CST TECHNOPHILIA

A NEWSLETTER OF DEPARTMENT OF COMPUTER SCIENCE AND TECHNOLOGY, SOE, DSU, BANGALORE

DSU

Vision

To be a centre of excellence in education, research & training, innovation & entrepreneurship and to produce citizens with exceptional leadership qualities to serve national and global needs.

Mission

To achieve our objectives in an environment that enhances creativity, innovation and scholarly pursuits while adhering to our vision

CST

Vision

To create the most favorable technology ecosystem for quality academic and research-oriented undergraduate education in computing sciences and train the students for a globalized technological world by leading them across dual-career paths to serve the society

Mission

To advance the frontiers of technology start-ups and offer students a dual-career path for fostering collaborative and multi-disciplinary practices.

CHAIRPERSON'S MESSAGE

Dr M Shahina Parveen
Professor and Chairperson

Dear Readers,

Greetings from Computer Science & Technology
It gives great pleasure to note that the Department of Computer Science & Technology is releasing the first publication of bi-annual newsletter for academic year 2021-22 Even semester enumerating the various activities and achievements of our faculty and students. The department endeavours to produce confident professionals tuned to a real time working environment. The department offers an excellent academic environment with a team of highly qualified faculty members to inspire the students to develop their technical skills and inculcate the spirit of team work in them. Department works for overall growth of students and inculcates the qualities/features that are required and acceptable by Society. Faculty/Students take initiative for social causes at individual level and as a team under different Banners/Clubs of the Institute.

The Department consists of well qualified professionals with extensive experience and specialization in different subjects.
We look forward to enable students to challenge themselves and discover their interests in producing considerable solution to meet challenges.

Thanks for visiting us.
BEST WISHES !

ABOUT THE DEPARTMENT

Computer Science & Technology (CST) programme teaches its students skills in two areas

- **Software Automation Tools**
- **Deployable Intelligent Applications**

The curriculum equips students to deliver new ideas quickly by focusing on Computing frameworks in which software providing generic functionality can be selectively changed by adding additional user-written code Shortening software development life cycle without compromising on speed, quality, and reliability of the software deployment process Working collaboratively in small teams with the enterprise community to deliver intelligent applications that will run and scale efficiently

It emphasizes on adoption of programmable software development, workflow automation, container orchestrators to monitor software, continuous integration to deliver (CI/CD) pipelines and infrastructure deployment.

Innovation, Technology & Entrepreneurship: Acquiring the skills and confidence to solve both day-to-day and larger strategic challenges with an entrepreneurial and innovation-minded approach

The goal of CST programme is to train qualified individuals who will

- **Create intelligent systems**
- **Develop and administer websites and networks**
- **Enhance existing software**
- **Establish startups/ventures**

Innovation, Technology & Entrepreneurship this stream is for you if -

You are good at introducing new ideas, inspiring creativity, leading & motivating those around you
You take proactive steps to improve your work and meet targets to produce great results You are technology savvy, dynamic and take unexplored technological paths
You are passionate about your work and explore challenges
You prefer a personalized learning path with courses tailored to envision products and make them a reality

CST Dept.'s curriculum is tailored such that you get hands-on project-based learning exposure to innovative intrapreneurial/technology entrepreneurial skills during your four years journey at DSU.

Due to the unique program structure, CST graduates will be prepared to address the complexities of real-world technology issues, and to adapt to future developments in this fast-paced and dynamic world. As a result, CST
Programme is best suited for you if you want to graduate with a placement offer (or) pursue higher education and setup a start-up.

Articles

Augmented Reality in Student Interaction System

The increase of AR popularity has taken effect in educational research in the last decade.

However, only limited studies that explore AR-RELATED learning, especially those which involve the interaction of students and AR, are worthwhile. The goal of this study is to reveal the interaction of the student while they are interacting with the AR. The results revealed that the dominant interaction shown by the student while using AR is turning the AR followed by inspecting AR elements. The interaction and learning achievement relationship analysis also showed us that there are some of the interactions that we should emphasize while using AR. This study has gone some way towards enhancing our understanding of the interaction of students when engaging with AR. However, this study requires further exploration. Further, research might explore the relationship between a student's interaction and their achievement in the learning content which involves students with different learning styles.

The research on augmented reality applications in education is still in an early stage, and

There is a lack of research on the effects and implications of augmented reality in the field of education. The purpose of this research was to measure and understand the impact of an augmented reality mobile application on the learning motivation of undergraduate health science students at the University of Cape Town. We extend previous research that looked specifically at the impact of augmented reality technology on student learning motivation. The intrinsic motivation theory was used to explain motivation in the context of learning. The attention, relevance, confidence, and satisfaction (ARCS) model guided the understanding of the impact of augmented reality on student motivation, and the Instructional Materials Motivation Survey was used to design the research instrument. The research examined the differences in student learning motivation before and after using the augmented reality mobile application.

The 3D virtual objects were prepared using an Autodesk Maya and the AR platform was developed using Unity 3D. This application looks like a normal educational book, but there are AR markers incorporated in the interface. The only requirement to run this system were basic equipment such as a laptop/desktop, AR markers and a webcam/camera to view and render all multimedia virtual objects such as 3D virtual objects. The selected subject unit was "Investigating the Earth and the Universe" unit of a primary school science course because the content requires a high imaginative ability where AR could visualize abstract science concepts.

Dr. M Shahina Parveen
Professor & Chairperson CST

Articles

Voice Technologies to watch for

Do you know Voice shoppers are expected to reach more than 150 million by this year end. NLP / NLU, Conversational AI and speech services (Speech to Text & Text to Speech) helping in greater advancement in Voice technologies. This is already disrupting the way we interact and do transactions. Voice search in India is growing at 270% based on this report. More than 90% of the companies are having voice based customer experiences as part of their digitization strategy. Being in digital-era most of the brands are focusing on conversation as being the preferred strategy to analyse and improve customer experiences. Main reason could be this technology is easy to interact, intuitive and can be personal. More interestingly this can end up in local languages and thus attracting more customers who can interact in their respective mother tongue leading to democratization. Expanding voice-driven experiences to local languages will be a top priority for brands, enabling them to tap into this huge market. This will lead to more voice enabled bots, personalization for brands while offering their services and great potential opportunities for our budding engineers. Would like to conclude that couple of projects are being done by our students in this area.

Articles

Trending Technologies

This century has witnessed a technological revolution. This year has also seen the introduction of several completely new technologies, notably in the fields of computer science and engineering. These new technologies are only anticipated to become more prevalent this year. Here are the latest trendy technologies in 2022 that you should look into and learn to understand if you want to get a competitive advantage.

- Artificial Intelligence

Artificial intelligence is not a new technology, but its influence is just now beginning to be felt as organisations and individuals realise the potential that AI may provide. AI is poised to revolutionise business in unprecedented ways, opening up new opportunities for entrepreneurs, corporate leaders, and workers across all industries. Let's look at an AI trend and how it affects organisations and their digital transformation activities.

- Natural Language Processing

Natural language processing (NLP) is defined as "the capacity of a computer to grasp the meaning of text or voice," and it has already transformed how people interact with technology. This is demonstrated by the widespread usage of AI assistants such as Siri, Alexa, and Cortana. These technologies can comprehend what people say, act on that information, and reply properly. However, NLP may do more than only assist consumers communicate better; it can also help businesses grow their operations.

- Data Science

The corporate landscape is always changing, and data science has a huge influence on the sector. The amount of data collected on a daily basis is incalculable as human engagement with technology expands by the day. This data is available in its raw form and is extremely valuable in business and research.

Data science strives to collect, analyse, analyse, and display data in a visual style to assist businesses or organisations in making critical business choices. This surge is one of the primary reasons for the rising need for data scientists. However, the number of persons applying for these positions is quite low, indicating that, despite a strong demand, supply is stagnating. With the introduction of new trends and updated technologies, the data science industry is likely to expand. The following data science trend is one of many that can greatly assist companies expand.

Articles
Trending Technologies

- Big Data

Big Data refers to massive volumes of data, which can be organised or unstructured. These data sets are too vast to be handled fast using regular procedures, hence sophisticated techniques must be used. Big Data is responsible for innovations such as dark data transfer and robust cybersecurity, which would not be conceivable without it. Smart bots are also the outcome of big data processing to assess the essential information. According to Big data made easy, around 90% of the world's data has been produced in the last two years rather than over a lengthy period of time.

- Blockchain

You've most likely heard about Blockchain in the context of Bitcoin in recent years. However, Blockchain has evolved to have a wide range of uses. The significance of Blockchain is that it is never completely controlled by a single entity since it is purely consensus-driven. It will never modify the data you keep on the Blockchain, which is frequently used in the healthcare business to share medical data.

Because of the security provided by Blockchain, this data may be exchanged across parties very seamlessly. Another use of Blockchain is to ensure the integrity of payment systems. At the moment, blockchain-based payment systems are very resistant to external threats and theft. In addition, blockchain may be used to track the status of items in a supply chain in real time.

The number of blockchain employment has risen dramatically in recent years and continues to rise. However, the number of candidates for such posts has increased in lockstep. To work in the blockchain industry, you must be fluent in numerous programming languages and have a thorough understanding of data structures and algorithms, relational database management systems, and app development.

- Full Stack Development

The need for online and mobile apps has increased dramatically. Look about you; there is very certainly at least one person in your near vicinity who is using a device to buy online, book taxis, check a bank account, or book a hotel.

As consumption grows, so does the demand for user-friendly apps. This is where the role of a Full Stack Developer comes into play. A Full Stack Developer is knowledgeable with both frontend and backend technologies. Companies are continuously on the search for a Full Stack Developer since a single person may bring a wide range of abilities to the table.

Articles
Trending Technologies

This saves money, enhances productivity, and allows the developer to work autonomously without relying on anybody. Because of the dynamic nature of this industry, it is critical for a Full Stack Developer to be up to speed on the newest technologies and to be familiar with several programming languages and language stacks such as MERN, MEAN, MAMP, and LAMP, among many others. Here we shall highlight one such trend that is extremely beneficial to enterprises.

- Low Code Development

Low Code Development is at the top of the list of the most recent Full Stack Development trends. Low volume code becomes a very desired element when the number of applications and users grows. Low code development decreases the amount of code necessary for an application, resulting in speedier app delivery with little hand-coding.

A more visible approach to software development is provided by Low Code Development. Because FSD is such a dynamic sector, changing laws, processes, and regulations make developing an app on a minimal code platform easier.

Wix and WordPress are two instances of Low Code Development platforms.

Conclusion

The global economy will almost probably resurface this year, thanks to new technologies. The aforementioned technological trends are expected to take over our daily lives in the future years. Jobs in these technologies and the abilities linked with them will be quite important, and acquiring education in them will undoubtedly benefit you significantly in your career in the long run. Choosing and mastering the correct new technology this year will ensure your future security.

Anoop Manikanta S, ENG18CT0002

Articles

Why choose functional programming?

Functional programming was widely used before other programming paradigms like Object Oriented Programming, procedural programming and many others came into existence. This is the simplest that any programming language can be in terms of syntax, because everything can be simplified down using a very clean and concise syntax. For instance, Haskell has many features but when simplified to its core can be defined only using nine constructors (you can think of these as keywords in other languages, like python).There is another characteristic, called lazy evaluation, that is present in a small number of functional programming languages. This can be both a benefit and a drawback; the benefit is that an expression is only evaluated when it is actually necessary and also avoids repeated evaluation by sharing the results, while the drawback is that debugging is difficult because the order of execution is not the same as the order in which you write the code.

Functional programming languages also have the concept of pure and impure functions. Pure functions don't vary with local static variables, non-local variables, mutable reference parameters, or input streams; instead, they return results that are equal for identical arguments. We should have as few impure functions as possible, but in situations where there are dependencies on the outside world, such as API calls or user input, it is unavoidable. The point is that since pure functions can only rely on other pure functions and not on impure, they are simple to parallelize, without having to worry about the evaluations of one function affecting the others. If any function uses an impure function in it, the function using it also becomes impure. Our task is significantly made easier by the fact that these languages offer a mechanism to distinguish between these kinds of functions so readily.

Most of the time, when your task involves a lot of mathematical operations, it is always advisable to consider functional programming, as these are the closest set of languages which are completely inspired and developed keeping lambda calculus in mind.

Articles

Why choose functional programming?

Another interesting functional programming language that I would like to briefly address is LISP. LISP represents programs, functions and data using lists. This enables LISP programmes to manipulate other programmes as if they were data. The astonishing ability of LISP programmes to modify themselves and even create new LISP programmes is the result of this.

Statically typed functions can be painful during development but during debugging you will come to understand how it makes your job easier. This is enforced natively in Haskell, which is a wonderful feature because developers are careful about what they write from the start rather than having to perform a lot of patchy work later on.

Big databases, parallel computing, and machine learning all benefit greatly from functional programming. And during the past ten years, all of these have seen tremendous growth.

Everything I have discussed in this really short piece is merely the tip of the iceberg. Functional programming languages offer a tonne more features, many of which can only be discovered by getting your hands dirty. Because the majority of the people I know have a mindset for object-oriented programming, functional programming needs you to think in terms of functions and expressions. To put it another way, every computation is an assessment of a mathematical function.

Shivaraj B H

Articles
The TLDR for Placement Prep

Placement season is the most crucial time for every student in their life. After four years of hard work and continuous learning, one dreams of getting placed in their dream company. Once the placement season starts, the companies come to the campuses and hire students from the respective colleges. Also, plenty of Off-campus placement drives will be happening all around. Preparing for the placements is the first step to starting one's professional career.

In this article, we aim to provide a rough to-do list to get you ready for the placements, and also provide an insight into the hiring process of companies, as well as provide you with some helpful resources to get you prepared. We have divided this article into 4 phases for each round in the hiring process for almost every company (Note that companies may have slightly different hiring processes considering the roles they hire for and can have additional rounds).

Phase 0 - The Prep
Before the actual hiring process begins, you must be prepared for it. Now, where do we begin?

1. Language Proficiency: Start with being proficient in at least one programming language of your choice. A great starting point for learning a new programming language is GeeksforGeeks.
2. DSA: Apart from just gaining proficiency in a language, start working on the data structures and algorithms. Some of the best resources to learn DSA is NPTEL DSA, Kunal Kushwaha, CodeHelp, and DSA Made Easy by Narasimha Karumanchi. Solving problems on different topics is very crucial to ace any coding test, but remember the goal is to understand the pattern for different problem types and not memorize their code. Some well-known sites to practice problem-solving are GeeksforGeeks and Leetcode. Sites like Neetcode and DSA sheets like A2Z DSA by Striver can be very handy as they are collections of various must-do questions to prepare for interviews.
3. Complexities: Apart from just coding solutions, it is crucial to understand why a solution is better compared to other solutions. Understanding time and space complexities can help you arrive at better solutions. A cheat sheet to compare complexities is BigOCheatSheet.
4. Databases: A knowledge of databases can come in handy and help you in the technical rounds. A few resources to be better at this are Apna College DBMS Notes and w3schools SQL.

Articles
Why choose functional programming?

- 5. Computer Fundamentals: For a software engineer, having a thorough knowledge of Operating Systems and Computer Networks is a must. Some resources are OS notes by Apni Kaksha and GeeksforGeeks CN.
- 6. Resume: It provides information about your schooling, employment history, and accomplishments with prior employers and also includes information about your skills and training. It should also specifically indicate your professional goals and the benefits you would offer to the company if hired. Additionally, ensure that your resume is no longer than one page.

Phase I - Aptitude and Technical Coding

 The first round in almost all companies hiring for a technical role consists of Aptitude and Coding. This round usually consists of MCQs and a few coding questions. The aptitude-based questions can cover topics ranging from Quantitative reasoning to Data Interpretation. A great resource to practice aptitude questions is GeeksforGeeks.
The technical aspect of this round consists of MCQs to test your fundamentals and coding questions. The MCQ tests your grasp on various topics like Object Oriented Programming, Computer Networks, programming fundamentals, and databases. Pseudo codes in different coding languages can often be seen in the MCQ section to test whether you can understand the flow of a program in case of an unfamiliar coding environment, so make sure you have strong fundamentals. To solve the coding questions, proficiency in a language of your choice and data structures is a must.

Phase II - Technical Interview

 The technical interview is a one-on-one interview that can span anywhere from 45 mins to 90 mins and is often considered the hardest of all the rounds in the hiring process. This round can also be divided into more than one round, each testing different aspects, depending on the company.

Articles

Why choose functional programming?

A great way to get a rough idea of what is usually asked can be gathered by going through past interview experiences for the respective company. It is important to keep in mind that this interview is mainly focused on understanding the way the candidate approaches a solution rather than how proficient you are in coding. So practice explaining your approach while coding a solution during the interview by speaking at all times while coding, as well as running a test case for the code you have written, even if the interviewer doesn't request it. The big mistake candidates make in this round is not asking questions to the interviewer, misinterpreting the question, and jumping straight to the coding part.

Apart from problem-solving questions, the interviewer also checks your grasp of OOPs concepts and other computer fundamentals.

Phase III - Behavioral/HR Interview

If you've made it this far, congratulations you have crossed the most difficult phases of the hiring process! This round is mainly to check whether the candidate is a good fit for the company, but be on the lookout, as the interviewer may throw in some basic coding questions or puzzles.

To prepare for this round, be sure that you research the company like its products and its domain. Preparing for questions like "Why should we hire you?" or "Why do you want to join our company?" is recommended.

With this, you are ready to ace your interviews and get your dream offer. Best of luck with your placements!!
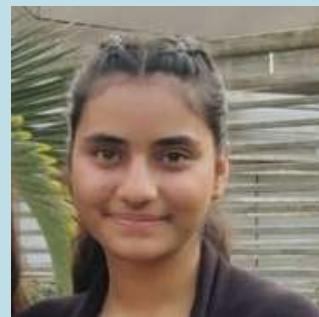
- By Gaurav Gupta and Noor Poonia

DEPARTMENTAL EVENTS
Webinars

"Overview of Cloud Security"

This webinar is collaboratively organized by the Department of Computer Science & Technology and The Department of Computer Science & Engineering for Computer Science & Technology students in hybrid mode. 36 students registered and attended this webinar.

The webinar started with the introduction of the eminent resource person Mrs. Ashwini Ravikiran by Dr. Sidhu Menon. Mrs. Ashwini Ravikiran has done MTech in Digital Electronics & Communication, NMAM Institute of Technology, NITTE, and BE in Electronics & Communication, VCET, Puttur. She has around 8 years of IT experience in various domains – The retail sector, Providing application support and maintenance to major Retail shopping stores, and Web development. She has excelled in shell scripting, SQL, Application support, Python, and Web development. Her hobbies are listening to music and traveling.

In the webinar, she explained AWS Cloud and its working. After that, it continues with the hands-on on AWS for creating the Virtual Machines and Creating the storage on the AWS Cloud. The process of deploying the projects to the cloud was explained.

The webinar ended with the doubt-clearing sessions and thanking the resource person.

Prof. Ramandeep Kaur and Dr. Sidhu Menon were the organizers and this webinar got highly rated feedback from the students.

"Entrepreneurship and IP Strategy"
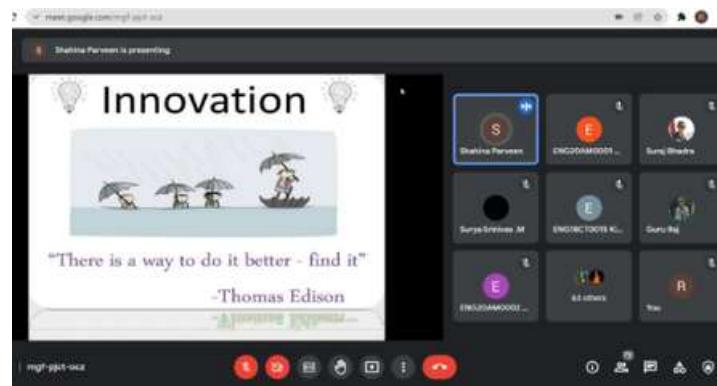
Department of Computer Science & Technology conducted a webinar on "Entrepreneurship and IP Strategy" on 21st Jan 2022 (online). This Talk was Open to all students and faculty.

The main objective of this webinar was to create awareness amongst teachers, students, and other stakeholders in the field of Innovation in current technologies, Entrepreneurship opportunities, top 10 young innovators and their success stories, importance of Intellectual Property in entrepreneurship. Around 128 students and faculties of DSU attended this webinar.

Dr.M Shahina Parveen, Chairperson CST Department was the resource person for the webinar. She has innovated and filed 13 patents in various technical fields. She has delivered more than 15 sessions/talks as a resource person on Entrepreneurship and IP Strategy, Design Thinking & Design Registration, Patent drafting & filing, Internet of Things, Big Data & Cloud and Augmented reality.

DEPARTMENTAL EVENTS
Webinars

"Career Success and Technology Trends"

The Department of Computer Science & Technology organized a "Career Success & Technology Trends" event for CST students. This event started with the introduction of the keynote speakers Dr. M Shahina Parveen, Professor and Chairman CST, and Prof. Baskar Venugopalan. The first half of the event was regarding Career Counseling, Dr. M Shahina Parveen started her address with career counseling for engineers, and engineering as a career. The importance of engineering and goal in life was discussed. She showed a path from where to get the start for achieving the goal. Start-ups and big corporate opportunities were discussed. She explained how to build a career and motivated students to prepare for Gate and other higher education exams.

The second half of the event was addressed by Prof. Baskar Venugopalan regarding Trends in Technology. He started the address with skills and trends for 2022. He explained the programming languages, low-code platforms, UI/UX design, data engineering, data visualization, video editing, CRMS, and product management. He also explained blockchain, programming, cloud computing, content marketing, big data, artificial intelligence, and Internet of Things career paths and what their requirements are. He ended his talk with an explanation of the top 10 skills of 2025 that each and every student should be aware of.

A total of 30 students registered for the event and 26 attended. The feedback collected from students shows excellent ratings and they demanded the conduction of such events regularly. This event ended at 12:35 PM with the question-answer session.

"How to write a Research Paper /Patent"

The Department of Computer Science & Technology organized a webinar on "How to write a Research Paper /Patent" on 27/4/2022 from 6.00 PM to 7.30 PM and over 50 students from the 6th and 8th semesters attended the webinar and gained knowledge on how to write a research paper or patent, the resource person who has discussed a lot of important information regarding the research paper.

Resource Person: Shree Durga (Ph.D. research scholar IISC, Bengaluru), her research area is Computational Social Choice and Multi-agent Systems. She is interested in Participatory Budgeting (i.e., designing ways to fairly distribute a common resource among a few projects, after aggregating the preferences of the stakeholders).

The event started with an introduction of the resource person by Dr. M Shahina Parveen, Chairman CST. Shree Durga, resource person started her discussion with types of research work, steps in research, paper organization, and dos and dont's in research. Later she discussed how to write a literature review paper, choose the title of the paper, and write an introduction, subsections and references were discussed. The event ended with a question-answer session and thanked the resource person. The content and delivery of the webinar were highly appreciated by the students in the feedback.

The organizers of the event were Prof. Ramandeep Kaur and Prof. Swetha Patil.

Industrial Visit

D Cube Analytics brings together leaders with more than 75 years combined experience in the healthcare and life sciences industry with a shared passion for creating disruptive products and services. D Cube Analytics believe that Data without context is meaningless. They have engineered their business model to seamlessly combine flawless service delivery with business domain knowledge,

technology, & mathematical expertise to deliver meaningful analytics solutions within the healthcare space.

The planned objectives of the visit are:

- Learning about how D Cube develops and delivers applications and products. Also would like to understand how these products are leveraged effectively in solving industry business problems
- Understand how the journey as an entrepreneur(s) started and Roadmap planned.
- Understand about the measures taken to maintain data security.
- Understand the whitespaces and how as an entrepreneur can target the same

Session 1 : Entrepreneur Journey
COO of D Cube gave the information putting into their journey like how they
started, where they are now and where they are going to be , which gave relevant
information for our students to understand DO's n DONT's as an entrepreneur.

Session 2 : Understanding AI/Ml
Session on AI, really helped students in understanding how they have taken that AI as part of their product in solving some of business related problem(s), which they have identified as an entrepreneur. That was really exciting and interactive session for students and they were also really able to share few things they have learnt and we all gained lot of knowledge by this session

Session 3 : Product Engineering
Followed by product engineering group which came and then shared the expertise they have and how they are building their products and also they touched upon what are the skills that are needed for the current generation to take the path as an entrepreneur, developer to the leadership position at enterprise or starting as developer and becoming an entrepreneur or becoming an entrepreneur.

So, this really helped the students to understand what skills they should acquire, what kind of knowledge they should gain and how to approach the product engineering. This was really fruitful and interacting with the students which really benefited and also most of the objectives we have planned for Industrial Visit was successfully achieved.

After that we had a lunch along with the employees of the company and during the lunch also interactions happened which helped us to know the atmosphere in the industry. What they do, how they manage time and work life balance with that we just have to say goodbye and reached college at 4:00pm

Students got a glimpse of corporate business and culture.
Group Observation
This Industrial visit is very helpful in our future practical Life & bring a positive change in our thinking & practical behavior regarding Education & specializing our technical skills.
Got practical knowledge about the advancement in technology in AI/ML and DataScience
How to be successful entrepreneur and focus on our business key differentiator to be successful in the market
Data Science and its application in biopharma

"TATTVA" - TEAM BUILDING ACTIVITY

Teamwork is the ability to work together toward a common vision. The ability to direct individual accomplishments toward organisational objectives. It is the fuel that allows common people to attain uncommon results.

Introduced "TATTVA" - Team Building Activity from computer science and technology department

The main objectives of this event were:
1. Students will get motivated and indulge in physical activities to relieve stress levels and gain mental and physical health.
2. Prize distribution will encourage more talents to come up and achieve.
3. Team building will create stronger bonds among the students. The individual student will respect each other and share common goals and expectations.

The list of activities for the day was: Carrom, Chess, Basketball, Table Tennis, Badminton, Fun Activities.
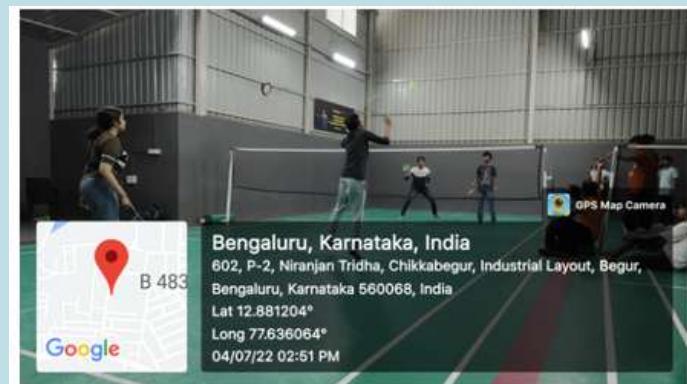
The outcomes of this event are:
- Students get motivated and relieve stress after these physical activities.
- Students gained mental and physical activities.
- Students were able to build teams which helped increase their Confidence Levels, trust, respect, and lots of fun.

The winner and runner up list is as follows:

Game Name	Winner Name & USN	Runner up Name & USN
Carrom	Dhanush K-ENG20CT0010	Dharshan- ENG19CT0010
Table Tennis	Venkat Gokul-ENG20CT0030	Ansh Gupta-ENG20CT0005
Chess	V S N Akshay-ENG20CT0032	Rubeen Sakeena-ENG19CT0029
Badminton	Ansh Gupta-ENG20CT0005	Samarth-ENG19CT0032
Fun Activity I	Dhanush K-ENG20CT0010	R. Shushank- ENG20CT0020
Fun Activity II	Manoj-Eng19CT0019	Vaibhav-ENG20CT0029

NSS Activity - Donation drive

Bengaluru, Karnataka, India
Awfis, Hongasandra Village, Begur Hobli, VJPR+XJH, Hosur Road, Kudlu Gate, Srinivasa Nagar, Hal Layout, Singasandra, Bengaluru, Karnataka 560068, India
Lat 12.887477°

Basic computer skills were taught to the children. Spending time with the children fostered a sense of community and purpose. The visit to the orphanage was a fulfilling experience for the faculty and students as they came back with not only memories but some valuable lessons too. Students learnt how to dwell with others and most importantly, ethics.

Compassion towards the poor and unfortunate is an essential virtue for every human being. In charity there's no excess. Department of Computer Science & Technology organized the NSS activity on 5-7-2022. Over 20 students and 5 faculties from CST department visited Adarane Charitable Trust, situated at Jakkur, Bengaluru.

Bengaluru, Karnataka, India
3JPF+5X4, Chokkanahalli, Bengaluru, Karnataka 560064, India
Lat 13.085232°
Long 77.624238°

Bengaluru, Karnataka, India
3JPF+5X4, Chokkanahalli, Bengaluru, Karnataka 560064, India
Lat 13.085148°
Long 77.624242°

Giving to charity is a selfless act. There's no financial return. Generosity for its own sake creates a more compassionate, community-focused world.

Clothes, groceries, books, money collected from the faculty and the student community was distributed among the 27 children who are part of this orphanage.

Value added course

Git and GitHub 101
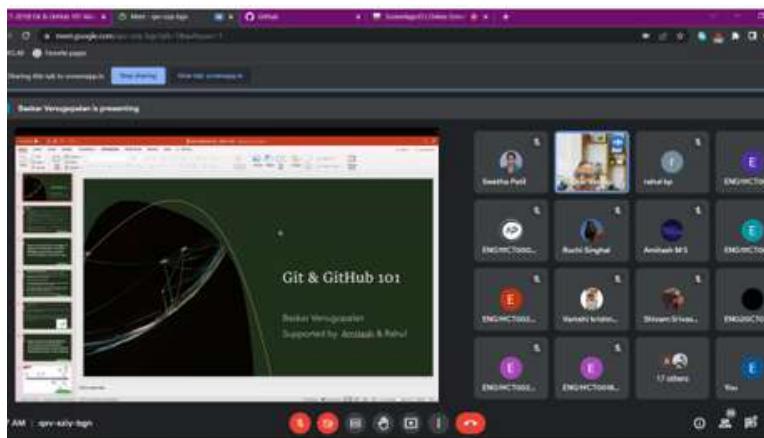
We CST department SoE DSU had planned a value added course for CST students 4th, 6th semester one week course from 21-07-2022 to 27-07-2022


Resource person :
Prof Baskar Venugopalan
Masters degree from IIT, Madras.

30 years of IT experience and 15 years of Senior Leadership Roles with major Technology services companies includes Fortune 500 servicing across industries around innovation, Advanced Technology development & strategy, Consulting, Delivery, business development and account management across globe. Experienced in building good relationships at the CXO level as a Strategic Advisor. Good in arriving at business and Technology digital transformation

strategy and as a good team builder accomplishing the same Contributed extensively in building innovation culture leading to Ideas -PoC – Product / Offering Trusted Advisor in establishing Solution Labs / COE with innovation capabilities Expert in leveraging distributed team(s) in solving customer's business problems with an effective ROI, resulting in delighted customers and the Partner Organization.

Over Three Decades of qualified experience includes roles performed as

Account CTO, vCTO Lead, Innovation & Incubation Lead, Director / Advisor to partner(s), Practice(s) Lead, Delivery Unit head, Industry Solutions Group Head, Division Head and R&D Engineer.

Main objective of course Git & GitHub 101 includes Understanding around Version Control, Diff / Patch, Git as local repo, GitHub as remote repo, Collaborative development including CI / CD / DevOps & Workflow / Actions. Brochure shared with the students of CST and registration is made to get the count of students. 46 students enrolled to course through the registration. Mode of conduct was through online from 9:00am – 12 noon and from 2:00pm to 4:00pm.
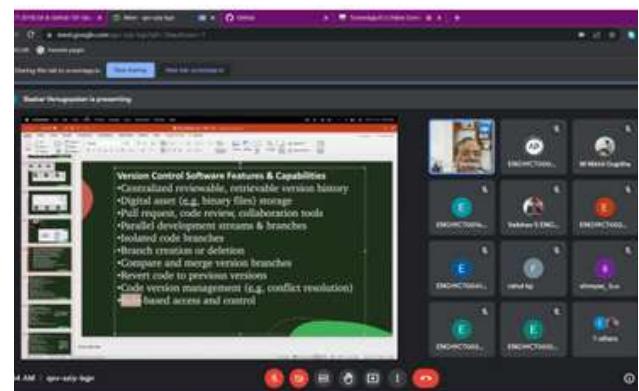
Course effectiveness and students understanding is captured by have quiz after each session Students got a good understanding around Version Control, Diff / Patch, Git as local repo, GitHub as remote repo, Collaborative development including CI / CD / DevOps & Workflow / Actions.

Value added course is concluded with mini hackathon by submitting a mini project leveraging Git & Github features (max possible) with minimum one Actions - Workflow.

Assignment is completed on Tuesday 26-Jul-22 all repo owners are issued course completion certificate and the top three repos are rewarded.

CULTURAL ACTIVITIES

"KALAGNI"

School of Engineering, DSU organized the annual fest "KALAAGNI-2022" on 28th May 2022. Students from all the departments had participated enthusiastically in the dance, singing, and fashion show..

"KALPANA CLUB"

School of Engineering, DSU,CST inaugurated kalpana club to conduct cultural and non cultural activities of the department on 17 March as remembrance of Kalpana Chawla .

"SAMAVARTHANA"

SOE, DSU celebrated farewell "SAMARVARTHANA" for the 2018-2022 batch on 29th June 2022. In the
event along with students, faculties gave their performances in the music, skit, and dance.

2018-22 CST Batch

Total of 34 students passed out in the month of June 2022 from the Department of Computer Science and Technology. 29 students registered for the Training and Placement. 25 students were eligible for Placements. Students got multiple offers with 21 LPA as the highest package . Some students opted for higher studies.

Student Achievements

start-ups , research papers, Patents, Blogs...

Name: Hrithik Kaul
USN: ENG18CT0011
Name of the start-up: Growmmerce

Growmmerce is acquired by an American tech agency

Details of the start-up: Growmmerce enables Instagram sellers to sell smarter by converting their Instagram page into a powerful eCommerce website. Websites can be made in minutes on Growmmerce, with a smartphone and without needing to have any technical skills

My contribution: UI/UX, Sales & Marketing, front end development, Product management

URL: https://growmmerce.com/

Name: Pranita D

CST Final year student, Pranita D published her first blog on May 26, 2022 entitled as "Introduction to Federated Learning and its Technologies (Part-1)" on www.medium.com. The content of the blog can be accessed through the link below:
https://medium.com/@pranitapatricia23/introduction-to-federated-learning-and-its-technologies-part-1-d40d05c4eff6

She published part 2 of the blog on Jul 18, 2022 entitled as "Federated Learning in Smart Cities (Part 2)" on www.medium.com.

The content of the blog can be accessed through the link below:

https://medium.com/@pranitapatricia23/federated-learning-in-smart-cities-part-2-3f7804e48375

Student Achievements

Shivraj B H ENG18CT0028 has got placed at Juspay company with highest pay salary and is the first candidate from the 2018-22 batch who got the highest CTC of **21 LPA** .

Dhanush ENG19CT0009 has published the patent on the topic of "REMOTE CONTROL WITH ANTI-THEFT APPLICATION" under guidance of Dr.M Shahina Parveen - Chairperson of Computer Science and Technology and Dean of Dayananda Sagar University.

About innovation:
The innovation which was patented helps to find the smartphone if it is lost with the help of GPS in a lost device and can have remote access with the lost smartphone and can ring the device if it is near the owner.

Vamshi L ENG19CT0044 has filed and published Title of the invention : POCKET FUEL under guidance of Dr.M Shahina Parveen - Chairperson of Computer Science and Technology and Dean of Dayananda Sagar University.

About innovation:
A method and system where people can start conserving their money in the(Application) digital wallet to avoid unnecessary expenses. People can save money in this place at their leisure. It is possible to fuel one's vehicle without having to carry cash or a credit card and the phone. If the user's vehicle has a barcode, he or she will need-to-carry a phone. Users can now enjoy a variety of benefits by using POCKET FUEL, including contactless. services, the ability to fuel their vehicle without carrying cash or a card, no waiting for receipts/cards/change, secure transactions, no payment issues, cashback, digital invoice/e-statement, transaction history to keep track of fuel expenses, the ability to have a fun ride with friends, and the ability to teach the importance of both fuel and money.

Highlights of Department

Best practices of CST department

Best Practice–1

Entrepreneur in practice

Objectives
- Bring out the entrepreneurship skills by practice
- Encourage and support in building a start up
- Provide knowledge and resources for hands on experience.

The Context
As part of the course objective, one of the focus area is skilling the students in becoming
an entrepreneur with awareness around innovation & IPR. As part of this it is essential to
help them in practising to be an entrepreneur.

The Practices
• Validating and helping in identifying the problem
• guiding in solution building and also other resources need as appropriate
• Sharing and encouraging to participate in innovation contests
• Value added courses/frequent guest lecturers /invited talks by the practitioners are
arranged to give more exposure on real time challenges and industrial practices.
• Field/Industry visits and Internship training provides hands on experiences to the students
which makes them to have rich understanding in their area of interest.
• Resources as laboratories are available to the students to experiment their own
innovative ideas.
• It is a regular practice to encourage the students to make presentations in National/
International seminars and conferences.
Evidence of success
• Number of companies registered by the students along with Revenue / Funding
- 3 companies in AY 21-22

Best Practice – 2

Technology Research

Objectives
- Cultivate and motivate : To strengthen and upgrade creative and innovative research paper writing skill in students and faculties
- Identify and Select the innovative research culture in the department
- Polish and Enhance the publishing skills

The Context
As part of the course objective, students has to involve in doing mini project/capstone project and write research papers by improving the style of writing with structure and references and make them to gain good academic intellectual. This enhances creativity of the writer and objectivity of the audience.

The Practices
- Implementation based assignments
- Research paper written by students along with faculty
- Publishing papers in scopus,peer review journals, conference proceedings etc.
- Evidence of success
- Faculties mentored students in writing research papers.

Student Testimonials

My name is Shivaraj B. H., and I've been studying computer technology at Dayananda Sagar University for 4 years now. During that time, I've learned a lot, all because of the institution's and my professors' ongoing support. I was permitted to use the innovation labs even before my first day of classes at college. I would frequently stay up late working, but I was never asked to leave the lab. The nicest thing about the department, in my opinion, is that you not only learn about the technology but also how to market and sell it through classes in business and entrepreneurship. AIC-DSU assists us in obtaining funding for our ideas, allowing us to translate them into reality. I also like to thank the placement department for guiding me in choosing the proper career path. Overall, my experience here has been beautiful, and this wouldn't have been possible without the institution's founder, Barrister Dayananda Sagar, who built a solid foundation and provided us with the chance to acquire the skills we need to meet the challenges of the outside world.

-Shivaraj B. H.

My time at Dayananda Sagar University was fantastic. The faculty here are among the best, constantly motivating us to succeed in our field in any way possible. They pushed me to achieve my goals. My dreams would have remained dreams if it hadn't been for them. I'm grateful for their love and support.

- Anoop Manikanta S, Dept of CST

My name is Dharshan K, and I've completed my 3rd year of Bachelor of technology in computer science and technology, During this time, I've learned a lot, all because of the institution's and my professors and our chairman Dr.M . Shahina Parveen Mam ongoing support. I got an opportunity to represent our country and our college in Texas as an Exchange Student. The good thing about the department, in my opinion, is that you not only learn about the technology but also how to market and sell it through classes in business and entrepreneurship and also we get experiential learning which is rare in other courses. AIC-DSU assists us in obtaining funding for our ideas, allowing us to translate them into reality. I also like to thank the Dean, Chairman of the CST Department, and placement department for guiding me and helping me during this time. Overall, my experience here has been beautiful, and this wouldn't have been possible without the institution's founder, Barrister Dayananda Sagar, who built a solid foundation and provided us with the chance to acquire the skills we need to meet the challenges of the outside world.

-Dharshan K

EDITORIAL COMMITTEE

Faculty coordinators

Prof Ramandeepkaur
CST Department,DSU

Prof Suparna H S
CST Department,DSU

Student coordinators

Sohana R
3rd sem CST

Hemanth
3rd sem CST

Dayananda Sagar University
Innovation Campus
School of Engineering
Kudlu Gate, Hosur Road, Bengaluru - 560 068

PROGRAMME OUTCOMES (POs)

Upon completion of this programme, students will be able to

PO 1.Demonstrated competence in university level mathematics, natural sciences, engineering fundamentals, and specialized engineering knowledge appropriate to the program.

PO 2.Use appropriate knowledge and skills to identify, formulate, analyze, and solve complex engineering problems to reach substantiated conclusions.

PO 3.Conduct investigations of complex problems by methods that include appropriate experiments, analysis and interpretation of data and synthesis of information to reach valid conclusions.

PO 4.Design solutions for complex, open-ended engineering problems and to design systems, components or processes that meet specified needs with appropriate attention to health and safety risks, applicable standards, and economic, environmental, cultural and societal considerations.

PO 5.Create appropriate techniques, resources, and modern engineering tools to a range of engineering activities, from simple to complex, with an understanding of the associated limitations.

PO 6.Work effectively as a member and leader in teams, preferably in a multi-disciplinary setting.

PO 7.Communicate complex engineering concepts within the profession and with society at large.

PO 8.Explain the roles and responsibilities of the professional engineer in society, especially the primary role of protection of the public and the public interest.

PO 9.Analyze social and environmental aspects of engineering activities.

PO 10.Apply professional ethics, accountability, and equity.

PO 11.Incorporate economics and business practices including project, risk, and change management into the practice of engineering and to understand their limitations.

PO12.Identify and to address their own educational needs in a changing world in ways sufficient to maintain their competence and to allow them to contribute to the advancement of knowledge.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO 1. Our graduates will have ethical reasoning skills, understand social, civic, and professional responsibilities leading to accomplished careers in industry, government, educational and research institutes..

PEO 2. Our graduates will possess intellect, critically think to solve qualitative and quantitative issues with acquired computational technology theories, tools and will make appropriate decisions.

PEO 3. Our alumnus will continue to learn and advance their careers and utilize interpersonal and leadership skills to be highly effective business managers, demonstrating emotional intelligence, curiosity, teamwork, reflection, and knowledge transfer skills.

PROGRAMME SPECIFIC OUTCOMES (PSOs):

PSO 1. Conceptualize domain specific problems, analyze, and develop efficient algorithms by applying best industry practices and techniques in developing software systems.

PSO 2. Apply computer science tools and techniques to solve different classes of technology problems by following ethical practices.