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Our MCA Students won the overall all in Inter-College Fest held at

Presidency College, Bangaluru

Ethiraj College for Women, Chennai

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(Principal)
Rev. Fr. Augustine Grorge
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(HOD of MCA)

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Cloud Computing

Cloud Database-A Distributed Database as a Service.

Cloud computing has been the most adoptable technology in the recent times. The structure of database in cloud computing and its working in collaboration with nodes is observed under database as a service. Database as a service has been adopted by many e-commerce companies and those companies are getting benefits from this service. A database can be accessed by the clients via the internet from the cloud database service provider and is deliverable to the users when they demand it.

We assume that the user is accessing the cloud database from a computer through the internet. The internet is the bridge among the data centres, cloud data centres and the user who is accessing the data. It is important to note that only a single node is not used in cloud database; however there are different nodes that are used for the cloud database. For this purpose, node-to-node communications are preferred. The purpose to adopt node-to-node communication is that, a single node can handle any sort of the query implemented by the user. This seems complex, but an easy solution for this sort of node system that each node in the cloud database has the map to the data stored in each node. This map to the data stored helps in the easy access of data for the specific query.

Once the query is generated from the user via computer, the node first decides the sort of query, and which node will be best for the query. After the query is identified by the node, then it is transferred to that specific node. Then the specific node takes care of the query and responds to the user. Once the query is sent to the specific query, then data is directly sent to the user without any further delay.

As we talk about the cloud database, a good cloud database as a service is the one that can handle any sort of workload. However in the cloud database, the problem arises when the workload increases the capacity of the system. The cloud database must be able to scale itself when the workload increases. The scaling out of the database helps in the best performance and efficiency of the cloud database.

Many companies have started relying on cloud computing for several reasons and a trend has started by adopting cloud computing services for better and faster availability of the information rather than setting up an individual data centre for each organization or the company. The organizations always look for the ways that is effective and is cost saving. Now the cloud database has evolved a new dimension Database as a Service (DBaaS). This allows the companies and organizations to use the resources of the DBaaS providers and without any hassle to invest and maintain the hardware and software for their data centres. They get services from DBaaS provider and enjoy the freedom of 24/7 available database. The cloud database services have offered many benefits and different companies are in the race. The organization chooses the one that suits its requirements.

Mr. Samir Kumar
Database Administrator, IEEE India

Current Event

Manoeuvre: Intra College Fest Conducted for 1st & 2nd Year By 3rd year MCA

Placement News

Udyog Vichaar

The Department of Computer Science (PG) in association with Centre for Placement and Corporate Relationship Cell of the college launched the Udyog Vichaar (Initiation of Department Placement Activities) for the academic year. Mr. Deepak Simon, Director, Utegration India Pvt., Ltd., was the Chief Guest of the session and he had an interaction with the final year MCA students. During his speech Mr. Simon motivated the students by sharing his experience of his achievement as a fresh employee to a director of an MNC. He had also explained the importance of being creative and innovative in the thought process on technology. Mr. Simon shared the recruitment process of his company and gave crisp and clear answers for the students queries related to what a fresh technical geek have to focus upon? The session was very productive and it was the right initiative for the placement process for this academic year by the department and the placement cell.

Event List

	Events	Date of the Events	Name of the Resource Person
1	3i (Industry Expectations on Talent Acquisition)	27.06.2015	Mr. Mathews Abhraham General Manager and Head, HR shared services, Wipro Technologies, Bangalore
2	Tech Talk Series I - Enterprise Application Development with Java, Spring & Cloud	04.07.2015	Mr.Ananthan Narayanaswamy, Senior Software Engineer, Bazaarvoice Inc, USA
3	Webinar - Beyond Excel: Enhancing your Data Analysis with MATLAB	07.07.2015	Mr.Adam Filion(Host), Mathworks
4	International Lecture Series - Quantitative Analysis for Scientific Research	09.07.2015	Dr.Seyed Mohemed Buhari, Assistant Professor, Faculty of Computing and IT, King Abdulaziz University, Saudi Arabia
5	3I - Power Skill Workshop – Unleash your Potential	17.07.2015	Mr.Sreejith Krishnan, Manager – Learning & Development, RR Donnelley
6	Vinimay – Transition from Campus to Corporate	21.07.2015	Mr. Michel Joseph, Manager-People and Culture, Grant Thorton, Bangalore
7	Tech Talk Series II – Application of Analytics for Today's Business Needs	25.07.2015	Ms. Liz Maria Kurian, Senior Business Analyst TCS Bangalore
8	Vichaarmanthan – e-Governance at finger your tips	27.07.2015	Dr. Rathan Kelkar IAS, CEO for e-Governance, Govt., of Karnataka
9	Vinimay - Effective future Career Opportunities	27.07.2015	Dr. Venu Somineni, Chairman and CEO, MyDeals 247.
10	Attitudinal Workshop for III MCA students	18.08.2015 & 19.08.2015	Prof. Anthony Williams, Director, Zeal Institute
11	Attitudinal Workshop for I MCA students	20.08.2015 & 21.08.2015	Prof. Anthony Williams, Director, Zeal Institute
12	Village Exposure Programme and Computer Literacy Programme	20.08.2015 & 21.08.2015	Govt., High School, Purushanahalli, Dodballapur Taluk, Bangalore Rural.
13	Faculty Development Programme on Data Mining Techniques using Rapid Miner Tool	26.08.2015 & 27.08.2015	Dr. Venkatesan, Associate Professor, School of Computing Science and Engineering, VIT
14	Udyog Vichaar	26.08.2015	Mr. Deepak Simon, Director , Utegration India Pvt., Ltd.,

Coming Up

The International Conference on Current Trends in Advanced Computing (ICCTAC) is hosted by the department in association with International Journal of Computer Application (IJCA) for the year is scheduled on 10th & 11th march 2016. The conference offers a bundle of technical sessions and showcases various technical articles from industrialists and research scholars. The conference proceedings will be later published in peer reviewed journals and by in various research and technical updates.

The two day inter collegiate National Level IT Fest **"Shells 2016"** hosted by the department, is scheduled on February 2016. This annual events provides an experiential learning platform for the students, helping them to transform themselves as professional with managerial skills beyond the technical expertise acquired from the classroom.

Message from Vice-Principal's Desk

The world is witnessing an inevitable and unstoppable technological revolution. Technology makes the world a better place to live, with more comfort, convenience and efficiency. When the users are busy with acquiring, assimilating and adapting to new technologies, companies are struggling to initiate and sustain the process of relentless innovation for the creative destruction of obsolete technologies to ensure their survival and growth in the market.The blurring distinction between personal and professional technology allows people to connect, communicate and collaborate like never before. Cloud computing promotes innovations at the application and platform levels. Security will also play an important role as companies evolve frameworks and processes to guard their information assets that reside in the cloud.Being the students of technology, our responsibility is not just limited to becoming the early adopters of latest technologies, but to develop new technologies and redefine the existing ones to make life easy and better. While technological innovation continues at an exponential rate, human brain development remains steady in comparison. The more complex technology we produce, naturally, the more we need to simplify user experiences. The trend of 'simplexity' has evolved out of the increasing complexity of technology, which further creates the need to simplify the interfaces that can be used to improve the user experience. Sustaining the pace of technological development, developing new and better technologies and simplifying existing technologies require a culture of continuous creativity and innovation.The Department of Computer Science(PG), Kristu Jayanti College aims at developing such a group of dynamic technocrats by inculcating a pragmatic and professional approach among the students towards technical education. Apart from the delivery of the curriculum through an innovative teaching pedagogy, we organize diverse programmes to enhance and sustain the technical skills of the students.

The 'Technobyte', the news letter of the department brings to limelight activities and achievements of the department. It captures the glimpses of all academic, curricular and co-curricular activities, initiative and achievements of the department during the current academic session.I wish this endeavor a great success and I take this opportunity to appreciate tireless efforts of every creative mind behind it.

<div align="right">Rev. Fr. Augustine George, Vice-Principal</div>

MCA Pogramme at a Glance

The Department Computer Science(PG) of Kristu Jayanti College was established in the year 2004 with the objective of imparting technical education to aspiring youth to mould them into professionally competent workforce. At present there are 113 students in the department. As part of enriching the faculty resources, the teachers are encouraged to pursue research in different technical areas.Currently 2 faculty members hold doctoral degree in computer science and 6 faculty members are pursuing their Ph.D. in various universities.

The autonomous curriculum is designed to hone strong software competencies and analytical and problem solving skills which are the essential pre- requisites for a successful career as software professionals. The course structure and contents are regularly updated. The learning environment is intense and stimulating. The regular academic programme is supplemented by Seminars, Workshops, Personality Development Programmes, Attitudinal Workshop, Soft Skills Training, Tech-Talk Series, Student Seminar Series, Communication sessions and Aptitude Reinforcement modules.

These sessions are conducted on a continuing basis by experts from industry. The students and the faculty are kept exposed to the latest developments in the industry. As part of knowledge sharing, peer to peer teaching is motivated amongst the students. The academic transactions are rigorous and innovative.

The special features of the department include the successful conduct of International Conference on Current Trends in Advanced Computing (ICCTAC) once in a year.The three editions of conferences were sponsored by ISRO in association with International Journal of Computer Applications (IJCA). The next edition of the ICCTAC has been planned to conduct during 10th-11th March, 2016. We have planned to publish the presented papers in IEEE Xplore.Intra and Inter-Collegiate Fests are conducted every year as a part of experiential learning.

Our students participated in many Inter-collegiate IT Fests at National, State level competitions. They bagged several Championship Trophies and one Runners-up Trophy. Industrial visits are also arranged every year. The student chapter of IEEE, "The world's largest professional association for the advancement of the technology" is functioning from September, 2015. A workshop on Medical IOT in collaboration with IEEE will be conducted on 16.10.2015.

The department has collaborated with Computer Society of India (CSI) for organizing seminar, workshops and for interaction with the eminent personalities in IT industry. The department has academic linkage with IIT, Mumbai, to conduct the FOSS, Spoken Tutorial and also academic alliance with EMC2 and Computer Society of India for organizing seminars, workshops, Industry, Institute Interface sessions.The value added programs like Dot Net, Web Designing, J2EE, DBA are conducted to enhance the students' knowledge in par with the industry requirement. Majority of the students are placed in reputed companies through the college placement.

<div align="right">Prof. R Kumar, HOD of Computer Science(PG)</div>

Fog Computing

Future of IOT (Forget Cloud and Transit into Fog)

Smartphones, which are constantly seeking and retrieving data, Cloud is playing a vital role and all business racing to push their data and software into someone else's data center.

Because of mass connectivity in the world in which people need to get their business information on an array of mobile devices but bandwidth is pretty slow. Mobile apps have become a predominant way to do things on the Internet and some of the data and processing power is handled within the device. Devices are become smarter when we're dependent on the cloud and getting things done become acute. It also enables us to sense the environments, connect to the Internet, and even receive commands remotely. Everything from jet engines to refrigerators is being pushed onto wireless networks and joining the "Internet of Things. The Internet of Things (IoT) is generating an extraordinary volume and variety of data. When data takes its way to the cloud for analysis, the chance of acting on data might be gone. A new IT and operational technology explains a new model for analyzing and acting on IoT data. It is called Fog computing. The fog extends the cloud to be closer to the things that produce and act on IoT data. Any device with computing, storage, and network connectivity can be a fog node. Examples include industrial controllers, switches, routers, embedded servers, and video surveillance cameras. Fog computing does the following,

- **Analyzes the most time-sensitive data at the network edge, close to where it is generated instead of sending vast amounts of IoT data to the cloud.**
- **Acts on IoT data in milliseconds, based on policy.**
- **Sends selected data to the cloud for historical analysis and longer-term storage.**

How does fog work?

Developers write IoT applications for fog nodes at the network edge. The fog nodes on the network edge ingest the data from IoT devices. Then the fog IoT application directs different those data to the optimal place for analysis

Future of IoT with the current cloud architecture is depending on distributed processing and available bandwidth from the edge device to the backend server. Most data in a cloud environment is sent to the cloud to be processed, leaving our edge devices as dumb portals into the cloud.

Though Cloud architecture works well today, it fails when we keep adding billions of devices and microdata transactions that are really sensitive. Instead of forcing all processing to backend clouds and forcing all IoT device intercommunication through a cloud intermediary, fog computing proposes better idea in which devices have the opportunity to talk directly to one another and handles much of their own computational tasks. Advances in smart phone processing power and wireless bandwidth will make us to design a further architecture that brings us out of the clouds and into the fog.

Fog Vs Cloud

Fog Computing	Cloud Computing
Receives Data from any IoT device	Receives and aggregates data summarizes from many fog nodes
Perform IoT Applications for realtime and control analytics with millisecond response time	Perform analysis on the IoT data and data from other sources to gain business insight
Send periodic data summarizes to the cloud	Can form new rules to the fog nodes based on these insights

<div align="right">Dr. Ambika P, Asst. Prof</div>

Deep learning is a branch of machine learning based on a set of algorithms that attempt to model high-level abstractions in data by using model architectures, with complex structures. It is a part of a broader family of machine learning methods based on learning representations of data. Research in this area attempts to make better representations and create models to learn these representations from large-scale unlabeled data. Some of the representations are inspired by advances in neuroscience and are loosely based on interpretation of information processing and communication patterns in a nervous system, such as neural coding which attempts to define a relationship between the stimulus and the neuronal responses and the relationship among the electrical activity of the neurons in the brain.

Various deep learning architectures such as deep neural networks, convolutional deep neural networks, deep belief networks and recurrent neural networks have been applied to fields like computer vision, automatic speech recognition, natural language processing, audio recognition and bioinformatics where they have been shown to produce state-of-the-art results on various tasks.

Deep learning has been characterized as a buzzword, or a rebranding of neural networks. Deep learning is a class of machine learning algorithms which use a cascade of many layers of nonlinear processing units for feature extraction and transformation. Each successive layer uses the output from the previous layer as input. The algorithms may be supervised or unsupervised and applications include pattern analysis (unsupervised) and classification (supervised). They are based on the (unsupervised) learning of multiple levels of features or representations of the data. Higher level features are derived from lower level features to form a hierarchical representation. They are part of the broader machine learning field of learning representations of data. They learn multiple levels of representations that correspond to different levels of abstraction; the levels form a hierarchy of concepts.

Deep learning algorithms are contrasted with shallow learning algorithms by the number of parameterized transformations a signal encounters as it propagates from the input layer to the output layer, where a parameterized transformation is a processing unit that has trainable parameters, such as weights and thresholds. A chain of transformations from input to output is a credit assignment path (CAP). CAPs describe potentially causal connections between input and output and may vary in length. For a feed forward neural network, the depth of the CAPs, and thus the depth of the network, is the number of hidden layers plus one (the output layer is also parameterized). For recurrent neural networks, in which a signal may propagate through a layer more than once, the CAP is potentially unlimited in length. There is no universally agreed upon threshold of depth dividing shallow learning from deep learning, but most researchers in the field agree that deep learning has multiple nonlinear layers (CAP > 2) and Schmidhuber considers CAP > 10 to be very deep learning.

Applications:

- Automatic speech recognition
- Image recognition
- Natural language processing
- Drug discovery and toxicology
- Customer relationship management

Ms. Dhanamalar M, Asst. Prof

Genetic algorithm

HOW ARE GENETIC ALGORITHMS DIFFERENT FROM TRADITIONAL OPTIMIZATION AND SEARCH METHODS?

Genetic algorithm (GA) is a heuristic search technique that mimics the process of natural selection. This Meta heuristic approach is routinely used to generate useful solutions to optimization and search problems which belongs to the broad category of Evolutionary Algorithms (EA). Genetic Algorithms are inspired by the natural evolution process like population generation, inheritance, mutation, crossover and selection.The way in which GA approaches the optimization and search problem is definitely different from the traditional optimization methods.

A question may arise whether the conventional search methods like calculus-based techniques, enumerative methods and random search techniques are meeting the robustness requirement. To answer this query let us travel in the traditional search method and examine each type to find the conclusion.

Calculus- based methods can be either direct or indirect search technique. The indirect method optimizes an objective function subject to Linear/Non-Linear equations. This method seeks the local extrema by solving the equations and sets the gradient to zero. But on the other hand, direct search method depend on the value of local gradient in order to find local extremum. This can be termed as Hill Climbing which finds the local best, climb the function in the steepest permissible direction. Both methods considers the local scope meaning that only best among the local neighbors are chosen. Calculus methods depend on the existence of well-defined slope derivatives which are restricted to limited problem domain. This straightly leads to insufficient robustness in unintended vast domain.

Enumerative methods involve evaluating each and every point of the finite or discretized infinite search space in order to find out the optimal solution. This dynamic programming approach is not well suited for too large space search, which obviously reduces the robustness of the search method.

Random search technique is an extension of enumerative methods which needs additional information about the search space. This can be a single-point search as in simulated annealing technique or multiple-point as in genetic algorithms. These methods can be used in large search space and they are proven to be robust.

HOW DO GAs TRAVEL TOWARDS ROBUSTNESS?

GAs are fundamentally different from the traditional optimization search technique in the following ways.

GAs work on the principal of encoding the parameter set rather than the individual parameter itself. The coding can be Binary coding, Tree coding, Permutation coding and Value coding.

GAs performs the search from a population (string of bits) rather than from a single point.

GAs depend on the fitness function (objective function) not on the derivatives.

GA follows probabilistic rules rather than deterministic rules.

This evolutionary approach in the search space, gears up the speed and robustness in finding out the optimized result. Genetic Algorithms require the natural parameter set of the optimization problem to be coded as a finite length string of alphabets.

A SIMPLE GENETIC ALGORITHM:

Given a clear statement of the problem to be solved and a encoded bit string representation for the candidate solutions, the Genetic Algorithm works as follows:

Step I: **[Start]** Generate random population of chromosomes (candidate solutions to a problem).
Step II: **[Fitness]** Evaluate the fitness of each chromosome in the population.
Step III: **[New population]** Create a new population by repeating following steps until the new population is complete.
a) **[Selection]** Select two parent chromosomes from a population according to their fitness. Better the fitness, the bigger chance to be selected to be the parent.
b) **[Crossover]** With a crossover probability, the parents are crossed over to form new offspring. If no crossover was performed, offspring is the exact copy of parents.
c) **[Mutation]** With a mutation probability, mutate new offspring at each locus and place new offspring in the new population.
Step IV **[Replace]** The current population is replaced with the new population.
Step V **[Loop]** Go to step 2.

A simple method of implementing fitness-proportionate selection is roulette-wheel sampling which logically gives a slice of equal area to the individual's fitness. GAs can be applied to domains in which insufficient knowledge of the system and which has high complexity. GAs find optimal solutions among the search space robustly with the operators like crossover and mutation. This provides a conclusion that GAs are very effective techniques for quickly finding a reasonable solution to a complex problem in comparison with the traditional optimization and search techniques.

M s. Kalai Selvi, Asst. Prof

Deep Genomics

Evolution has altered the human genome over hundreds of thousands of years – and now humans can do it in a matter of months. Faster than anyone expected, scientists have discovered how to read and write DNA code in a living body, using hand-held genome sequencers and gene-editing systems. But knowing *how to write* is different from knowing *what to write*. To diagnose and treat genetic diseases, scientists must predict the biological consequences of both existing mutations and those they plan to introduce.

Deep Genomics, a start-up company spun out of research at the University of Toronto, is on a mission to predict the consequences of genomic changes by developing new deep learning technologies. It is the only company which combine more than a decade of world-leading expertise in both deep learning and genome biology.

Deep Genomics is releasing its first product, called SPIDEX, which provides information about how hundreds of millions of DNA mutations may alter splicing in the cell, a process that is crucial for normal development. Because errant splicing is behind many diseases and disorders, including cancers and autism spectrum disorder, SPIDEX has immediate and practical importance for genetic testing and pharmaceutical development.

Until now, geneticists have spent decades experimentally identifying and examining mutations within specific genes that can be clearly connected to disease, such as the BRCA-1 and BRCA-2 genes for breast cancer. However, the number of mutations that could lead to disease is vast and most have not been observed before, let alone studied.

Deep Genomics envisions a future where computers are trusted to predict the outcome of experiments and treatments, long before anyone picks up a test tube. To realise that vision, the company plans to grow its team of data scientists and computational biologists. Deep Genomics will continue to invent new deep learning technologies and work with diagnosticians and biologists to understand the many complex ways that cells interpret DNA, from transcription and splicing to polyadenylation and translation. Building a thorough understanding of these processes has massive implications for genetic testing, pharmaceutical research and development, personalised medicine and improving human longevity.

Ms. Kyntu Ika Shylla, MCA III Sem

Building Computers from DNA
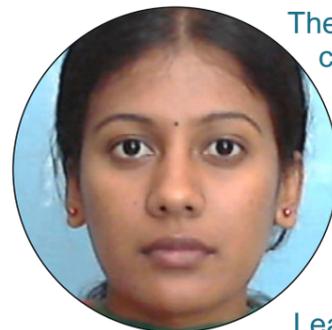
The University of East Anglia new research could one day help us in building computers from DNA. Scientists have found a way to 'switch' the structure of DNA using copper salts and EDTA (Ethylenediaminetetraacetic acid).Nanotechnology is used to discover this application where DNA is used to make tiny machines and DNA based computing. Computers are built using DNA rather than silicon. It could also be used for detecting the presence of copper cautions, which are highly toxic to fish and other aquatic organisms, in water.

Lead researcher **Dr Zoë Waller**, from UEA's school of Pharmacy, said: "*Our research shows how the structure of our genetic material -- DNA -- can be changed and used in a way we didn't realise*".

A potential application of this finding could be to create logic gates for DNA based computing. Logic gates are an elementary building block of digital circuits -- used in computers and other electronic equipment. They are traditionally made using diodes or transistors which act as electronic switches.

"This research expands how DNA could be used as a switching mechanism for a logic gate in DNA-based computing or in nano-technology."

Ms. Chitra, MCA V Sem

Challenge for Business Intelligence and Analytics Users

Traditional data management and business analytics tools and technologies are straining under the added weight of Big Data, but new approaches are emerging to help enterprises gain actionable insights from Big Data. More and more organizations are looking to deploy Hadoop with aspirations for great success. However, business intelligence and application users who are not Hadoop specialists may find their lack of knowledge and tools initially limit them from achieving the full potential of Hadoop. Overcoming these hurdles is critical if Hadoop is to evolve from a pilot project to mainstream adoption.

Big Data's challenge and promise

Eighty percent of today's accumulated data is unstructured. The influx of Big Data and the need to move this information throughout an organization and distill value from it has created a massive opportunity. This will not be an easy task for enterprises. However, those organizations that take what was once considered unusable data can glean critical insights for the business that were previously unattainable.

The Hadoop cluster

Hadoop users access unstructured and semi-structured data from multiple sources including log files, social media feeds, sensors and internal data stores. Instead of storing this Big Data on one centralized database management system, Hadoop distributes the data across multiple machines arranged into a cluster. The cluster consists of commodity servers, which makes Hadoop relatively inexpensive to scale to Petabyte levels when compared to traditional database technologies.

The benefits of the Hadoop cluster

Because a Hadoop cluster is optimized for data that is highly distributed, loosely structured, and increasingly large in volume, it is ideal for processing Big Data. Organizations that undertake the task and embrace Big Data as the foundation of their business analytics practices stand to gain significant competitive advantage over their rivals.

As with any emerging technology, implementing and managing Hadoop clusters and performing advanced analytics on large volumes of unstructured data requires significant expertise. The good news is that innovative technology vendors are working to offer commercial, enterprise-ready Hadoop tools and applications that help automate deployment in a production environment. The faster you can deploy, the faster you can derive value from the data.

The access control hurdle

Business intelligence users looking to access data from the cluster may be doing so while breaking the rules. For instance, in some cases specific data cannot be accessed without first having permission to the information and users could be unknowingly violating such terms.

Ms. Apoorva, MCA III Sem

Constant Use of Social Media Technology

The need to be constantly available and respond 24/7 on social media accounts can cause depression, anxiety and reduced sleep quality for teenagers, says a study presented yesterday at a British Psychological Society conference in Manchester.
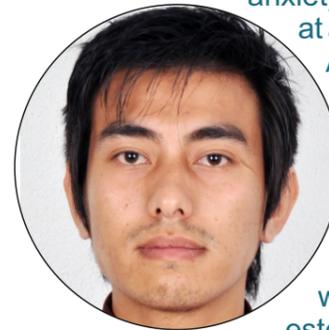
As **Dr Cleland Woods** explained: "*Adolescence can be a period of increased vulnerability for the onset of depression and anxiety, and poor sleep quality may contribute to this. It is important that we understand how social media use relates to these. Evidence is increasingly supporting a link between social media use and wellbeing, particularly during adolescence, but the causes of this are unclear.*"

Analysis showed that overall and night-time specific social media use along with emotional investment were related to poorer sleep quality, lower self-esteem as well as higher anxiety and depression levels. While overall social media use impacts on sleep quality, those who log on at night appear to be particularly affected. This may be mostly true of individuals who are highly emotionally invested. This means we have to think about how teens use social media, in relation to time for switching off.

Mr. Mutum Satyajit, MCA III Sem

International Lecture Series
Quantitative Analysis for Scientific Research

The Department of Computer Science (PG) conducted an International Lecture Series on "Quantitative Analysis for Scientific Research" on **9th July 2015**. **Dr. Seyed Mohamed Buhari**, Faculty of Computing & IT, King Abdulaziz University, Saudi Arabia was the Resource person.

The programme was mainly meant for those who are involved in teaching at the undergraduate and post-graduate levels, Ph.D. scholars, and research supervisors. The session was of enormous use to those who wished to enhance computer based quantitative knowledge in the areas of data analysis and quantitative techniques using statistical packages.

The objective of lecture was to provide knowledge about the structure and process of research, and the way in which information was analyzed, which helped the participants to learn and articulate various topics like Probability, Regression, Linear Programming, Markov Analysis, etc., that are widely used for conducting a research study. It also helped in enhancing the knowledge base of using statistical software for interpreting results and utilizing the data for management and business related decisions.

First session was on Probability. The various topics that were covered are

1. Regression.
2. Decision Analysis.
3. Linear Programming.
4. Integer Linear Programming.
5. Non-Linear Programming.
6. Markov Analysis

Dr. Seyed Mohamed Buhari, an experienced and expert in quantitative analysis expressed his gladness about the participants' involvement, dedication and wished everyone to be a knowledge equipped academician and to explore more and more, since research is never ending process and new innovations and techniques keeps emerging every day in human lives.

Faculty Development Programme
Data Mining Techniques using Rapid Miner Tool

The Computer Science Department (PG) organized a Faculty Development Program on "Data Mining Techniques using Rapid Miner Tools", on 26th and 27th August 2015 where **Dr. M Venkatesan**, Associate Professor, School of Computing and Engineering, VIT University, Vellore was the resource person.

The programme starts with a formal inauguration session. Prof R. Kumar gave a prelude to the FDP and **Dr. Venkatesan** gave an inaugural talk on the scope of Data mining in various domains like Social Network, Bioinformatics and Management etc. The Technical session started with theoretical back ground on Data mining. He elaborated on the various techniques in Data Mining like- Association, Classification, Prediction, Clustering, time Series etc. The need for Data cleaning, Data normalization and were emphasized. Outlier analysis and Trend and evolution analysis were also explained. He discussed various tools available – Clementine, SPSS Statistics, SAS Miner, Statistica DB Miner (all Licensed products) and Rapid Miner, Weka, R (Open source) and the advantages and disadvantages of the tools. There were participants from various colleges and in-house faculty members along with the V Sem MCA students.

Vichaarmanthan
E-Governance at your Finger Tips

The Department of Computer Science (PG) conducted the 24th edition of Vichaarmanthan (2015-2016) for all PG students on "Governance at your fingertips". **Dr Rathan Kelkar**, CEO, Center for E-Governance, Government of Karnataka, was the Chief Guest for the twenty fourth edition of 'Vicharmanthan' - an interactive series with Indian and Global visionaries on 27th July, 2015.

The session was very interactive by allowing the students to ask few questions related to the inconvenience caused by the Government to the public. The questions were more focused on corruption, traffic, road conditions and the relevant replies for each of the problems were clearly discussed by the Chief Guest.

Dr. Kelkar introduced a new mobile application called **MOBILEONE** which was developed as a major project for the welfare of the public. The various functionalities of the application like the traffic alert, weather forecasting, the details about the farmers land which was sent as a message to each farmer were explained in detail. The various facilities like "Bangalore One" provided by the government to the public were also educated to the students. The overall session was very interactive and helped the students to know the initiatives taken by Government in promoting e – governance to the daily life of common public.

Industry Institute Interface (3i)

The resource person **Mr. Mathews Abraham**, General Manager & Head HR for Shared Services initiated his speech with an individual's expectation and criteria for a job and on what each individual must give their priority for the work field during the emerging period of his professional career on 27th June, 2015.

The session continued with a discussion on the organization, management and its principles. Further the discussion was about industry expectation from the students which also gave insights on functionality and the environment of the company and about the interview skills i.e., interview comes up with an aptitude and attitude. Each individual who is ready to face an interview must have confidence, IQ, EQ, leadership skills, interpersonal skills, articulation, theoretical knowledge and also the ability to relate theory into practice. Interview is even judged on the bases of how an individual performs and also it is all about the idea that is delivered what is present in our mind.

The industry expectation on each individual also looks on time management, self-confidence, strong work ethic, appearance and team working skills and further the discussion ended on the basis that one should look in ourselves i.e. strength and weakness, learn from failure, practice humanity, opportunity to learn and etc.

IEEE Student Branch

Apart from curriculum, co-curriculum is also essential in education system to enhance the inherent talents of the students. In view of this, our college has established an IEEE Student Branch in the college on 18th September 2015.

Mr. Nithin Koshy, Student Co-ordinator for IEEE Student Branch, welcomed the gathering and introduced the Chief Guest. Rev. Fr. Augustine George, Vice- Principal, presided over the function.

After the addressing of delegates, the IEEE Student Branch was officially inaugurated by lighting the lamp. **Mr. Munir Muhammed**, Program Specialist, Communication Society, e-Health-IEEE Bangalore, addressed the gathering, and explained the various benefits of having an IEEE Student Branch. He also gave a brief introduction on how to organise various IEEE events and work efficiently.

A technical seminar was arranged alongside the inaugural ceremony and was conducted in the end. First session was conducted by Mr. Ganesh -Samarthyams on functional programming with the Lambda programming approach in Java8. Mr. Navin Agarwal on Liferay Portal Technology.

Unleash Your Potential

The Department of Computer Science (PG) conducted the power skill workshop for the III & V Semester MCA students on "Unleash Your Potential" to improve on personality development (how to be successful in life). **Mr. Sreejith Krishnan**, Manager - Learning and Development, RR Donnelley, Bangalore was the resource person.

The session was started by explaining how a person can be successful in life by improving personal power, i.e., how you influence yourself and how you influence others.

He then explained the seven principles that must be followed by every individual for being successful.

- **Power of Responsibility**
- **Power of Belief**
- **Power of Goal Setting**
- **Power of Excellence**
- **Power of Service**
- **Power of Identity**
- **Power of Passion**

Mr. Sreejith Krishnan, expressed his happiness about the participants' involvement and dedication and wished everyone to practice all the seven principles.

Extension Activities

Rural Exposure Programme

The Department Computer Science (PG) organized the Rural Exposure Camp for the third year MCA students where they were taken to Purushanahalli, Doddabalapur (D.T), on 20th & 21th Aug 2015 Bangalore. Giving opportunity to interact, teach and guide the village citizens and the students of Sri. Siddaganga High School.

The camp was scheduled for two days and various events were conducted

The two days of rural exposure has given the students the ability to stay out of the comfort zone, the city atmosphere, ability to learn, teach and also to know the life of the rural people.

Social Outreach Programme

The Department organised a Social Outreach Program (SOP) for 3rd Sem MCA students The plan was to visit RVM Philanthropic Home at Chikka Gubbi Village. RVM Philanthropic Home is a Rehabilitation Centre giving shelter to old and handicapped orphans. The staff coordinator of the programme was Prof. Jyothi Manoj and student coordinators were Shashikumar C and Supreeth R. The Students of III MCA class along with 3 faculty members of the department Prof. Muruganantham, Prof. Velmurugan and Dr. Ambika visited the centre.

Technical Community

Presented by: Mr.Shebin and **Mr. Denil**,**Mr. Saleem Matloob** and **Ms. Jinu Maria**,**Mr. Gumo** (V MCA) which covers the topic on:

Applications
- How we can analyze the data and formulate it in the format of LPP
- The working flow of the software and how to find the correlation between the variable.

Network
- Generation of Networks
- Network Components - Switches, NIC, Routers, Topologies

Security
- Concepts of Network Security.
- Threats, Attacks and Solutions.

Student Seminar Series (SSS)

"Discussion forum" is a very effective pedagogy of learning, where students comfortable voice their opinions and exploring new ideas and approaches to various topics. Such discussion forum is one of the ventures of MCA dept. to enhance and update the knowledge of the students. The mode of operation of the discussion forum is, one topic will be given in advance to all the students and among them few students get a chance to present it and any student can ask questions and clarify doubts and also contribute to the discussion. Advantages of these discussion forums are manifold- it helps the students to equip themselves with the new trends of technology, and it also helps to increase the confidence level and interactive capability of the students. The following topics presented by the students are

- How big is Big Data?
- Cloud Computing
- Ajax Technology

Software Development Cell

One of the best practices of the department which makes it unique is the activities of the Software Development Cell. It is a joint venture from the faculty and students of the department to meet the various IT enabled service requirements for the campus. This helps the students of the department to get an exposure to the software development cycle practices adopted in the industry and also provides an effective support and enhancement options for the delivered product within the campus.

Automation of BM School software officially inaugurated.

EDOC: In house department documentation automation application in progress.