE - III Year

Being one of the office bearers of ATS 2021-22, I, personally had a lot of experience in managing events and people. We planned various events for the academic year 2021-22 including Mock Interview and Syllogism The whole team of ATS 2021-22 had a lot of fun while working together as a team. ATS gave us a platform to interact with our juniors, helping them understand the industrial requirements, recruitment process and other technical aspects. I wish to thank the ATS Staff-in-charges for having trust in my skills and abilities. I would like to advise my juniors to never stop progressing in the process of learning

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A Beautiful Journey Of Learning

Living the last few moments of our college life, I would like to share something that you may find useful in determining your path in the process of learning I don't want to waste these pages of the magazine by giving you some technical concepts which you don't want to know. I'm here to help you with the ways you could use to learn those technical concepts by yourself. Because I believe in the words.

Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime."

I don't want you guys to be completely dependent on faculty members and seniors for learning. Learning is a never-ending process of expanding your knowledge and utilizing that knowledge acquired, to make this world a better place to live. That's what an actual engineer will do.

Let's start from day 1 of your college life. Some of us might have chosen a career in Computer Science out of passion. But, most of us might have chosen this career only out of the family's compulsion. In the first few months of your college, you might have had various thoughts on your career decision. No worries! If I could do it, why can't you? Whatever life gives you, the only thing that matters whether you put 100% of your effort before complaining about your family or friends. For us, there is always a demand for automation. If you like any other field other than computer science and regret your decision for choosing computer science and engineering as your career, please don't. Because I can promise you, that in any other field, there is a major role that computers have to play. So, I suggest you identify the domain which relates to your interest and start to work on that domain from the first year of your college.

In the second year of your Under Graduate Programme, you will be introduced with almost all of the core subjects of computer science. Please, don't even think of skipping the classes. If you do so, you could somehow clear the exams. But you will suffer a lot with placements. With these concepts known to you, you could understand the whole flow of a binary machine.

So, please concentrate on learning those concepts well. Ask a lot of

questions and interact with your teachers and seniors, so that a lot of new problems and solutions can be discussed. Also, try to solve a problem with the minimum possible time and space. Always start with a working solution and then try to optimize the solution

Being promoted from Sophomore to Junior, you need to be more responsible for your actions. Try to do projects on your own, apart from Mini Project. Try to participate in programs like Google's Explore ML and Microsoft Student Partners.

Participate in competitions like Google Kickstart, Google Code Jam, Google Summer of Code and Smart India Hackathon. Apply for summer internships with tech giants like Google, and Amazon, Most importantly, never stop practicing competitive programming.

With all the above-mentioned works done, getting a job offer from dream companies will be a piece of cake. In the final year of your college, get a job offer at the earliest. Try to apply for companies off campus. I suggest you try more interviews from good companies. Never stop hunting for a job you deserve after the efforts you have put into your career. Make your parents proud. And never stop giving back what computer science community gave to you when you are in a need. Thank you and Good luck.

Ashish Mishra

CSE - IV Year

Journey In Association

During first year of our college life we had no idea about association. But, later we realized that association is something which connects us closely with the department and brings out the best in us. When we first stepped into the association, it was more of, like another boring lecture session that we had to attend. So we bunked, were irregular and also messed up the session we had to attend, unfortunately.

We never realized this until the end of 2nd year that association is such a beautiful thing which breaks the barrier of distant relationship with seniors and professors out there. But then we regretted our mistakes at the very beginning of 3rd year. We decided to set right the mistakes. We started striving for the welfare of ourselves through association. Association is a key tool for all to develop their career. We take this as an opportunity to thank our seniors who dedicated their valuable time even in their rush hours.

They really strived hard to bring the best in us. In return, now, we the final year students are striving hard and making efforts to bring the best out of our juniors. And you, the one reading this article out there, we humbly request you not to commit the mistakes that we did. None is here to misguide you. The real of a precious stone is not known until it is taken from your hand. Professors here are of that kind. Have a grip of those precious stones and success will arrive at your door step.

Preeti Singh
CSE - IV Year

Placement Guidelines

This is Masoom. I would like to share some of my experiences gained during preparation Placement is not a threatening process as you all think of So throw away all the fear you have. The first and foremost thing you must concentrate on is your resume. It should be perfect and free from flaws. Make sure that you are familiar with everything you mention in the resume. Even if your content is small, don't worry, focus is only on what you have cited.

You should be strong in core subjects like DS, DBMS, OS, CA and Networks. In data structures, try to solve the problems using relevant data structures related to the problem. Analyze the time and space complexity after completing the problem. When you get a question from DBMS, you should have an idea of creating a database for a system and also try to implement the concepts like normalization, keys etc..

Try to do real time projects as much as you can so that it can create a good impression on you (Only if you have new ideas not the existing ones). If you are using inbuilt functions for any algorithms in your program, you should be able to explain the algorithm to the HR clearly. They will also test your knowledge by asking questions from the projects you have done apart from subjects So be prepared.

Be strong with at least 2 programming languages. It's well and good if you are strong in JAVA That's what most companies expect). Some of the companies will ask you to solve real time application problems (long programming). So, have an idea of connecting the front end and the back end.

90% of the companies will have aptitude in their first round, where most of the students get eliminated. So make use of your vacation to cover aptitude. Don't by-heart the formulae. Try to understand the problem and solve accordingly.

Have a routine coding practice in platforms like Hacker rank and Hacker-earth and try to get through all the test cases. Be bold and confident while answering to an HR Maintain good attitude throughout the process. Adhere to dress code always. Express what you know and don't exaggerate things.

Look through the company's profile before attending the process. Share your interview experience with your colleagues and juniors too so that they can make use of it for their preparations. All the best for your placements!

Masoom Zaid
CSE - IV Year

Hack-A-Thon

What is Hackathon?

There are many students who want to participate in Hackathon and they think that it is related to hacking only, but this is not completely true. Actually Hackathon is also known as a hack day, hack fest, datathon or codefest. Teams of many developers who are interested and work on development of apps, games or any other software field ,take part in Hackathon to solve real-time problems during this event. It's a 24–72 hours product making competition where every team needs to develop a product from scratch during those pretty hours. A team size can vary from 2–6 depending on the organization who is organizing it.

The benefits of participating in a Hackathon...

For anyone looking to enter the tech field, participating in a hackathon can be a great learning experience and offers a unique opportunity to build a powerful network. One of the best things about hackathons is the opportunity to meet new people who care about the issue or technology.

1. Healthy work environment

When you are working with a group of people who have the same skills that you have, it becomes more competitive for you. Some have multiple interests and skills, all are collaborating to solve a similar problem. The fact that there are time constraints makes the task more exciting and brings out the best in people.

2. Add up to your CV/RESUME

When you add a hackathon participation certificate to your CV, it signals that you have the zeal to learn, sound programming skills, and great experience of working in intense environments. More importantly, participation in a hackathon instantly increases your knowledge and skill level.

3. Interesting way of learning

Hackathons are very different from your routine work where you are asked to work on a small piece of code without knowing the big picture. At hackathons, you participate according to your interest and because of this, you are bound to learn something new about the development process. You stumble upon different ways of performing a particular task and learn a lot as a developer.

4. Prizes and achievements

Hackathons are best known for prizes. If you create something awesome, you will win some cool prizes and bigger hackathons like usually have big prizes for winners as well as sponsors and partner organizations. These companies also have a physical presence in the hackathon which means you can personally connect with them. This is a great way to get noticed for your development skills and land a job in those big brands.

5. Interaction with the developer community

A hackathon gives you the platform to meet, communicate, and collaborate with other developers. Through these conversations, you may get to know some techniques and hacks which might be beneficial for you and your team. Moreover, these developers can help and guide you through your code problems, interview needs, and learn more about other hackathons.

What do you need to participate in a Hackathon?

This is an important question, especially for beginners looking to increase their involvement in the programming field. The entry qualifications and experience levels vary depending on the event. So whether you're just dipping your toes into coding, you're on your way toward earning a programming Degree or you're a seasoned programming pro – there's a hackathon out there for you! Most hackathons try to be as inclusive as possible, welcoming programmers of all experience levels. While there is a competitive aspect, many participants are just there to have fun, socialize and learn. If you're unable to contribute anything to a team, you can always spectate. But having some basic programming knowledge is beneficial if you want to help out your team.

My Experience of Hackathon...

I haven't got any chance to attend hackathon offline yet but I'll be joining in some of upcoming hackathons, currently I have participated in two hackathon which were held online , but unfortunately my team failed to win in both in one We got 2nd place , and in one we failed in project submission round , but between this two hackathons i learned why we failed and some of other very useful knowledge which for sure it wasn't possible to learn in academics.

Some of the things I learned from Hackathons...

• Focus on one hackathon at a time

• How to form your Team

Often people team up with their close friends in all of their hackathons. You should start forming teams with people who can contribute with their skill set to the hackathon.

• Brainwash

You need to sit down with your teammates on discussing your ideas and how you can solve the problem. Keep noting down all the ideas you all get because you never know which idea can be your winning point.

• Remember it is a teamwork

• Don't hesitate to ask for help/ even you can discuss with other teams.

• Test your project regularly

Always test your project multiple times before presenting it to the judges. In almost all of the hackathons I have participated in, I have seen apps and websites getting crashed during the judging round.

Keep screenshots and videos of your implementation ready with you if possible.

Arun Singh
CSE - IV Year

Graphic Designing

All article is written based upon something they had inspired through their vision. Thus, we get inspired something by our visual in this visually advanced world. So, the idea of article based on graphical designing is catchier to choose. so basically, what is graphical designing? By the web sources, it has been clearly defined in two ways. Firstly, Graphic Designing is the process of communicating visually using typography and images to present information. Graphic Designing practice embraces a range of cognitive skills, aesthetics and crafts, including typography, visual arts and page layout. Like other forms of design, graphic design often refers to both the process (designing) by which the communication is created and the products (designs) which are generated. Secondly, Graphic Designing is a creative process that combines art and technology to communicate ideas. The designer works with a variety of communication tools in order to convey a message from a client to a particular audience. The main tools are images and typography. There are eight types of graphical designing as mentioned below:

- Visual identity graphic design.
- Marketing & advertising graphic design.
- User interface graphic design.
- Publication graphic design.
- Packaging graphic design.
- Motion graphic design.
- Environmental graphic design.
- Art and illustration for graphic design.

• Visual identity graphic design:
Visual identity graphic design can be described as the visual elements of brand identity that act as the face of a brand to communicate those intangible qualities through images, shapes and color, Designers that specialize in visual identity graphic design collaborate with brand stakeholders to create assets like logos, typography, color palettes and image libraries that represent a brand's personality.

• Marketing & advertising graphic design:
Marketing designers work with company owners, directors, managers or marketing professionals to create assets for marketing strategies. They might work alone or as part of an in-house or creative team. Example of Marketing & Advertising graphic designs can be magazine and newspaper ads.

• User interface graphic design:
A user interface (UI) is how a user interacts with a device or application. Ul design is the process of designing interfaces to make them easy to use and provide a user-friendly experience. Example of User Interface graphic design Web page design

• Publication graphic design:
Publication design is a classic type of design-think books, newspapers, magazines, and catalogs Graphic designers that specialize in publications work with editors and publishers to create layouts with carefully selected typography and accompanying artwork, which includes photography, graphics, and illustrations.

• Packaging graphic design:
Packaging designers create concepts, develop mockups and create print-ready files for a product. This requires knowledge of print processes and a keen understanding of industrial design and manufacturing.

• Motion graphic design:
Motion graphics design is a little new for designers. Formally reserved for TV and film, technological advances have reduced production time and costs, making the art form more accessible and affordable. Now, motion graphics is one of the newest types of design and can be found across all digital platforms, which has created all sorts of new areas and opportunities.

Examples of Motion graphic design are animated logos and promotional videos.

• Environmental graphic design:

Environmental graphic design visually connects people to places to improve their overall experience by making spaces more memorable, interesting, informative or easier to navigate. Environmental design is a broad type of design, here are some examples Public transportation navigation and Event and conference spaces.

• Art and illustration for graphic design:

Graphic art and illustration are often seen as being the same as graphic design, however, they're each very different. Designers create compositions to communicate and solve problems, graphic artists and illustrators create original artwork. Examples of Art and illustration for graphic design are Comic books, Technical illustration and Concept arts.

Salim Raza
CSE - III Year

Cloud Computing

What is cloud computing?

Cloud computing is the on-demand delivery of IT resources over the Internet with pay-as-you-go pricing. Instead of buying, owning, and maintaining physical data centers and servers, you can access technology services, such as computing power, storage, and databases, on an as-needed basis from a cloud provider like Amazon Web Services (AWS).

Who is using cloud computing?

Organizations of every type, size, and industry are using the cloud for a wide variety of use cases, such as data backup, disaster recovery, email, virtual desktops, software development, and testing, big data analytics, and customer-facing web applications. For example, healthcare companies are using the cloud to develop more personalized treatments for patients. Financial services companies are using the cloud to power real-time fraud detection and prevention. And video game makers are using the cloud to deliver online games to millions of players around the world.

Benefits of cloud computing.

Agility:

The cloud gives you easy access to a broad range of technologies so that you can innovate faster and build nearly anything that you can imagine. You can quickly spin up resources as you need them–from infrastructure services, such as compute, storage, and databases, to the Internet of Things, machine learning, data lakes and analytics, and much more.

You can deploy technology services in a matter of minutes, and get from idea to implementation several orders of magnitude faster than before. This gives you the freedom to experiment, test new ideas to differentiate customer experiences and transform your business.

Elasticity:

With cloud computing, you don't have to over-provision resources upfront to handle peak levels of business activity in the future. Instead, you provision the number of resources that you actually need. You can scale these resources up or down to instantly grow and shrink capacity as your business needs change.

Cost savings:

The cloud allows you to trade capital expenses (such as data centers and physical servers) for variable expenses, and only pay for IT as you consume it. Plus, the variable expenses are much lower than what you would pay to do it yourself because of the economies of scale.

Deploy globally in minutes

With the cloud, you can expand to new geographic regions and deploy globally in minutes. For example, AWS has infrastructure all over the world, so you can deploy your application in multiple physical locations with just a few clicks. Putting applications in closer proximity to end users reduces latency and improves their experience.

Types of cloud computing:

The three main types of cloud computing include Infrastructure as a Service, Platform as a Service, and Software as a Service. Each type of cloud computing provides different levels of control, flexibility, and management so that you can select the right set of services for your needs.

Infrastructure as a Service (IaaS):

IaaS contains the basic building blocks for cloud IT. It typically provides access to networking features, computers (virtual or on dedicated hardware), and data storage space. IaaS gives you the highest level of flexibility and management control over your IT resources. It is most similar to the existing IT resources with which many IT departments and developers are familiar.

Platform as a Service (PaaS):

PaaS removes the need for you to manage underlying infrastructure (usually hardware and operating systems), and allows you to focus on the deployment and management of your applications. This helps you be more efficient as you don't need to worry about resource procurement, capacity planning, software maintenance, patching, or any of the other undifferentiated heavy lifting involved in running your application.

Software as a Service (SaaS):

SaaS provides you with a complete product that is run and managed by the service provider. In most cases, people referring to SaaS are referring to end-user applications (such as web-based email). With a SaaS offering, you don't have to think about how the service is maintained or how the underlying infrastructure is managed. You only need to think about how you will use that particular software.

Prabhat Singh
CSE - II Year

Quantum Computing

What is Quantum Computer?

Quantum computer is a type of machine which stores the data based on quantum physics laws and perform the computation problem in extremely less time. Which is impossible today's computer.

Quantum computer is a very different of traditional computer according of specialist its capacity is more than super computer. This is our future computer.

Introduction:

As we know the this age of technology age that means computer is play important role in our life and this is completed make a part of life for us. From back to century we had minimize the size of computer besides increase the computing power. For example if we talk about our mobile smartphone in present time this is more better than military computer which was big in size and equal to room despite of these our computer is no perfect at present time.

This computer's working model is made up rather it's used to small calculation and that test had successful. Now these above company are engaged in making computer for solve the huge and big calculation. If quantum computer will start making on big level so definitely it will replace present time computer.

How does Quantum computer works:

Quantum computer is works on quantum physics. In this used of "QUBITS". In present time we are used binary computer which function is based on 0 and 1. In binary computer perform any problem processor is used transistor and every transistor may be ON state (1) or OFF state (0) and 0, 1 are called bit. But in quantum computers used of Quantum bits (QUBITS) that means it may be '0 and 1 and 01' state together. It means developer checked the if, this, that and them condition together during the prepare of logic by which computation speed will be increase.

Unless QUBITS are not absorbed until then they are in possible state which is known as spinning state. This spinning state is measured by up, down and both name in state. These functionality are based on superposition terminal

in quantum physics because atoms are complex calculator in nature and they are connected to use of quantum entangled that time when they are not connect by physically with each other.

GOOGLE, IBM, INTEL and MICROPROCESSOR are engaged in making such as computer whose we can call the future of computer and such a computer is called "QUANTUM COMPUTER". INDIA also to promote this computer, for this India has launched "Quantum Information Science and Technology".

Limitations of the present time Computer:

The present time computers are limited because their speed is slow because they solve complex mathematical equations that take more time.

The other things are energy consumption and storage space. So we need a computer which is better than present time computer in every field.

Limitations of the Quantum Computer:

It is not easy to make this computer and also working with this is not easy. When we use this computer, a noise of great loudness is produced that means if number of QUBITS are increased then chances of errors is also increased. Mostly computers are needed to put at perfect 0°C temperature which is more cool from space temperature. Need of more power that means for making in the operational of these computers it is more expensive. So this is not possible to used of this computer for comprehensive.

Therefore only some companies manufacture this computer and are trying to make it better.

Ragini Prajapati
CSE - II Year

Metaverse - A World With No Reality

A metaverse is a network of 3D virtual worlds focused on social connection. In futurism and science fiction, the term is often described as a hypothetical iteration of the Internet as a single, universal virtual world that is facilitated by the use of virtual and augmented reality headsets. The term "metaverse" has its origins in the 1992 science fiction novel Snow Crash as a portmanteau of "meta" and "universe." Various metaverses have been developed for popular use such as virtual world platforms like Second Life. Some metaverse iterations involve integration between virtual and physical spaces and virtual economies, often including a significant interest in advancing virtual reality technology.

The term has seen considerable use as a buzzword for public relations purposes to exaggerate development progress for various related technologies and projects. Information privacy and user addiction are concerns within metaverses, stemming from challenges facing the social media and video game industries as a whole.

Implementations:

Well, the metaverse could be the next biggest change to be acknowledged by the world, we can, for now, see its usage in mostly two things or as we can say, technologies.

1. Video games:

Several components of metaverse technologies have already been developed within modern internet-enabled video games. The 2003 virtual world platform Second Life is often described as the first metaverse, as it incorporated many aspects of social media into a persistent three-dimensional world with the user represented as an avatar. Social functions are often an integral feature in many massively multiplayer online games. Technology journalist Clive Thompson has argued that the emergent, social-based gameplay of Minecraft represents an advanced analog of a metaverse. Similar statements were made for the game Roblox, which has since employed significant usage of the term in marketing. Other claims of developing a metaverse include the games Active Worlds, The Palace, Decentraland, and Fortnite.

2. Virtual reality:

In 2019, the social network company Facebook launched a social VR world called Facebook Horizon. In 2021 Facebook was renamed "Meta Platforms" and its chairman Mark Zuckerberg declared a company commitment to developing a metaverse. Many of the virtual reality technologies advertised by Meta Platforms remain to be developed. Facebook whistleblower Frances Haugen criticized the move, adding that Meta Platforms' continued focus on growth-oriented projects is largely done to the detriment of ensuring safety on their platforms. Meta Platforms has also faced user safety criticism regarding Horizon Worlds due to the occurrence of sexual harassment on the platform.

Microsoft acquired the VR company AltspaceVR in 2017, and has since implemented metaverse features such as virtual avatars and meetings held in virtual reality into Microsoft Teams.
Proposed applications for metaverse technology include improving work productivity, interactive learning environments, e-commerce and real estate.

There is still a lot to be researched in the world of metaverse and we are already fascinated by what we have been exposed to this far.
However, this is the start of a virtual era and companies have started to shift from physical to online platforms alongside, and I think we should too.

Pratyaksh Gupta
CSE - II Year

Data Science - A Brief Introduction

Data science is an interdisciplinary field that uses scientific methods, processes, algorithms and systems to extract knowledge and insights from noisy, structured and unstructured data, and apply knowledge and actionable insights from data across a broad range of application domains. Data science is related to data mining, machine learning and big data.

The simplest definition of data science is the extraction of actionable insights from raw data. We will walk through the ins-and-outs of the ever-expanding field, including how it works and examples of how it's being used today.

"The ability to take data to be able to understand it, to process it, to extract value from it, to visualize it, to communicate it that's going to be a hugely important skill in the next decades." - Hal Varian

Data science involves a plethora of disciplines and expertise areas to produce a holistic, thorough and refined look into raw data. Data scientists must be skilled in everything from data engineering, math, statistics, advanced computing and visualizations to be able to effectively sift through muddled masses of information and communicate only the most vital bits that will help drive innovation and efficiency.

What can Data Science be used for?

- Anomaly detection (fraud, disease, crime, etc.)
- Automation and decision-making (background checks, credit worthiness, etc.)
- Classifications (in an email server, this could mean classifying emails as "important" or "junk")
- Forecasting (sales, revenue and customer retention)
- Pattern detection (weather patterns, financial market patterns, etc.)
- Recognition (facial, voice, text, etc.)
- Recommendations (based on learned preferences, recommendation engines can refer you to movies, restaurants and books you may like)

The Data Science Life Cycle:

- **Capture** (data acquisition, data entry, signal reception, data extraction);
- **Maintain** (data warehousing, data cleansing, data staging, data processing, data architecture);
- **Process** (data mining, clustering/classification, data modeling, data summarization);
- **Analyze** (exploratory/confirmatory, predictive analysis, regression, text mining, qualitative analysis);
- **Communicate** (data reporting, data visualization, business intelligence, decision making).

What Does a Data Scientist Do?

In the past decade, data scientists have become necessary assets and are present in almost all organizations. These professionals are well-rounded, data-driven individuals with high-level technical skills who are capable of building complex quantitative algorithms to organize and synthesize large amounts of information used to answer questions and drive strategy in their organization. This is coupled with the experience in communication and leadership needed to deliver tangible results to various stakeholders across an organization or business.

Data scientists need to be curious and result-oriented, with exceptional industry-specific knowledge and communication skills that allow them to explain highly technical results to their non-technical counterparts. They possess a strong quantitative background in statistics and linear algebra as well as programming knowledge with focuses in data warehousing, mining, and modeling to build and analyze algorithms.

They must also be able to utilize key technical tools and skills, including:

- R
- Python
- Apache Hadoop
- MapReduce
- Apache Spark
- NoSQL databases
- Cloud computing
- D3
- Apache Pig
- Tableau
- iPython notebooks
- GitHub

Why become a Data Scientist?

The need for data scientists shows no sign of slowing down in the coming years. LinkedIn listed data scientist as one of the most promising jobs in 2021, along with multiple data-science-related skills as the most in-demand by companies.

Anurag Singh
CSE - II Year

Students' Achievements

Manjulata Sharma, a student of Btech, CSE - 2nd year won a prize for acquiring 3rd position in the high jump competition in the University level Sports Meet held on 4th December, 2021. It is indeed a proud moment for all of us.

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