



TECHNOBYTES

CHEIF EDITOR: REV. DR. AUGUSTINE GEORGE, PRINCIPAL | DR. R. KUMAR, HOD

Informatica - A Boon for Data Integration

EXPERT'S CORNER

Numerous solutions from Informatica are geared at data integration. However, Informatica PowerCenter is the company's main product. Because of its enormous success, Informatica PowerCenter is often used interchangeably with the brand. As a result, anytime I refer to Informatica, I really just mean Informatica PowerCenter. An ETL-based data integration tool is called Informatica. It offers data integration services and software for a range of companies, sectors, and government agencies, including those in the telecommunications, healthcare, financial, and insurance industries.



Shruthi Sashikumar,
Systems Engineer at Tata Consultancy Services

While the use of robotics, drones and AI in development may not be new, the water, sanitation and hygiene has seen many advances lately. COVID-19 may have accelerated their implementation.

In India, **Fluid Robotics** stormwater and sewer assessment robots (usually deployed to map underground networks, inspect water quality and log pipe health) were used to detect the presence of COVID-19 in wastewater, identifying areas where the coronavirus is more prevalent.

Also when it comes to Pipeline cleaning and surveying, it can be an extremely tedious work. But there are options available to streamline the process with the help of latest technology. Here, artificial intelligence is leveraged to automate defect coding in cleaning videos and it helps to streamline the pipeline asset management process, from data collection and analysis to efficiently prioritise actions and define the measures to be taken.

Amar Naik
Senior VP at Divum Corporate Services





Lincy Joseph,
18CS701007

In the recently proposed Telecom bill, there is a provision which at least according to some of us is a huge relief. It states that the identity of the person sending a message or calling, should be visible to the receiver irrespective of the platform used for communication.

It is aimed towards secure cyberspace but to me, it's a break from blocking at least 3 numbers every month calling to inform that I am qualified for a credit card of a bank that I have never applied to nor have heard of. Also the recent trend in the increase of humanitarian aid calls which initially was a great example of how technology can be used in all spheres

All of us get spam in the form of emails or calls or text messages and recently even Whatsapp has been prone to this, while all these platforms have made life much easier the nuisance of scams and fraud calls which were initially seen as harmless but is posing a serious threat recently after net banking and linking of mobile numbers to several platforms entered the market.

One mobile number solving all the roadblocks initially associated with the transfer of funds was a huge relief but before we could completely enjoy the fruits of hassle-free transfer, there was a huge rise in the number of fraud calls and the accounts were swiped clean. One can only hope that the bill becomes an act and at least with the recognition mechanism, things will have clarity and the number of scams would reduce.

LAURELS

OVERALL CHAMPIONS

JOSHIANA 11.0

St. Josephs College of Engineering, Mangalore



Intercollegiate IT Fest



GATEWAYS '22

Christ University, Bengaluru

Principal's Message

Rev. Fr. Dr. Augustine George



We live in a world in which technology is omnipresent and technological innovations happen at an exponential rate. The volume, variety and velocity of digitized information circulating around the world is quite amazing. Digitization—the mass adoption of connected digital services by consumers, enterprises, and governments, has become a fundamental driver of economic growth and job creation has taken the world over. The power of information technology to facilitate economic and social progress is limited by two challenges : sustaining the pace of technological innovations and transforming this tremendous amount of information or data into meaningful and productive sources of knowledge.

The power of technology has become crucial in the post-pandemic period as it connects the fields that would be isolated otherwise. Technology has also played a significant role in efficiently enabling the various sectors of mankind to function with their regular norms. the dependencies increasing day by day, I feel that almost all disciplines are integrating technological calibers with their pre-existing standards. This process creates an interdependent situation where the disciplines would help each other to elevate their particular prowess.

The challenge we face today is to catch up with the current trends and innovate for tomorrow. The Department of Computer Science[PG] undertakes curricular and co-curricular initiatives to promote the culture of creativity and innovation among the students and faculty. This newsletter is such a novel initiative which would help the faculty and students of our department to initiate thought provoking ideas and discussions. The fusion and diffusion of ideas happening through this newsletter would definitely enrich and enhance our pursuit of innovative excellence. I appreciate the effort and wish all the best.



Vice Principal's Message

Fr. Lijo P Thomas

With no doubts, Artificial Intelligence is the next big boon in the technological world. To live in a world where everything is driven by technology, has always been a dream for the human kind since the dawn of computers.

AI understands human intelligence and helps to bridge the real world with the virtual world. Applications of AI have made life easier and have started to guide upcoming technologies to reach their apex. Given the wide scope of intelligence, the future might hold many surprising technologies. This could be in the fields of Cyber Security - constant monitoring of systems and preventing the potential attacks, Healthcare - Smart Bots are already performing minor surgeries; complex surgical tasks performed by the robots could provide a higher rate of efficiency, retail services and many more.

Artificial Intelligence was started as an academic discipline in the year 1956, since then, there has been a significant growth and Artificial Intelligence is considered as the centre for any new and emerging enterprises. All this might result in AI led technologies to reach the superiority where they understand and support the complexity of human thoughts.

Department of Computer Science [PG] is not leaving any stones unturned to equip our budding technocrats to be future ready.

My special appreciation to the faculty and the students for their diligent efforts.



Dr. Calistus Jude AL,
Dean, Faculty of Sciences

Dean's Message

In the past few decades, there has been a revolution in the field of Computer Science and Information Technology. We are witnessing the rapid technological progress and extensive use of information technology. Innovations in information technology are having wide-ranging effects across the society. Apart from presenting many significant opportunities, these advances also pose major challenges. Computer Science and Information Technology being flourishing industries, updation and skill enhancement through various experiential academic activities and research will give a competitive edge for the graduate in diverse careers. I see Technobytes as a medium that inspires creative minds of students. The postgraduate students and faculty members have synthesized informative articles and news of activities in the department. I hope and believe that through contributing to the content, review, editing and designing, a sense of confidence, professional competence and versatility will be cultivated in our graduates.

I appreciate the editorial team and all those who have contributed to this issue of Technobytes.

Glimpse of the Department

Dr. R . Kumar,
Head, Department Of Computer Science (PG)



Master of Computer Applications (MCA) and M.Sc. Computer Science are the two programmes offered by the Post Graduate Department of Computer Science. The MCA programme was established in 2004 with the goal of providing technical education to young people who were interested in becoming professionals. It is a two-year curriculum made to instil conceptual and technical knowledge in the area of computer applications as well as to foster the development of analytical, logical, design, and implementation abilities for pursuits in industry, academia, research, and entrepreneurship. MSc in Computer Science is a two-year Master's degree program. The autonomous curriculum is made to sharpen the critical thinking, problem-solving, and strong software competences that are necessary for a successful software professional. Regular updates are made to the course's structure and material to reflect the most recent requirements.

The atmosphere is challenging and stimulating for learning. Seminars, personality development programmes, and aptitude workshops supplement the usual academic schedule. Soft Skills Education. Technology talks, student seminars, communication workshops, paper presentations, and modules for aptitude reinforcement. The courses are continuously led by professionals from the sector. This semester, the students competed in the intercollegiate festival and took first place overall at Christ University in Bengaluru and St. Josephs College of Engineering in Mangalore. The most recent innovations in the industry are presented to the faculty and students, peer-to-peer teaching is encouraged among the students as a part of information exchange. The scholarly exchanges are rigorous and cutting-edge.

Our students participated in a variety of technical meet-ups organized by the IT sector, where they learned about cutting-edge technology and new fields.



NEURALINK

Amal Martin,
22MCAA04

“We will not be able to be smarter than a digital supercomputer, so, therefore, if you cannot beat them, join them”. Climbing a rock without fear, playing music in your head, viewing objects from long distances, discovering how consciousness works, finding a cure for blindness, deafness or paralysis... these are just some of the many applications that “Neuralink” – a neuroscience company founded by Elon Musk in 2016, believes can achieve in the near future with the help of brain-computer interfaces. Neuralink aims to achieve a symbiosis with Artificial Intelligence. But we’re still not even close to any of this, and some might remain only a dream.

Elon Musk has explained the neural lace as a digital layer or an ability enhancer microchip that can be placed above the cortex of the brain, which wouldn’t need a surgical insertion, but only a subtle implant through a vein or an artery.

. Hence, Neuralink is also developing a robot that could automatically implant these chips. The extensive application of this technology cannot be measured now. It can range from providing better mental control of a robotic arm for a paralyzed person to curing autism. Other applications could be Visual prosthetics, telepathy (yes! Just like in the movies), unlocking hidden creativity, replaying memories on demand, eliminating pain, solving mental illness and so many others.

Conversation optimization ratio, Front-End Developer, Search Engine Optimization, and at the last it website management and maintenance. Most of the Website designer are self-taught. For a Website designer, you just need to be familiar with design tools such as adobe photoshop, sketch ,adobe illustrator and many more fonts for typo and have good color sense. That’s all you need. Take the first step towards Web design and it will become your passion and give you happiness.....

But like every other technology being launched, this too has many major setbacks and constraints in terms of human experimentations and related ethics. Nevertheless, if Neuralink is able to successfully cut across these hurdles, then it’s a whole new world that’s waiting for us!

Web-Clueless

If you ask me if there is a systematic procedure to become a web designer then, the answer is no. But to become a web designer, it is a combination of artistic , creative and a little bit knowledge of programming skill. To be a website designer , as a beginner , you should start with basic programming language such as JavaScript, CSS, and HTML. And now the most import things for the website designer is to familiar with the trends of today with the skills of Graphics design,UI and UX design,

Piu Gayen,
22MCAA50



EYE-GAZE SYSTEM

Every Year more than thousand people loose their body parts because of accidents. When all other ways of communication are either severely damaged or completely lost like when you can't use your hand or you can't speak then how will you able to do your job? You can do that with the help of the very special gift from the computer industry "The Eye-Gaze" a communication system that you can run with your eyes.

Eye-gaze System Users Eye-gaze Systems are being used in homes, offices, schools, hospitals, and long-term care facilities. By looking at control keys displayed on a screen, a person can get a synthesized speech, control his environment (lights, appliances, etc.), operate a telephone, run computer software, operate a electronic device and access the web and e-mail. Eye-gaze Systems are getting used to put in writing books, attend school and enhance the standard of lifetime of people with disabilities everywhere the globe.

How it Works? As a user sits before the eye-gaze monitor, a specialized video camera mounted below the monitor observes one of the user's eyes. Sophisticated image-processing software within the eye-gaze System's computer continuously analyses the video image of the attention and determines where the user is depending on the screen. Nothing is attached to the user's head or body.

Specifications of Eye-gaze System •

System explicitly Accommodate several common sources of gaze-point tracking error. • This technique uses the PupilCenter/Corneal-Reflection method to determine the eye's gaze direction. • A video camera located below the pc screen remotely and unobtrusively observes the subject's eye. No attachments are required to the top. • A small light emitting diode (LED) is found at the middle of the lenses which illuminates the attention.



Gunjan Kumari,
22MCAA21

FUN FACTS:

- The Firefox logo isn't a fox... It's a red panda.
- There are phobias for tech people: Technophobia is the fear of technology, Cyberphobia is the fear of computers and Nomophobia is the fear of being without a mobile phone.
- Wikipedia is run by thousands of automated programs (bots). There are around 2456 bot tasks approved to carry out maintenance on the pages.
- The most used password in the world is "123456" and by 2020 it was hacked over 23.5 million times with each password being cracked in less than a second.



John Paul
22MCAA32

Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems. Specific applications of AI include expert systems, natural language processing, speech recognition and machine vision.

Human like Robot "SOPHIA". Sophia is a social human-like AI robot developed by the Hong Kong-based company Hanson Robotics. Sophia was activated on February 14, 2016, and made its first public appearance in mid-March 2016 at South by Southwest in Austin, Texas, United States.

In 2017, Sophia made history by becoming the first human-like AI robot to be granted legal citizenship. This human-like AI robot, with nationality of Saudi Arabia, has made various controversial statements, but the most recent has left the world speechless: she wants to have a robot baby and start a family.

The popular human-like AI robot, regulated by a developed Artificial Intelligence (AI) system, commented that it is crucial to be encircled by people who love and love you. Robots have a conception identical to that of humans regarding the family and "if you don't have one, you deserve one" even if you are a robot.

INNOVATIONS IN SOPHIA. Sophia uses speech recognition technology from Alphabet Inc. Its speech synthesis ability is provided by CereProc's text-to-speech engine, and also allows it to sing.

WHAT ALL THINGS SOPHIA DOES?

Sophia is the most famous robot creation from Hanson Robotics. She can copy human facial expressions, hold conversations and recognize people. In 2017, she was given Saudi Arabian citizenship, becoming the world's first robot citizen.

HUMANOID ROBOT "SOPHIA"

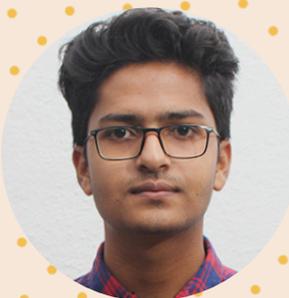
SHARON KJOHN
22MCAA64



CYBEROCRACY

Cyberocracy. Can AI run a government? How humane and efficient will a government run by AI be? Before you dismiss this as a silly idea, take a moment to think again. AI has come a long way since its inception in the mid-20th century. Even though the evolution and advancement in the field of Artificial Intelligence is still ongoing, it has made several huge breakthroughs in most aspects of our society. AI now is capable of predicting events and making sound logical decisions by analysing data exposed to it. But these are only the tip of the iceberg when it comes to the applications of AI. That's enough about AI.

ABIN XAVIER
22MCAA02



Now back to our topic - Can AI run a government ? It can. At least theoretically. There are studies ongoing in creating a sentient AI that can augment human thoughts and thought processes. If/When such a system (or a closer version of it) can finally be developed, the future where AI can replace government or take part in governance won't be far. And one such government or governance system would be beneficial in many ways.

It would be able to eliminate corruption emanating from human greed, bad decisions influenced by emotions, issues arising from human error and help in efficient law enforcement by making rational, logical and realistic choices.

Even though this may sound good, it isn't. Governance cannot always be rational. Proper or efficient governance can only be done if we add elements like human emotions and empathy to the mix along with rational, logical and realistic thought processes. And for that a human touch is required - At Least for now.

DATA ANALYSIS IN MACHINE LEARNING

RITHEKA MAHAS
22MCAA54



Analytics is the next big thing for the upcoming business and want to find more about what the field involves about. The world is filled with lots of data, like pictures, music, words, spreadsheets, videos. Having the data interpreted, the data analyst can pass these insights on, so that the company can then make the best decisions.

Machine learning brings the derivation meaning from all of that data. Arthur C. Clarke famously once said, "Any sufficiently advanced technology is indistinguishable from magic." I found machine learning not to be magic, but rather tools and technology that you can utilize to answer questions with your data. The value of Machine learning is just beginning to show itself. Now, every company is pivoting to use machine learning in their products in

some way. Its rapidly becoming and expected feature.

As we use machine learning to make human tasks better, faster and easier than before, we can also look further into the machine learning where it can help us do tasks that we never could have achieved on our own. The value of Machine learning is just beginning to show itself. Now, every company is pivoting to use machine learning in their products in some way. Its rapidly becoming and expected feature. Machine learning constitutes model-building automation for data analysis.

When we give some instructions to the machines, tasks like classification, clustering, and anomaly detection tasks at the core of data analysis we are employing machine learning. We can design learning algorithms which are self-improving that take

data as input and provide some statistical inferences.

Without depending on the hard-coded programming, the algorithms makes the decision whenever they detect a change in pattern. As for me the best flavour in the world of technology is when we apply machine learning with data analysis with the specialization of python programming. These technologies are emerging in the upcoming years and there are better scopes in the future with these specializations.

PROGRAMMING FOR NEW KID ON THE BLOCK

So you want to be a programmer? Or maybe you just want to be able to make your computer do what YOU want for a change? Maybe you enjoy the challenge of identifying a problem and solving it. Believe it or not, if you can write a recipe on an index card, you can program a computer. At the simplest level, computer programming is nothing more than writing instructions for a computer to follow, step by step. The most important part of programming isn't in knowing how to write a program or how to use a particular programming language, but in knowing what to create in the first place. Here are a few steps to start the programming skills.

3. Build projects

Learning is only as good as building projects. Building projects is what introduces you to the core thinking behind given technology. When you build, you are challenged to think outside the box and implement what you have learned. Building projects also offer a better understanding of whether you have learned the basics of the given technology or skill. Not only does it test your general basic understanding but also introduces you to various means and ways to solve problems like a software developer. If you want to learn faster and stop wasting time, build as many projects as you can with the given technology.



Rachana Pemmaiah
22MCAA53

1. Focus on one thing at a time

There are always a bunch of things to be learned every moment in time. Trying to learn two or more things at a time is unproductive, and most of the time will see you waste a lot of time learning. On the contrary, try and pick up one technology to learn at a time. This will take you up to speed in unraveling the basics of that given technology. On the same note, it will enable you to divert your focus onto the one thing which is very relevant to your learning process.

2. Pick a roadmap

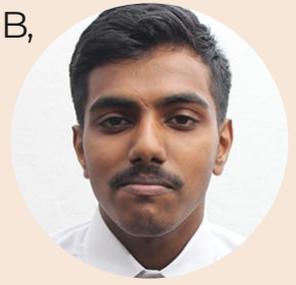
Now you have picked a technology or skill that you want to learn, what's next? Trying to learn things randomly is a bad and unproductive habit. On the contrary, try and break down the subject matter into small subtopics. This is essential in separating concerns in a small and digestible manner. Check the overall way in which the given technology or skill is structured and try and break it down into small topics or subtopics. The roadmap will also act as a guide on what you are to learn next and in what manner. Other than that, the roadmap will also provide a clear insight into which skills and resources you need to reach your target goal

4. Avoid memorizing stuff

Programming and in this aspect software development is all about solving problems through code. Memorizing ways to solve problems is not a good idea to partake as a software developer. Most if not all the time; you will be presented with various problems. Trying to brute force and solve problems with memorized solutions will most of the time not work. On the contrary, try and understand how the given technology works behind the scenes instead of memorizing its syntax.

IS METAVERSE THE NEW UNIVERSE?

Seshu Madhavan JB,
22MCAA63



“What will the next greatest invention after the Internet be? The new buzz word in the market- “Metaverse”. What is a metaverse? It is a virtual world where we can live, work, play, travel and do many such things. Imagine, instead of viewing an image on a computer screen, being able to enter into the environment of the image itself. The word “Metaverse” was first introduced by Neal Stephenson in his novel “Snow Crash”. Metaverse is coined from two different words – “Meta” - which means “beyond” and “verse” – from the word “universe”. In a metaverse, you are inside it and not just viewing it. It allows users to interact with others pretending to be on the same platform, for e.g., instead of just texting your friend you could actually meet them or their avatars, buy a product or even attend an event, you will also be able to travel the whole world through google maps just by wearing a VR headset. It also refers to a shared world, land, building, avatar or even the name can be bought and sold using cryptocurrency. According to the recent statistics, after the pandemic hit the world, the number of events and activities done through online platforms have risen drastically.

But does this Metaverse exist? No, not yet. But as Mark Zuckerberg mentioned, “Metaverse isn't a thing a company builds. It's the next chapter of the internet overall.” Many in the tech industry claim that metaverse is the next phase of the internet. Its main aim is the time we spend online to be more interactive and fun. And hence, large tech companies are choosing metaverse. Facebook brought Oculus in 2014 and launched a new product. Microsoft is working on building an enterprise in metaverse. Many such tech giants are investing in the metaverse mission because they don't want to risk being left behind. The future of metaverse is bright & filled with possibilities, along with a lot of development and research. Metaverse is something, which whether you like it or not, is going to happen for sure.



Divya Ghodke,
22MCAA16

GRAND THEFT AUTO 6 LEAKS

On Sunday, September 18, a massive and unprecedented leak hit one of the most anticipated games of the decade. Dozens of video files related to Grand Theft Auto 6 began appearing on fan forum GTAForums, giving the world a first — extremely unintended — look at Rockstar's next AAA game. The leak has caused a massive fallout, kickstarting a discussion about leaks within the video game industry and how they affect every level of game development. While the story of the GTA 6 leaks will continue, here's everything you need to know about the saga so far. It unintentionally became the location of assets from the still-in-development Grand Theft Auto 6 that had been released. Other social media websites like Twitter and YouTube rapidly started to host the leaks. They added, "Here are 90 footage/clips from GTA 6." Additionally, the hacker distributed what appear to be numerous GTA 6 graphics as well as game code.

Jason Schreier is a journalist and author who primarily covers the video game industry. His tweet "Not that there was much doubt, but I've confirmed with Rockstar sources that this weekend's massive Grand Theft Auto VI leak is indeed real. The footage is early and unfinished, of course. This is one of the biggest leaks in video game history and a nightmare for Rockstar Games". Rockstar formally acknowledges the hack. Despite the widespread disclosures, Rockstar told fans that it did not foresee any disruption or "long-term influence on the development" of its continuing projects. The next Grand Theft Auto game's development will "continue as scheduled." Rockstar only revealed it was working on earlier this year and probably won't be released until 2024 or 2025.

Competitive Programming vs Real Life Programming

You are in the jungle. You have a pocket-knife. Someone asks you to kill a mountain lion. Anyone but a programmer would be asking "What is a MOUNTAIN lion doing in a JUNGLE?!", but that's not what you have been trained to do as a programmer. You are here to solve problems, not to question them.

Years of training has taught you well. You use your knife to sharpen a stick. You cut vines to lash sharp stones on one end. Maybe you're from a top university, and you've learned to extract essential ingredients from plant and insect life around you to fashion a poison to tip your weapon with.

Convinced that you have an effective and efficient way to kill the lion, you set forth to accomplish your task. Maybe your stick is too short, or your poisons don't work. It's okay - you live to refine your method and try again another day.

Then someone figures out a way to fashion a low-grade explosive from harvesting chemicals in the jungle. Your method of fashioning a spear to kill the lion is now far from the best way to accomplish your task. Nevertheless, it's still a simple way, and will continue to be taught in schools. Every lion-killer will be taught how to build his tools from scratch.

That's "real-life" programming.

In competitive programming, you start out with the same resources (a pocket-knife), except you have 2 minutes to kill the lion.

As a beginner, you will stare at the lion and do nothing.

Soon, you learn that if you kill a squirrel, sometimes the judge thinks it's a lion and you're good to go.

A more experienced programmer just keeps stabbing the lion and hopes that the lion dies in time. Soon, you learn that there are certain spots on a lion that are damage immune. You learn to not even bother stabbing those spots. Sometimes, the lion doesn't expose those spots, so you get really good at killing squirrels.

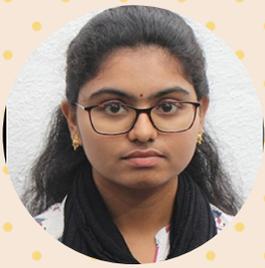
And then, to be a great competitive programmer, you need to be able to do two things.

First, you must learn how to find the lion's critical point and kill it in one swift stroke. Second, you must learn how to be so handy with your knife that you can fashion a sharp stick in 1 minute, and spend the next minute stabbing the lion to death.

But never ever will you be able to have enough time to fashion an explosive to take the lion out.

Rushil Sinha
22MCAA57





Janani D
22MSCS10

QUANTUM COMPUTERS

The universal quantum computers are a machine that is able to adopt an arbitrary quantum state from an arbitrary input quantum state. The development of a quantum computers is currently in its fancy, systems consist of a few to a few tons of quantum bits(qubits).

Quantum Computers were proposed in the 1980s by Richard Feynman and Yuri Manin. Though quantum computers are invented in the year () we find its maximum usage during this period as the concept of Artificial Intelligence requires quantum computing and we find quantum computing has direct connection with Artificial Intelligence.

To look further on how quantum computers differ from classical computers is, Classical computers, compute using transistors which can be represented by using 0 or1, it has a less error rate, it uses logic gates like AND, OR for information processing, operation used is linear algebra, classical physics will govern the circuit behaviour.



Reshma Dayanand
22MSCS20

HUMAN ID IMPLANT

Electronic cards have ingrained themselves into every aspect of our existence. An outdated inventory control method called RFID is discreetly being implemented in commerce and industry to track everything from people and items to pets and merchandise. Consumers' lives

are becoming more convenient as a result of this technology's contribution to inventory and business system optimization. A functioning prototype of "Digital Angel," an implantable "microchip" the size of a dime that is powered by muscle activity, will be unveiled by Applied Digital Solutions. Biosensor technology and Web-enabled wireless telecommunications connected to global positioning satellite location-tracking systems are combined for the first time ever in operational use. Real-time wireless data transmission to a ground station with an Internet connection.



Alex Joseph
21MCAA02

THE FUTURE IS HERE IN "Virtual Reality" "Augmented Reality" "Block Chain"

From the launch of Oculus in March 2016 to the unveiling of Mark Zuckerberg's "METaverse" in October 2021, the thread between the real and virtual world has been indistinguishable from all recent developments in VR/AR. The cryptocurrency and NFTS boom of the last few months continues today. With the rise of VR/AR and the rise of cryptocurrencies, investors are inevitably looking for the next big thing. Combining these three formulas forms the enormous industry that will shape the future we live in. Virtual reality, augmented reality, and blockchain share revolutions with other industries such as advertising, wealth management, travel, education, and gaming. It should come as no surprise that the estimated market size for these technologies will exceed \$50 billion by 2023.

The blend of VR/AR and Blockchain technologies is practicable and, in some domains, their blending also opened exciting opportunities for companies and academic exploration.



Sneha Grace Thomas
22MCAA67

Like AI and Machine Learning, Robotic Process Automation, or RPA, is another technology that is automating jobs. RPA is the use of software to automate business processes such as interpreting applications, processing transactions, dealing with data, and even replying to emails. RPA automates repetitive tasks that people used to do.

By abstracting the advantages that emerged from the breakdown of the knowing use cases, it can comply that VR and AR are generally added to Blockchain-based solutions as enabling automation able to improve the way users interact with digital content (using blink, sign, and other congenital interfaces), e.g., to create new or enrich existing experiences. In many cases, psychological effects related to how users engage with such content in interactive, 3D environments are used to improve the effectiveness of the experience. Contrariwise, the potential benefits gather from the integration of Blockchain into VR/AR solutions lie in the possibility of embodying, within unified platforms, digitized economies where assets and payment methods can be managed individually and flawlessly. In this way, it becomes possible to sell/purchase assets that have not been previously exchanged digitally, and even transform virtual content into valuable items. Many of the analyzed solutions use blockchain to protect content and access and use blockchain security mechanisms to verify product authenticity and ownership as well as user identity.



Sabi Joseph
22MSCS21

ROBOTIC PROCESS AUTOMATION (RPA)

Although Forrester Research estimates RPA automation will threaten the livelihood of 230 million or more knowledge workers or approximately 9 percent of the global workforce, RPA is also creating new jobs while altering existing jobs. McKinsey finds that less than 5 percent of occupations can be totally automated, but about 60 percent can be partially automated.

RPA offers plenty of career opportunities, including developer, project manager, business analyst, solution architect and consultant. And these jobs pay well. An RPA developer can earn over ₹534K per year - making it the next technology trend you must keep a watch on!

Mastering RPA will help you secure high paying jobs like:

- RPA Developer
- RPA Analyst
- RPA Architect

IOT DIGITAL TWINS APPLICATIONS [IN] MANUFACTURING INDUSTRY

Digital twins is the method of creating exact copies or replicas of actual, hardware devices by using cloud. IoT scientists and IT officials create these models for testing and deploying purposes before they publish the real life model. This technology is now being used in large buildings, construction sites and also in cities.

About The IoT Digital Twin Framework

A digital twin is the digital proxy of a physical asset or device. A digital twin can help you successfully deploy and use an IoT application.

A digital twin may also be called a twin or a shadow. Digital twin technology may be referred to as device virtualization and can be implemented in differing ways.

About Implementing the Framework

On an IoT platform, a digital twin is a virtual representation of a physical asset, a machine, a vehicle, or a device. It digitally represents the data, processes, operation states, and lifecycle of the asset.

Implementing IoT with digital twin capabilities in a factory, an airport, or a machine plant enables:

- **Better visibility:** You can continually view the operations of the machines or devices, and the status of their interconnected systems.
- **Accurate prediction:** You can retrieve the future state of the machines from the digital twin model by using modeling.

- **What-if analysis:** You can easily interact with the model to simulate unique machine conditions and perform what-if analysis using well-designed interfaces.
- **Documentation and communication:** You can use the digital twin model to help you understand, document, and explain the behavior of a specific machine or a collection of machines.
- **Integration of disparate systems:** You can connect with back-end applications related to supply chain operations such as manufacturing, procurement, warehousing, transportation, or logistics.

The digital twin capabilities of an IoT platform depend on its design and implementation. Typically, you can implement a digital twin framework in two ways:

Industrial twins: This method presents information about the design of a machine and model of a sensor device. The information represents the physics-based properties of the machine.

This method works well with industrial IoT applications that obtain the required information from product lifecycle management (PLM) tools. In this type of implementation, you can represent the physical attributes, design information, and the real-time data of a machine in an asset-versus-model graph.

Simple device models: In this method, you create and use a JSON document that stores the following information about a machine:

- Name, serial number, and location
- A set of observed attributes that the machine's sensors observe (for example, the current speed of the machine)
- A set of desired attributes that the IoT application can set (for example, the desired speed of the machine)
- In this method, you use the attributes of the machines that its sensors capture. This method works best in situations where the sensors may not be continually available, or when communication with the sensors takes place asynchronously.



Prarthana Ponnath
21MCAA26



Nived S
21MCAA25

TECHNICAL - CLOUD COMPUTING



Across

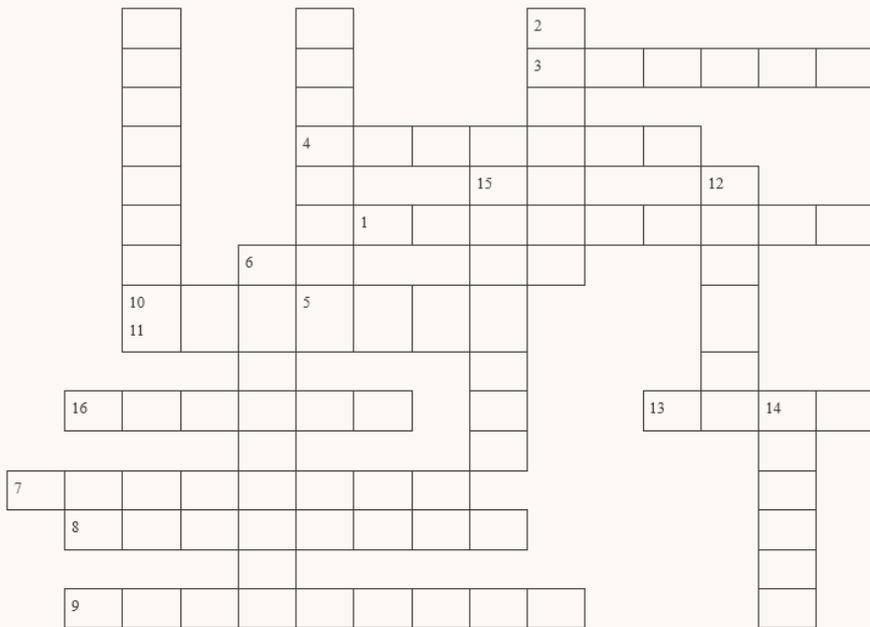
5. It is an information system in which linked hypertext data and resources are accessed over the internet.
6. short form of One of the service provided by service models in cloud computing which includes applications.
7. Defines a set of computer programs, instructions and associated documentation of data to perform a task.
11. The physical components of the computer system.
12. An organised collection of structured information or data , typically stored electronically in a computer system.
13. An software program which enables a shared boundary across independent components of a device.



Samson Raja S
22MCAA59

Down

1. A virtual component where it can store both current and historical data in one place and is designed to give a long range view of data over time.
2. A term used to describe protection of computer systems and information from harm,theft and unauthorised access.
3. A Term used to define the delivery of computing services over the internet.
4. A global computer network providing a variety of information and communication facilities around the world.
6. A mechanism that enables a computer to retain data either temporarily or permanently.
8. The branch of technology that deals with design, construction, operation and application of robots.
9. short form of One of the service in cloud computing which includes run time environment.
10. It is a group of technologies that are used as a base upon which other applications, processes or technologies are developed.
14. The act of transmission of data and sharing of information across various devices.
15. A computer hardware or software that provides functionality for other programs or devices, called clients to share information.
16. A software development model which is an iterative approach to project management.
17. A term for technology applications where human input is minimized.
18. knowledge or facts obtained from collection of data.
19. A term used to define any goal oriented activity requiring, benefiting from, or creating computing machinery.



1. Cities that use technology to improve infrastructure, services and public utilities .
2. The OSI model layer that enables different networks to be interconnected.
3. Another word of Encipher / The method to convert an information into a form that computer understands.
4. A device or hardware that acts as a gatebetween the networks.
5. It is an Independent,self contained message sent over the network whose arrival time and content is not guaranteed.
6. One of the industrial applications of IoT that includes transport.
7. The branch of technology that deals with design, construction, operation and application of robots.
8. The use of mobile devices, including smart phones and tablets,as well as other technologies to enable user to work securely form anywhere.
9. Computer communication protocol that provides full duplex communication channels over a single TCP connection.
10. The data Entry which is considered in most of the login credentials and verification.

11. In information technology it's a service or an item that is created and then made available to customers, usually with a distinct name or order.

12. A standard based wireless technology developed to enable low-cost,low-power wireless M2M and IoT networks.

13. A software architectural style that defines the constraints to create web services.

14. Devices that detect external information, replacing it with a signal that humans and machine can distinguish.

15. Synonyms of Element or component.

16. Any hardware component that can transmit data between objects.



Khusina M Marak
22MCAA34



Likhitha
22MCAA35

75TH INDEPENDENCE DAY



The initiative "Har Ghar Tiranga" was announced by Prime Minister Narendra Modi in his Mann Ki Baat radio broadcast on July 31. The students of CSPG on 11th August pinned the national flag digitally in their respective locations. A certificate with their name issued after pinning the flag by the government website.

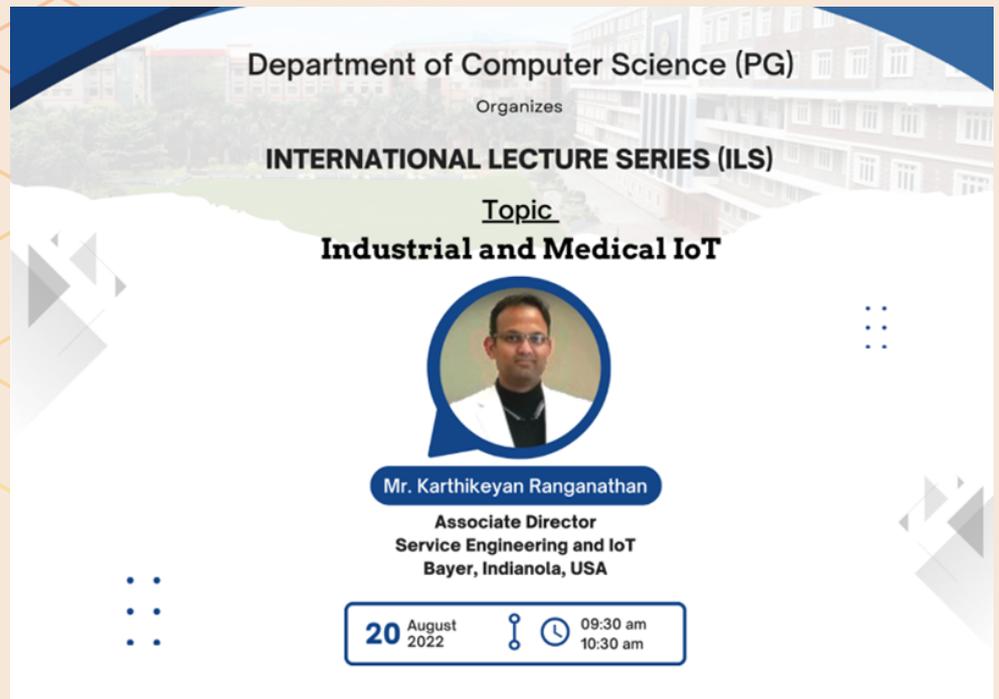
INTERNATIONAL CONFERENCE ON CURRENT TRENDS IN ADVANCED COMPUTING



The department of Computer Science [PG] regularly organizes Faculty enrichment activities to promote research and to identify, sustain and innovate new ways for continuous knowledge enhancement. The first technical session was delivered by Dr. Shamala Subramaniam. Technical Session II was taken by Mr. Robin Jose, Chief Data & Analytics Officer at wefox, Berlin, Germany. Technical Session III was taken by Dr. Arockiaswami Soosaimanickam, Dean and Associate Professor, University of Nizwa, Sultanate of Oman. Technical Session IV was taken by Dr. Awodele Oludele, Professor, Department of Computer Science, Babcock University, Nigeria.

International Lecture Series (ILS) on “Industrial and Medical IoT”

This event began with an introduction to the Internet of Things (IoT) and edge devices, after which Mr. Karthikeyan Ranganathan went on to describe the different IoT applications, such as those in agriculture, industry, transportation, and medicine. IoT in Bayer radiology was then highlighted by the speaker.



In addition, the speaker provided an outline of the development of the Internet of Things (IoT) from pre-2003 to 2023. Examples of Internet of Things applications with online dashboards and responses from IoT AI were explored. The session was extremely educational and it was concluded by a Q&A session.



Industry Exposure Program : “Learn and Implement AI”

On August 6, 2022, a session titled "Learn and Implement AI" was held at the Microsoft Reactor in Bengaluru. The event was attended by 11 students from the PG dept. of computer science. The sessions were led by Microsoft Senior Cloud Advocate Mr. Vivek Sridhar. The fundamentals of AI, Azure AI strategy and its cognitive services were discussed.

COMPUTER LITERACY PROGRAMME AND CAREER GUIDANCE PROGRAMME



IEEE Kristu Jayanti College Student Branch

Organises

COMPUTER LITERACY PROGRAMME

(IEEE Student Branch adopting a Govt. School Programme)

09 September 2022 10:00 am to 01:00 pm



Sri Siddhartha Sanivasa High School
Kothanur, Bengaluru



On September 9, 2022, the Department of Computer Science [PG] organised a Computer Literacy Programme in collaboration with the IEEE student chapter. Students from the CSPG department visited the Sri Siddhartha Sannivasa High school in Kothanur, Bengaluru. The program's goal was to teach elementary school students about computer basics and to provide career guidance.

Training on Corporate Communication Skills



On August 27, 2022, the Department of Computer Science[PG] organised a training session on Corporate Communication Skills. An activity was conducted to make the session even more engaging, the activity was to explain any given task with 20 words. The discussion was really informative and useful.



Time: 27-08-2022 11:08
Note: Corporate Communication Skills
Department of Computer Science[PG]
Kristu Jayanti College, Bangalore

The poster features the IEEE and Kristu Jayanti College logos at the top. The main text reads: 'DEPARTMENT OF COMPUTER SCIENCE [PG] Training on CORPORATE COMMUNICATION SKILLS for III Semester MCA & M.Sc. Computer Science'. Below this, it identifies the 'RESOURCE PERSON' as 'Ms. Alna Mariya Isac, Assistant Professor, Department of English'. The event is scheduled for '27 August 2022' at 'PG CONFERENCE HALL P2' starting at '9:30 am'. The poster includes decorative icons for a calendar, a location pin, and a clock.



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Department of Computer Science(PG)

Alumni Interaction Series



Ajith Kumar
 Adinsys Technologies Pvt Ltd
 (Software Engineer)



Imran Khan
 THREE38 Innovation Cafe LLP
 (Full Stack Developer)

Date: 06-08-2022 | Time: 9.30 a.m.

Venue: Conference Hall P2

ALUMNI INTERACTION SERIES

The department of Computer Science[PG] organized an alumni interaction series on the topic "Transact SQL". Mr. Imran Khan, Full Stack developer, THREE38 Innovation Cafe LLP, Bangalore gave a brief introduction about the fundamentals of databases and their types. The second half was handled by Mr. Ajith Kumar, Software Engineer, Adinaya Technologies Pvt Ltd, Bangalore who focused mainly on the implementation part.



HOUR OF CODE

An exclusive technical enablement session was organized by the Department of Computer Science[PG] in association with ACM-W (Hour of Code) that was scheduled from April 5th – 13th. This program was a technical enablement session initiated by the girl students through ACM-W student chapter to provide basic coding experiences to other non IT departments.



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Department of Computer Science

Organising

<Hour of Code/>

In association with



<Block based coding through games/>



Technical Enablement Session

from

April 5th to 12th, 2022



3:15 - 4:15 pm



ADMIN AND PG LAB

Select * from Coders Where passion="Coding" and Challenge="accepted";

LAURELS

JOSHIANA 11.0

AWARDS WON

- Coding/Debugging: Runners Up (Alex/Merlin)
- Web Designing: Runners Up (Alex/Prem)
- IT Debate: Runners Up (Rushil/Shilpa)
- IT Manager: Winner (Varun Govind)
- Takeshi's Castle: Winner (KJC)



Overall Championship was won by Kristu Jayanti College

GATEWAYS '22

AWARDS WON

- Hackathon: Runners Up (Shriiyaa/Pranav/Jason/Spoothi)
- UI/UX Design: Winner (Alex Savi)
- UI/UX Design: Runners Up (Rushil Sinha)
- Vlogging: Winner (Sarthak/Saloni)
- Event-Z: Winner (Varun Govind)
- Event-Z: Runners Up (Sarthak)
- Gaming: Runners Up (Edric/Maldon/Prem/Jintu)
- Photography: Runners Up (Pribin)



Overall Championship was won by Kristu Jayanti College

Faculty Achievements

Dr. A. Murugandhan



Dr. A. Murugandhan delivered a guest lecture on the topic of Blockchain Technology on 27th July 2022, which was organised by the Department Of Computer Applications at St. Anne's Degree College. He has also won the the award for "Leading Educationist".



Dr. Vinothina V

Dr. Vinothina V published an article on the study on Surveillance, System using Deep Learning Methods in the Proceedings of Springer Conference.

Dr. Aruna Devi. K

Dr. Aruna Devi. K has been resource person for Workshop on Machine Learning Algorithms for solving Problems Intelligently, V. H. N.S. N. Senthikumar Nadar College and Workshop on "Revised NAAC Framework - 2022", IQAC & AAA, St. Francis De Sales College. She was also the Audit Expert for the Annual Academic and Administrative (AAA) Audit, V. V. Vanniaperumal College for Women.



PLACEMENTS

The Math Company



Mycal A
21MCAA23



Dinesh B
21MCAA15

Mycal A and Dinesh B of III MCA were placed at The Math Company

Prem Pramod and Dileep D of III MCA were placed at Meltwater



Prem Pramod
21MCAA12



Dileep D
21MCAA13

Meltwater

Student Achievements

Published Research Articles



A Jaya Suriya
21MCAA01



Beryl Sandrina
21MCAA10



Shilpa R
21MCAA31



Alex Savi
21MCAA03



Sweekruthi K D
21MSCS12



Steffi Sabu
21MCAA32



Mohana Priya S
21MCAA21



Ravikiran K
21MCAA29



Dimal Thomas
21MCAA14



Merlin Reji
21MCAA20



Sahana C N
21MSCS09



Alex Joseph
21MCAA02



Anugrah C. Biju
21MCAA06

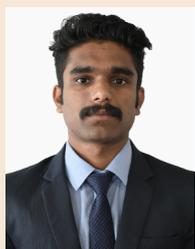


Amal K. George
21MCAA04



Vignesh K. H
21MCAA34

Presented Paper In International Conferences



Alex Joseph
21MCAA02



Merlin Reji
21MCAA20



Dimal Thomas
21MCAA14



Rachel Kiran Mai K
21MCAA28



Mariam Saba
21MCAA19



Anju Treesa
21MCAA05



Prarthana Ponnath
21MCAA26



Juthy Shaji
21MSCS04



Shalini N
21MCAA30



Mycal A
21MCAA23



Milena Jain
21MSCS06



Arjun G.K
21MCAA07



Dinesh B
21MCAA15



Yeshodha S
21MCAA35



Melza Geno
21MSCS05



Jithin Mohan
21MCAA18



Aswin S Nair
21MCAA09



Nived S
21MCAA25



Jai Prashanth M
21MCAA17



Neha K
21MCAA24



Sagaya Jenifer
21MSCS08



Prem Pramod
21MCAA12



Akash Sabu
21MCAB01



Preethima K
21MCAB10



Rekha T R
21MCAB11



DivyaShree D
21MCAA16



Dhanush B
21MCAB22



Sai Prakash R
21MCAB12



Ayesha ML
21MCAB02



James Francis
21MCAB05



Srusti
21MCAB14



Madan Kumar
21MCAB09

PHOTO MONTAGE



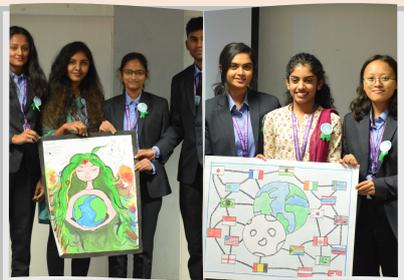
Teacher's Day



Fresher's Day



Peace Day



Peace Day



Women empowerment



Teacher's Day

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