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TECH SAMACHAR

Fuel your mind! Ignite your Imagination!!!

DEPARTMENT MONTHLY MAGAZINE JULY- 2022

VOLUME- 2 ISSUE-3

VISION

" To contribute to Global Development by producing Knowledgeable and Quality professionals who are Innovative and Successful in advanced field of Computer Science & Engineering to adapt the changing Employment demands and social need "

MISSION

M1: To provide Quality Education for students, to build Confidence by developing their Technical Skills to make them Competitive Computer Science Engineers.

M2: To facilitate Innovation & Research for students and faculty and to provide Internship opportunities

M3: To Collaborate with educational institutions and industries for Excellence in Teaching and Research.

About the Department

The Department of Computer Science & Engineering was started in the year 2001 is known for imparting Quality education and carrying out cutting edge research. In addition to the UG program, PG CSE program and Research facilities for Ph.D. The department offers undergraduate program and has a comprehensive curriculum on topics related to software and hardware with an emphasis on theoretical and practical learning. It has well equipped, state of the art laboratories supported by highspeed Internet and wireless networks.

The students of CSE Department deliver value to the department with a dynamic character and active culture towards learning and delivering through assigned projects guided by faculty. The faculty members are highly qualified experienced and dedicated. All faculty members are masters, some doctorates and few are pursuing their Ph.D. from various reputed universities. All are inspired in delivering top class education blending their research in the area of information technology. The infrastructure of the department provides the student and staff a conducive learning environment.

The Department regularly organizes industrial visits, conferences, workshops, technical talks, project exhibitions for the faculty and students training by using in- house resources as well as industry experts. This helps in effectively bridging the gap between academic and industry.

From Chairman's Desk

Dr K. R. Paramahamsa

Chairman, AMC – CITY – BROOKLYN – CAMBRIDGE Group of Institutions

Tech Samachar is particularly important as it encourages the students to share the knowledge they have acquired. Writing articles for the Newsletter also improves the communication skills of the budding engineers of the Computer Science and Engineering Department. It is common knowledge that representation of an idea is as important as, if not more important, than the idea itself.

Tech Samachar aims to inspire and nurture upcoming Engineers to bring a revolution in this ever-evolving world of Technology. The Newsletter captures the current Technological advancements.

To conclude I would like to congratulate the faculty and the students of the editorial team on bringing out this Issue of Tech Samachar. I am glad to see that they have lived up to the high standards and my best wishes to the students for a bright future.

From Principal's Desk

Dr. Thippeswamy H N

Principal, City Engineering College

Congratulations to the students and faculty associated to Newsletter committee for successfully publishing this Issue of Departmental Technical Newsletter Tech Samachar. Tech Samachar is creating platform which provides an opportunity to the students and staff to express their original thoughts on technical topics.

The Newsletter plays an important role in providing exposure to the students to develop written communication skills and command over the language. It is a step towards building professional and ethical attitude in them. The entire journey of creating Tech Samachar is an outcome of rigorous effort made by students and faculty. Students not only gain the knowledge about the latest technological developments and advancements through reading and writing articles but they also develop verbal and written communication skills.

On concluding note, I would like to thank all the stakeholders for their involvement and encouragement and wish All the Best for their bright future.

From HOD's Desk

Dr. Sowmya

HOD, Computer Science and Engineering

It is a moment of joy and great satisfaction to bring out the Volume 2, Issue 3 of Tech Samachar, Monthly Newsletter from department of Computer Science and Engineering. Tech Samachar is a platform where all the department activities are brought under one folder. This monthly newsletter showcases active involvement of our students in various creative events, hidden talents of our aspiring students and highlights the milestones attained by the Institution and achievements of department.

Tech Samachar is all about the technology that motivates students to do something, that leaves an eternal mark on the world of Technology. Thus, it was our job to ensure inspiring technological developments are being brought to the students of CEC, by the students of CEC itself. I congratulate the entire editorial team for their effort in bringing out "Tech Samachar" in a very innovative way.

From Editor's Desk

It is indeed a great pleasure to introduce "Tech Samachar" Volume 2 Issue 3. At the outset, on behalf of the entire Computer Science and Engineering Department and all the readers we extend our whole hearted gratitude to our beloved Chairman, Dr. K. R. PARAMAHAMSA, to our principal Dr. Thippeswamy H N, and also to our HOD Dr. Sowmya, for their dynamic, inspirational, enthusiastic contribution and motivation towards our department also boosting our confidence for the publishing Monthly Newsletter TECH SAMACHAR. This technical newsletter named 'TECH SAMACHAR' signifies an giving out of current technical datum. We are happy to see such enthusiasm in the members of the college towards contributing to this magazine. Team 'TECH SAMACHAR' will always remain grateful for the massive support and interest shown by you all.

Computer Science and Engineering is an ever-expanding field and the power what technology holds today is definitely beyond one's imagination rendering impressive set of ideas. We hope all the readers will enjoy this issue as much as we enjoyed creating it.

Happy Reading!!

Prof. AMBIKA P R, ***Asst. Professor, CSE***

Prof. ARCHANA BHAT, ***Asst. Professor, CSE***

Prof. LAXMI M C, ***Asst. Professor, CSE***

STUDENT EDITORIAL TEAM

Namratha S, 8th Sem

Karthik A.N, 8th Sem

Udank Aarun Jain, 8th Sem

Priya Singh, 8th Sem

Mrudula S, 6th Sem

Iqra Fathima, 6th Sem

Charan Simha D, 6th Sem

Shalini R, 6th Sem

Rahul Mulge, 6th Sem

Tech Samachar

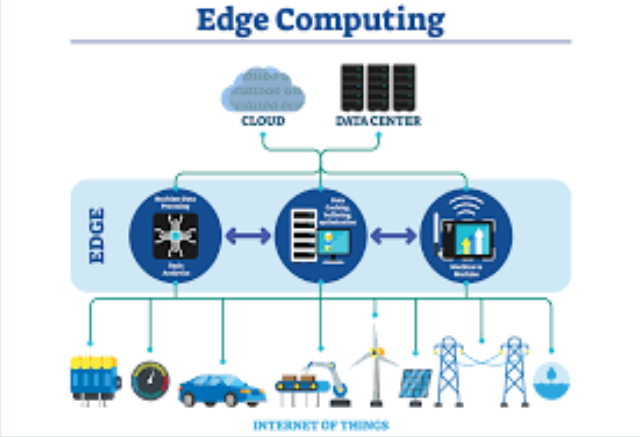
Volume 2 Issue 3

CONTENTS

EDGE COMPUTING

Edge computing refers to smaller and more numerous data hubs closer to the user.

The way the world works these days, with more devices and more applications constantly emerging, means we are drowning in a sea of data. Sending it off to an already overloaded data warehouse can be time consuming – we're not talking days, but rather your Netflix show constantly buffering, or your internet taking a while to download something. It's irritating. But in the world of medicine or high-speed travel, for instance, it can also be dangerous.



The benefit of edge computing as it increases over time – and it will, admittedly, take time to build the infrastructure – is that response times will be quicker and less bandwidth will be used. Edge computing is perfect for real-time data processing issues. Computing resources at the 'edge' of the network can respond far quicker than a huge data centre many kilometres away at the centre of the network. Building servers at the edge results in better response times and transfer

Edge computing reduces the volumes of data that need to be moved and the distance that data needs to travel. Using edge computing means it's also far more possible to replicate the reactions of humans, so facial recognition, artificial intelligence and fast analytical tools all benefit massively from the lack of latency and speed of transfer that it allows.

So, who is currently investing in this technology? Well, everyone, and it started pre-COVID. After a few years of theoretical discussions, all the big technology companies made the leap in 2019. Microsoft, Amazon and Google's parent company Alphabet are leading the way – the three largest cloud providers are literally edging out.

Another giant, IBM, sees it as a chance to regain ground as the company attempts to move on from some of its legacy business. Content delivery networks such as Akamai and Fastly are understandably highly interested, and of course ecommerce will benefit.

<u>Relationship between edge computing and 5G</u>

While edge computing can be deployed on networks other than 5G (such as 4G LTE), the converse is not necessarily true. In other words, companies cannot really benefit from 5G unless they have an edge computing infrastructure.

"By itself, 5G reduces the network latency between the endpoint and the mobile tower, but it does not address the distance to a data centre, which can be problematic for latency-sensitive applications," says Dave McCarthy, research director for edge strategies at IDC.

Working of edge computing

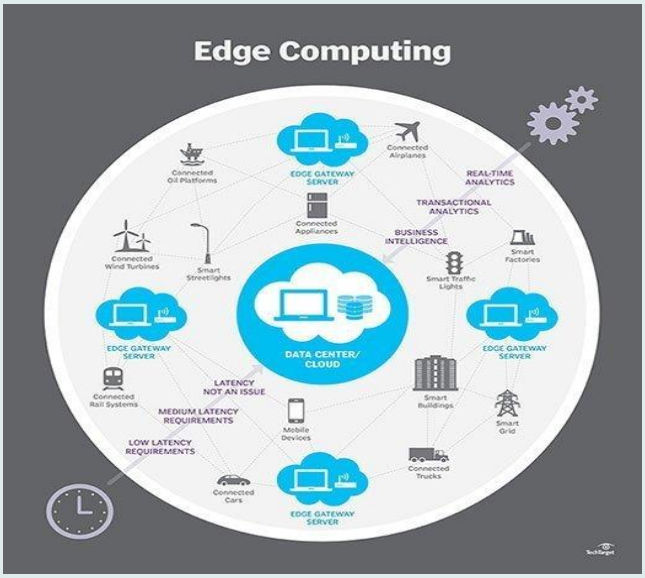
The physical architecture of the edge can be complicated, but the basic idea is that client devices connect to a nearby edge module for more responsive processing and smoother operations. Edge devices can include IoT sensors, an employee's notebook computer, their latest smartphone, security cameras or even the internet-connected microwave oven in the office break room.
In an industrial setting, the edge device can be an autonomous mobile robot, a robot arm in an automotive factory. In health care, it can be a high-end surgical system that provides doctors with the ability to perform surgery from remote locations. Edge gateways themselves are considered edge devices within an edge-computing infrastructure. Terminology varies, so you might hear the modules called edge servers or edge gateways.

While many edge gateways or servers will be deployed by service providers looking to support an edge network, enterprises looking to adopt a private edge network will need to consider this hardware as well.

Benefits of edge computing

●Though, the biggest benefit of edge computing is the ability to process and store data faster
●enabling more efficient real-time applications that are critical to companies.
● Before edge computing, a smartphone scanning a person's face for facial recognition would need to run the facial recognition algorithm through a cloud-based service, which would take a lot of time to process.
●With an edge computing model, the algorithm could run locally on an edge server or gateway, or even on the smartphone itself.

Applications such as virtual and augmented reality, self-driving cars, smart cities and even building-automation systems require this level of fast processing and response.



Examples of edge computing

☆Using 5G edge networks to create popup network ecosystems that change how live content is streamed with sub-second latency;
☆Using edge-enabled sensors to provide detailed imaging of crowds in public spaces to improve health and safety; automated manufacturing safety, which leverages near real-time monitoring to send alerts about changing conditions to prevent accidents;
☆manufacturing logistics, which aims to improve efficiency through the process from production to shipment of finished goods;
☆And creating precise models of product quality via digital twin technologies to gain insights from manufacturing processes.

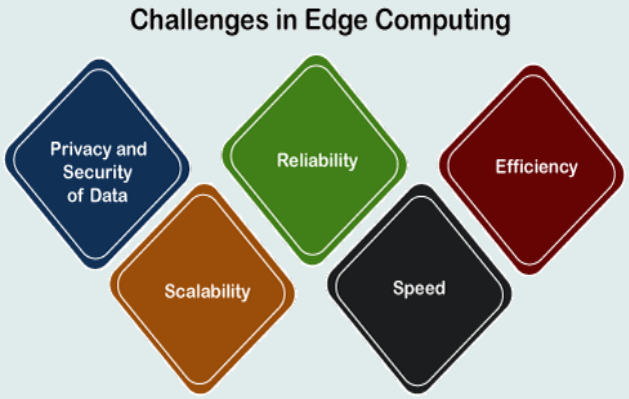
Challenges of edge computing

Beyond the traditional problems of network limitations, there are several key considerations that can affect the adoption of edge computing:

◇Limited capability. Part of the allure that cloud computing brings to edge – or fog – computing is the variety and scale of the resources and services. Deploying an infrastructure at the edge can be effective, but the scope and purpose of the edge

deployment must be clearly defined – even an extensive edge computing deployment serves a specific purpose at a pre-determined scale using limited resources and few services

◇Connectivity. Edge computing overcomes typical network limitations, but even the most forgiving edge deployment will require some minimum level of connectivity. It's critical to design an edge deployment that accommodates poor or erratic connectivity and consider what happens at the edge when connectivity is lost. Autonomy, AI and graceful failure planning in the wake of connectivity problems are essential to successful edge computing.



◇Security: IoT devices are notoriously insecure, so, it's vital to design an edge computing deployment that will emphasize proper device management, such as policy-driven configuration enforcement, as well as security in the computing and storage resources – including factors such as software patching and updates – with special attention to encryption in the data at rest and in flight. IoT services from major cloud providers include secure communications, but this isn't automatic when building an edge site from scratch.

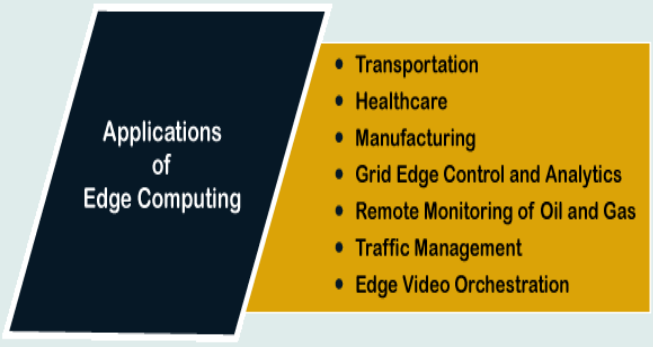
◇Data lifecycles: The perennial problem with today's data glut is that so much of that data is unnecessary. Consider a medical monitoring device – it's just the problem data that's critical, and there's little point in keeping days of normal patient data. Most of the data involved in real-time analytics is short-term data that isn't kept over the long term. A business must decide which data to keep and what to discard once analyses are performed. And the data that is retained must be protected in accordance with business and regulatory policies.

In conclusion

With edge computing, things have become even more efficient. As a result, the quality of business operations has become higher. Edge computing is a viable solution for data-driven operations that require lightning-fast results and a high level of flexibility, depending on the current state of things. And it is the future. At the moment less than 10 per cent of business data is created and processed at the edge of the network, but according to technology research and consulting company Gartner, that will rise to 75 per cent by 2025.

By,

Ms. Daniya Khanum
4th Sem, 'A' Section, Dept. of CSE



DEPARTMENT OF
COMPUTER SCIENCE AND ENGINEERING

TECHNICAL ACTIVITIES

The **Workshop on "Ethical Hacking and Cyber Security"** was jointly organized by Dept. of AI&ML, CSE and ISE for the 4th and 6th semester students from 15th June 2022 to 17th June 2022.

Resource person:
Mr. Ajinkya Lohakare

WORKSHOP CONTENT

- Introduction of Ethical Hacking.
- Footprinting And Reconnaissance.
- Scanning
- Enumeration
- System Hacking
- Sniffing
- Hacking Web Servers
- Hacking Web Applications
- Hacking Wireless Networks
- DDos & Dos Attacks.

Inaugural function of workshop on "Ethical hacking and Cyber security"

Resource person: **Mr. Ajinkya Lohakare** interacting with the participants in hands on session.

WORKSHOP OUTCOMES:

The participants learnt;

- The core areas of cybersecurity and how to create a security program that is built on a foundation of Detection, Response, and Prevention
- Core areas of cyber security and how to create a security program that is built on a foundation of Detection, Response, and Prevention
- Adversaries adapt tactics and techniques, and importantly how to adapt your defense accordingly
- What ransomware is and how to better defend against it
- To Leverage a defensible network architecture (VLANs, NAC, and 802.1x) based on advanced persistent threat indicators of compromise
- The identity and Access Management (IAM) methodology, including aspects of strong authentication (Multi-Factor Authentication)
- To leverage the strengths and differences among the top three cloud providers (Amazon, Microsoft, and Google), including the concepts of multi-cloud.

National Level CEC Project Expo-2022 held on 20th June 2022.

The National Level Project exhibition is organized by City Engineering College, Bangalore. The Major objective of organizing this National Level Project exhibition is to provide the platform and unleash the potential of the students by showcasing their innovative projects.

Honorable Chairman **Dr. K.R Paramahamsa,** graced the occasion and interacted with the participants.

Students from CSE Department received second prize for the project **"A smart wearable device using AI and IOT for assisting Blind and retarded people "**

Student Team: Ms. D.K Bhoomika

Ms. Nandika M.J

Mr. Nithin Prasad

Ms. Sai Pooja Pokla

Project Guide: Dr. S Vagdevi

Professor and HOD
Dept. of AI and ML

ORIENTATION PROGRAMME

An orientation programme was organized for 4th semester students on 13th June 2022. Dr. Sowmya, HOD, Department of CSE gave presentation and briefly explained about importance of orientation program, vision and mission of college and department, technical activities and academic details etc.

DEPARTMENT OF
COMPUTER SCIENCE AND ENGINEERING

PARENT TEACHER MEETING

The Parent Teacher's Meeting for the 6th semester [A&B section] was organized by the Department of Computer Science and Engineering on 18th June 2022 at 10:30 am. The certificates are distributed to the students who got FCD in 5th semester VTU Exam.

Dr. H.N Thippeswamy, Principal, **Dr. Sowmya**, HOD Dept. of CSE and **Dr. S. Vagdevi**, HOD, Dept. of AI and ML distributed certificates to FCD students.

DEPARTMENT ACHIEVEMENTS

6th Semester students from CSE department participated in HackBites 2.0, 24-hour state level hackathon organized by Honeywell at Global Academy of Technology, Bengaluru, held on 30th to 31st May 2022.

Mr. Prashanth K, Mr. Chethan S, Mr. Ratnadeep More and Mr. Anil K, Mr. Bhanuprakash R, Mr. Ajay S, Mr. Puneeth B.M. Mr. Mohammed Sameer, Mr. Fozail Ahmed, Ms. Ashwini B, Ms. Shalini R, Ms. Sahana G.H, Ms. Ananya B and Mr. Mulge Shiva Rahul Kumar and Ms. Mrudula Prasad, Participated in **HackBites 2.0, 24-hour state level hackathon** organized by Honeywell at Global Academy of Technology, Bengaluru, held on 30th to 31st May 2022.

DEPARTMENT ACHIEVEMENTS

Ms. Daniya Khanum from 4th semester, CSE department completed Internship at International Model United Nations. This internship helps students develop leadership skills, research, writing, public speaking, and problem-solving skills. Moreover, coming up with solutions that are acceptable to a majority of the representatives also inculcates skills of negotiation, conflict resolution, and cooperation.


INTERNATIONAL
MODEL UNITED NATIONS

Certificate of Internship

This Certificate Recognizes with Appreciation

DANIYA KHANUM

As a Campus Ambassador Intern for

INTERNATIONAL MODEL UNITED NATIONS

from October 15th, 2021 - November 19th, 2021

Mohneesh Bhardwaj

Mohneesh Bhardwaj
Executive Chairman

DEPARTMENT ACHIEVEMENTS

Prof. Laxmi M C from Dept. of CSE, has participated and presented a paper titled "**AI BASED CROP EXHORTATION TO THE CLOUD**" in International Conference On "Computer Science & Technology Allies in Research" (ICCSTAR)-2022 Organized by Department of CSE, held during 24th & 25th June 2022 at RRIT, Bengaluru.

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"Computer Science & Technology Allies in Research"
(ICCSTAR) -2022

This is to Certify that Dr./Prof./Mr./Ms. Laxmi M C from City Engineering College has participated and presented a paper titled "AI BASED CROP EXHORTATION TO THE CLOUD " in International Conference On " Computer Science & Technology Allies in Research" (ICCSTAR)-2022 Organised by Department of CSE, held during 24th & 25th June 2022 at RRIT, Bengaluru.

Dr. Manjunath. R
Convener
Prof. & Head, Dept. of CSE

Dr. Mahendra K.V.
Principal
RRIT, Bengaluru

DEPARTMENT ACHIEVEMENTS

Ms. Vaishnavi P, Ms. Survi Kumari, Mr. Vamshinandan and Mr. Pramod Kumar B.S under the guidance of **Prof. Archana Bhat,** Assistant Professor from Dept. of CSE, has participated and presented a paper titled **"Superfluous Classification Using Deep Learning"** in International Conference On "Computer Science & Technology Allies in Research" (ICCSTAR)-2022 Organized by Department of CSE, held during 24th & 25th June 2022 at RRIT, Bengaluru.

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"Computer Science & Technology Allies in Research" (ICCSTAR) -2022

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Dr. Manjunath. R, Convener, Prof. & Head, Dept. of CSE

Dr. Mahendra K.V., Principal, RRIT, Bengaluru

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Dr. Manjunath. R, Convener, Prof. & Head, Dept. of CSE

Dr. Mahendra K.V., Principal, RRIT, Bengaluru

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Dr. Manjunath. R, Convener, Prof. & Head, Dept. of CSE

Dr. Mahendra K.V., Principal, RRIT, Bengaluru

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Dr. Manjunath. R, Convener, Prof. & Head, Dept. of CSE

Dr. Mahendra K.V., Principal, RRIT, Bengaluru

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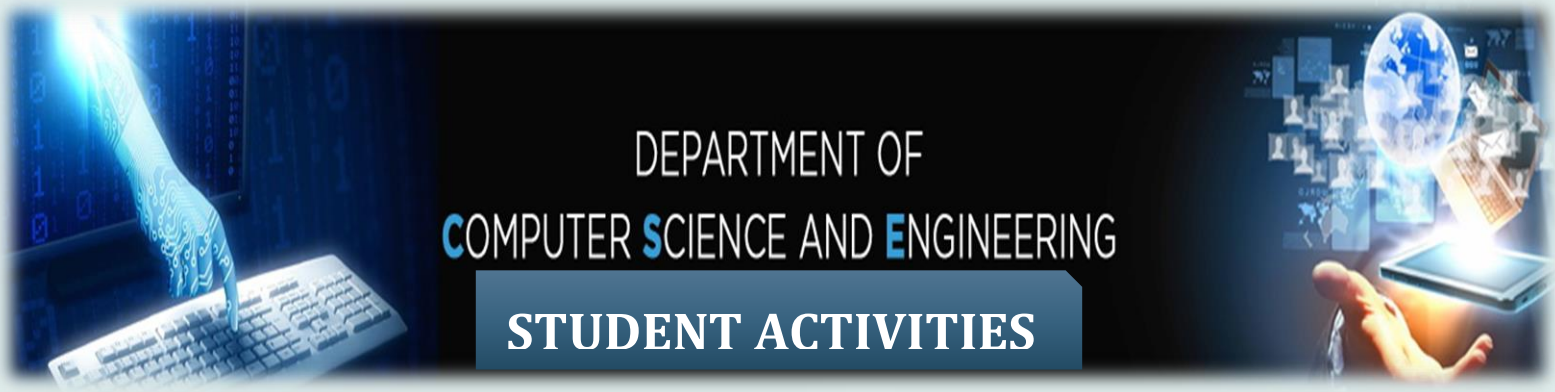
Dr. Manjunath. R, Convener, Prof. & Head, Dept. of CSE

Dr. Mahendra K.V., Principal, RRIT, Bengaluru



MANDALA ART

By

Ms. M.R Adhiti, 4th Sem, 'A' Section

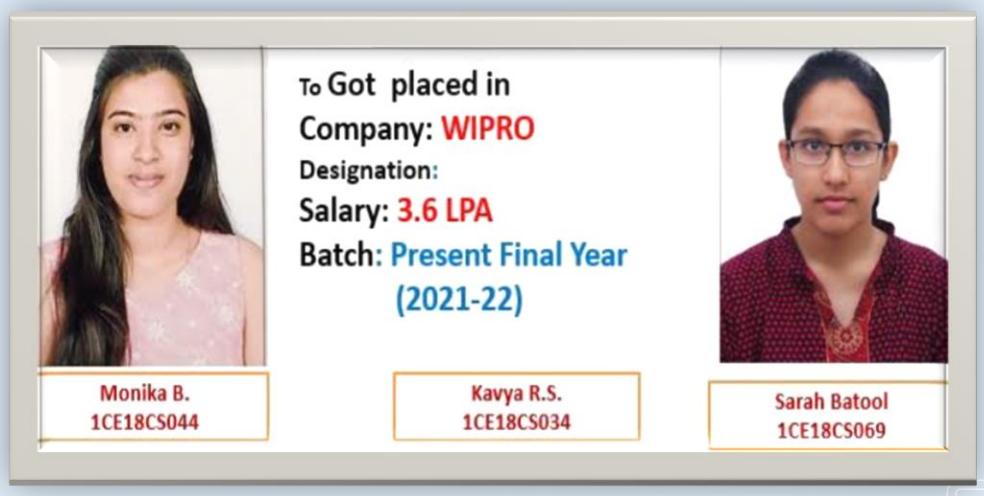
PLACEMENT

Follow these tips throughout your interview process:

- Do not be late for your interview round.
- Make a good resume to present yourself briefly
- Research about the company and your interviewers.
- Do try to not mumble/bluff through your interview.
- Develop Good Technical Knowledge of Your Subject.
- Preparation for the Written Round.
- Build Your Skills Showcase Portfolio.
- Work on communication skill.
- Be prepared with examples of your work.
- Aware of the latest technology know-how, where the industry in heading and how your academic subject apply in real-life business
- Using the STAR method in answering questions. STAR stands for Situation, Task, Action, Result
- Good manner, right body language and formal dress code.
- Meet the interviewers cordially. Wear a smile on your face reflects a charming personality.

"Don't be afraid of moving forward. The future is bright.."

TO 2021-22 BATCH FOR GETTING PLACED IN CAMPUS PLACEMENT



CITY
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Jayanagar Education Society (R)

VISION

Making Remarkable Contribution by Disseminating Knowledge on emerging trends in Engineering and Technology through various Programmes to Excel in Quality both at National and International level and to provide Career Guidance & Training for Employment.

MISSION

M1-To Encourage Knowledge Acquisition and Faster Innovation and Research.

M2-To Prepare Students for Immediate Employment, leading to Technological and Socio-Economical growth.

M3-To Provide Guidance for a productive career under various programmes.

OUR STORY

City Group of Institutions, established in 2001 by a prominent educationist Dr K R Paramahamsa are spread across five campuses in Bengaluru imparting quality education to thousands of students through its Schools, PU Colleges, Engineering Colleges, Commerce and Management Colleges, Faculty of Science and Computer Applications and Research Centres.

The group is committed to offering programs that promotes theoretical, analytical and logical growth of students through selected combinations of general education and skill specific value added programs across verticals to achieve outstanding academic output.

City Engineering College was established under Jayanagar Education Society and located in Vasanthpura, Kanakapura Road, Bengaluru. The Campus has spread out in 12 acres of land with unique style of buildings.

The institution believes in providing high quality education to the prospective professionals of the country for which necessary quality bench marks have been put in place, in the areas of faculty recruitment, development, training & placement, teaching process, student's grooming, external academic audits and feedback system for academic enhancement.

COURSES OFFERED

- B.E Computer Science & Engineering
- B.E Artificial Intelligence & Machine Learning
- B.E Electronics & Communication Engineering
- B.E Information Science & Engineering
- B.E Mechanical Engineering
- B.E Civil Engineering

- M.Tech Computer Science & Engineering

RESEARCH CENTRE

- Computer Science & Engineering
- Mechanical Engineering