

For Private Circulation only

Department of Computer Science

Interface

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Kristu Jayanti College, Autonomous

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FROM THE EDITORIAL TEAM

Dear Readers,

Welcome to 2019 issue of Interface the Computer Science department's newsletter.

This issue covers all the activities happened in the department in the year 2018. The department witnessed a plethora of activities ranging from organising conferences and exhibitions, going for industrial visits, conducting workshops, social outreach programs to name a few. As the editors we have tried to bring a glimpse on each of the programs organised by the department. Due care is made to highlight the essence of each program. Apart from reports about the various activities, the newsletter includes articles contributed by students, faculty members and alumni.

We would like to thank all the people who contributed in bringing this issue.

We hope that you will enjoy reading this issue.

Editorial Team.

Mr. Sarathchandra Babu Student, VI SEM BCA



Ranking New Heights

BEST COLLEGE SURVEY 2018

India Today - MDRA Survey 2018

KRISTU JAYANTI COLLEGE IN BENGALURU CITY RANKING













KRISTU JAYANTI COLLEGE AT NATIONAL LEVEL RANKING













Parameter-Wise National Level Ranking

Infrastructure and Living Experience

2nd Best Science College in India 4th Best Commerce College in India Best Average Annual Salary

2nd Best MSW College in India 2nd Best BCA College in India 4th Best BBA College in India Value for Money

5th Best BCA College in India

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MESSAGE



Fr. Josekutty P.D, Principal

Technology has taken the forefront surpassing agricultural transformation and industrial revolution. It is this splendid power of computing that is stimulating the application of Information Technology in every segment of human activity.

Today we have the astounding technology that has the power to retrieve any information and communicate it in a thousand different ways using a device that fits in the pocket.

There's always something new on the technology horizon and we need to wait with curiosity for the concealed technological marvels. We are living in a time where technology is influencing every walk of human life and the field of education is no exception. The way in which content delivery is happening, the methodologies for transmitting the knowledge, the way in which knowledge is preserved and retrieved all has seen a quantum change. In fact technology is supplementing the ways in which knowledge assimilation as well as dissemination is happening. Technology has enabled the teaching and learning process to be made more learners centric.

The department of computer Science through their various innovative programs has always strived to impart technical skills and provide a platform for each student to excel and innovate with technology. The newsletter 'Interface' is a creative canvas portraying all the activities of the department. I congratulate the department of computer science in bringing out the newsletter and wish them all the best in this creative exercise.



Fr. Augustine George Vice-Principal

Technology in its polymorphic forms is influencing every walk of human life. Information technology is evolving as the backbone of the modern society with its wide range of applications; mobile computing is making accessibility to information with so much ease.

Teaching learning process has evolved far from the traditional ways to the application of computer simulation to convey the knowledge to the aspiring students to assimilate and advance the knowledge in their respective domains.

The Department of Computer science has always delivered technology, science and culture with a constructive variance and this variance is making the department stand second in the Nation for the programme it offers. The department is committed to excellence in technology focused education with a renewed emphasis on the entrepreneurial and ethical practice of Computer Science and Information Technology.

The positive ambience in Kristu Jayanti College moulds individuals to learn and to make positive changes in the society. Computer Science department focuses on preparing students to face contemporary challenges and make the world a better place with smart, sustainable solutions that are created and implemented with knowledge, ethics, passion and compassion . I congratulate the department for the excellent effort they have contributed in collecting the activities of the department and bringing out this newsletter.



Fr. Lijo P Thomas Head, Dept. of Computer Science

Information and allied technologies are bringing a gamut of changes in our day to day life. The Department of Computer Science with its allied departments of Mathematics, Statistics, Electronics and Physics has made every effort to nurture the students with the knowledge, skills and values required for a successful professional. The department aims at providing a conducive learning environment and challenging opportunities to the students to come up with new ideas and to realise those by providing various platforms for them to experiment and to innovate. The various fests and conferences organized by the department, the science projects exhibitions, and the knowledge kindle group have aimed at keeping the learner abreast with the latest changes in the field. Due care has always been taken to supplement the curriculum with current industry specific requirements by means of various novel academic alliances and by offering various certificate and value added courses.

The department has been consistently ranked as one of the best BCA colleges in the country by various national surveys. The students and the faculty of the department are striving constantly in their relentless pursuit of aiming high which has helped us to carve a niche for ourselves. Interface the news letter of the department is giving an expression to all the activities which happened in the last one year. I wish the team the very best in their pursuit as we strive constantly to make every day of our journey better than the previous.

FROM THE DEAN



Dr. Calistus Jude AL Dean, Sciences

Computing is changing all aspects of our lives, from how we communicate with one another to how we carry out our responsibilities. The faculty and students at the Department of Computer Science (UG) are excited about this constantly developing field and the conceivable outcomes that can be offered to our students and through the articles in the newsletter, have attempted to draw together the most up to date trends in Computer Science that will facilitate the reader to be abreast with news and developments related to the field. Information and coverage on the vital parts of scholarly and co-curricular events at the department is likewise introduced.

We truly trust that by taking an interest in contributing to the content, drafting, editing, designing, etc., the newsletter has served to feature the finesse of the students of the Department of Computer Science.

I congratulate the faculty and student editorial team for bringing out this newsletter and I am delighted to introduce this issue of the newsletter "Interface" - a compilation of the glimpses of the activities in the Department, inventive contemplations, creative thoughts and updates by the students and faculty members.

ABOUT THE DEPARTMENT



Prof. Sevuga Pandian A Co-ordinator, Computer Science (UG)

The Department of Computer Science (UG) with its proud history spanning over one and a half decades stands topmost in the Nation for the BCA programme it offers. Both BCA, BSc (CSMS/CSME) and BSc (PMCS/PME) programs are devised to provide an ideal amalgamation of theory with hands on experience for the students. Our students receive a broad education that includes a relevant contemporary industry related curriculum, excellent problem solving and communication skills, and the ability to work in cross-disciplinary teams enhancing their spirit of innovation and academic excellence.

The millennial generation of software developers is the future visionaries of companies and nations. To keep pace with rapid changes in the IT sector the department has an auspicious club Computer Academy with more than 850 members attempts to confluence between the technology and academics through series of programmes like Guest lectures, Workshops, Seminars, Industrial Visit, Intra and Inter Collegiate fest, Science Exhibition and various communities.

The Department has initiated Academic Alliance with Oracle Academy, Microsoft Dynamics Academic, ICT Academy, ACM-W, NPTEL, AWS Educate, Dell EMC and VMware IT Academy to craft initiatives to address the contemporary skill gap in the novel computing technologies. It helps to ensure the industry, a strong pipeline of graduates to meet its future needs. The department also has a Knowledge Kindle Groups and Common Interest Groups to allow the students to connect communicate and collaborate. The department encourages the students for extended learning process such as self-paced learning through various MOOC and NPTEL courses of their interest.

The shared values of our department are exemplified in various extension activities like Social Outreach Programme (SOP) and Computer Literacy Programme (CLP) providing the students an opportunity to recognize their social responsibility and contribute to the development of the society. I am proud to say that our BCA programme is one of the best in the Nation due to its diligent adherence to quality in not just academics but also in creating the right impact on corporate sectors and national quality forums.

PHOTO GALLERY

























LAURELS

Jayantians won laurels in the intercollegiate fests organized by the following colleges.

- Christ University Interface 2K18
- St.Claret College-Technovation 2K18
- St. Aloysius College(Autonomous) Mangalore- Composite 2k18
- Maharani Lakshmi Ammani College Technotsav 2K18
- St.Joseph Evening College, Bangalore-Techops Hyper
- Seshadhripuram Degree College, Bangalore INCIGNITO 2K18

Faculty Achievements

- Prof. Jasmine Beulah G and Prof. Dinakaran S, were awarded the degree of Doctor of Philosophy (Ph.D) in Computer Science
- · Prof. Ambrose Rajkumar M was awarded the degree of Doctor of Philosophy (Ph.D) in Physics.
- Dr. Vinothina V has qualified UGC- NET Examination held in July 2018.

Books Published

- Dr. Anthony Vincent B,Essentials of Cloud Computing and Security ,Tejas Publishers and Distributors Bengaluru, ISBN No.9788193609033
- Ms. Ayshwarya B, Web programming using PHP, Amazon.in, Amazon.com, ISBN 10: 198310289X, ISBN 13: 9783102899

Faculty Publications

- Dr. Anthony Vincent B,Insight of cloud technology revolutionizing the security in contemporary age,Shanlax International Journals better sound through compendium.
- Ms. Kalaiselvi K,Impact of Genetic algorithm in cryptology An Empirical Study,International Journal of Computer Engineering Applications.
- Dr. Ambrose Rajkumar M,Crystal growth and characterization of Au3+ ion irradiated 2-amino-5-nitropyridinium hydrogen oxalate (2A5NPHO),Molecular Crystals and Crystals,(International Journal),http://www.tandfonline.com/loi/gmcl20,ISSN: 1542-1406.
- Ms. SuniAjaykumar, A regression model of crypto- currency price, International Journal of Statistics and Applied Mathematics ,3(3): 120-125ISSN: 2456-1452
- Dr. RashmiS, Era of Big Data - All about Big Data and its Impact on the Current Business, Journal of Emerging Technologies and Innovative Research, Volume 5, issue Page No: 191-192 http://www.jetir.org/papers/JETIR1811630.pdfISSN 2349-5162.
- Dr. Ambrose Rajkumar M,A UV Transmittable NLO crystal Hydrofluoric Acid Mixed Sulphamic acid (FASA): Synthesis, Growth and Characterization, International Journal of Scientific Research in Science and Technology, Volume 4 | Issue 11 | November-December 2018 http://ijsrst.com/PDF.php?pid=4972&v=4&i=11&y=2018&m=November-December .Page No: 259-271, ISSN NO: 2395-6011.
- Ms. Mary Jacob, Congestion Control Techniques in VANETS, Journal of Applied Science and Computations, Volume 5, Issue 11, November 2018, ISSN NO:1076-5131, http://jasc.com/gallery/127-november-2018.pdf, Page No: 1024-1033, ISSN NO:1076-5131
- Dr. Cecil Donald A,ORBUA: An Effective Data Access Model for MobiCloudEnvironment,International Journal of Pure and Applied Mathematics,Vol. 118, No. 8, January 2018, pp. 79-85ISSN: 1311-8080 (printed version); ISSN: 1314-3395 (on-line version).
- Ms. Mary Jacob, Applications and Challenges in VANETS, International Journal of scientific Research and Review, Volume 7 Issue 11th November, 2018 ISSN NO:2279-543X.
- Dr. Vinothina V, Scheduling scientific workflow tasks in cloud using swarm intelligence, IEEE International Conference on Current Trends in Advanced Computing, ISBN: 978-1-5090-4997-4, Print on Demand(PoD) ISBN: 978-1-5090-4998-1.
- Mr. Suresh K,Prediction of Investment Tendency Behavior of Individuals with Social Networks by using Spatial Data Mining,Proceedings of the 12th INDIACom; INDIACom-2018; IEEE ConferenceISSN 0973-7529;ISBN 978-93-80544-28-1
- Mr. Saravana Kumar S,Improved CPU utilization using advanced fuzzy based CPU scheduling Algorithm,Shanlax International Journal of Arts, Science and HumanitiesISSN: 2321788X Vol .5 Special Issue.6.
- Ms. Sandhya Soman, A Survey of Image Processing Techniques for Diabetic Retinopathy, International Conference on advances in computer science and technology ISSN 2395 1303
- Ms. Ayshwarya B,Lung Cancer Prediction Using Feed Forward Back Propagation Neural Network with Optimal Features,International Journal of Applied Engineering Research (IJAER)ISSN 0973-4562
- Ms.Mary Jacob, Ms.Kalaiselvi K, Investigating Privacy And Security In Healthcare Based Cloudlet Environment Using Multi-Level Agents, JJRAR September 2018, Volume 5, Issue 3, E-ISSN 2348-1269, P-ISSN 2349-5138

Academic Alliance with ICT Academy

Kristu Jayanti College (Autonomous), Bengaluru is the first Arts & Science College in the State of Karnataka to sign the membership with ICT Academy. The membership is signed on June 23, 2017 to focus on making the Arts and Science students Industry ready. The membership is signed to benefit Faculty Members and Students through various initiatives of ICT Academy which includes Faculty Development Student Skill Development Industry Institute Collaboration, Research etc.

The Certificate of Membership was exchanged between Fr. JoseKutty P.D Principal, Kristu Jayanti College and Mr. Suresh Babu, Regional Head Karnataka & Telangana, ICT Academy Speaking on the occasion, Mr. Suresh Babu said, ICT Academy, the non-profit organization is happy to sign its first arts & science college membership in the state of Karnataka. He assured to provide full support to the faculty and students of the college by providing world class training and delivering courses directly from the global corporate house to bring down the skill gap by being a bridge between academia and corporate. Mr. Vishnu Prasad, State Head Karnataka, ICT Academy was also present on the occasion. The chief guest Mr. Tandava V Popuri, Director DELL EMC, Bengaluru talked on the revolution instigated by big data, artificial intelligence and machine language. He also spoke on the huge industry demand for data scientists.

ORACLE Academy

Oracle Academy is the flagship program under Oracle's corporate social responsibility education pillar Its mission is to advance computer science education and make it accessible to students globally to drive knowledge, innovation, skills development and diversity in technology fields.

It is aimed at helping students develop computational thinking and logical data analysis. It supports them to create concise problem statements, identify and implement algorithm based solutions generalize and extrapolate solution skills in every subject in the classroom and beyond. Oracle Academy offers its members both the educators and students of computer science the education resources to advance knowledge, skill development innovation and diversity in technology fields.

AWS Educate

AWS Educate provides an academic gateway for the next generation of IT and cloud professionals AWS Educate is Amazon's global initiative to provide students and educators with the resources needed to accelerate cloud-related learning endeavours. AWS Educate helps students learn about cloud computing by using AWS technology in their courses. The program includes free AWS credits, training, and content for institutions, instructors and students. Students receive credits for hands-on experience with AWS technology, training, content career pathways and the AWS Educate Job Board.

DELL EMC External Research & Academic Alliance

DELL EMC collaborates with Kristu Jayanti College to prepare students for successful careers in a transforming IT industry through DELL EMC External Research & Academic Alliance program. This program offers unique open curriculum-based education on technology topic such as cloud computing, big data analytics, information storage management and backup recovery systems and architecture. The courses focus on technology concepts and principles applicable to any vendor environment enabling students to develop highly marketable knowledge and skills required in today's evolving IT industry. This program also makes the students more employable and industry ready professionals. Sharing the same vision as DELL EMC ICT Academy has partnered with DELL EMC External Research & Academic Alliance to prepare the students as next generation of IT professionals in Cloud Virtualization, Big Data Analytics and Security.

ACM-W Student Chapter

AWS Educate provides an academic gateway for the next generation of IT and cloud professionals AWS Educate is Amazon's global initiative to provide students and educators with the resources needed to accelerate cloud-related learning endeavours. AWS Educate helps students learn about cloud computing by using AWS technology in their courses. The program includes free AWS credits, training, and content for institutions, instructors and students Students receive credits for hands-on experience with AWS technology, training, content career pathways and the AWS Educate Job Board.

NPTEL Local chapter

Kristu Jayanti College (Autonomous) established a Local Chapter for NPTEL, (National Programme on Technology Enhanced Learning) a project funded by the MHRD, Govt of India on July 26, 2017. NPTEL is a Project initiative of IIT Madras, supported by the Ministry of Human Resources Development, Government of India, offering an opportunity to undergo free online certification courses in Computer Science, Humanities, Basic Science streams and Management. This facility assists faculty to enrich their knowledge and act as 'mentors' of the students.

NATIONAL CONFERENCE ON COMPUTATIONAL INTELLIGENCE (NCCI-18)



The Second National Conference on Computational Intelligence 2018 was organized to collaboratively elevate into newer horizons of knowledge. The conference had participation from across the nation and abroad from both Industry and Academia - to promote a research aptitude among aspiring students and to provide a stage for scholars from various facets of academia to bring forth their experience and expertise for the betterment of all. It also aided as a platform to discuss the state-of-the-art developments, key approaches, research line, challenges and unsolved open problems encountered in the fields of Computational Intelligence.

The conference was inaugurated by Mr. Jeyaseelan Jeyaraj, Senior Director - Solutions Consulting, Asia Pacific, Oracle Health Sciences, Mr. Jeyaseelan Jeyaraj highlighted the importance of research from the industry stand-point. Having mentioned a few future sustaining technologies, he highlighted the opportunities and areas yet to be ventured by students and scholars in these technologies. Dr. Jeyaraj brought into light the relevance of these advancements and possibilities it can open doors to, if harnessed most effectively. Technical Session I was themed 'Re-skilling is Key to Industry 4.0 Jobs Sustainability' . The resource person Dr.Anbunathan, Vice-chairman (2018-19) cum Chairman-Elect (2019-20), Computer Society of India (CSI), Bangalore chapter gave insights. As the name implies, it dealt with issues, questions and probable solutions associated with the next industrial revolution to be caused by emergence and

adaption of AI, machine learning, blockchain and the likes of such. It aimed at making the audience aware of these technologies and the role one would be expected to play in the very near future for job sustainability. During technical session - II Mr. Raja Selvaraj, Client Chief Architect, IBM Inc., Singapore provided valuable information on 'Recent Trends in Hybrid Cloud Transformation' - served to the curiosity of those fascinated by the emerging adaption of cloud computing. In particular, he dealt with the now-how and happening in the hybrid cloud computing sector, alongside presenting the future opportunities for both research and industry alike. The discussion extended with briefings on DevOps, cloud brokerage and server less computing to name a few.Post Lunch session, paper presentations were chaired by Dr. S. Senthil, Associate Professor & Director, School of Computer Science & Applications, Reva University, Bangalore, Dr. S S. Manikandasaran, Director & Associate Professor, Christhurai Institute of Computer applications, Christhu Raj College, Tiruchirappalli and Dr. Jayashree R, Professor, Department of Computer Science & Engg., PES University, Bengaluru.



The main objective of the conference was accomplished when research papers on various inter-disciplinary aspects and applications of computer intelligence were presented. A wide range of technical vocabularies, principles and practices, applications and implementations were brought to the knowledge of the witnessing audience. The paper presentations extended across three sessions and provided extensive information and insights into Computational Intelligence. All the selected and presented papers are published in conference proceedings of NCCI 2018 with ISBN. Among presented papers, many papers have been selected for publication in Journal of Physics: Conference Series, a SCOPUS indexed and UGC approved journal.

and a diewere some of the interesting projects.

The projects were categorized and judged in five different subjects. The winners of GALAXIA were awarded by cash prize at the valedictory function of Xactitude.

489 people visited Galaxia- 2K18, which included students and teachers from other departments of our college, school children of neighborhood schools



KNOWLEDGE KINDLE GROUP

Analogue to the Computer Science department's mission of providing quality education that enhances intellectual capabilities as well as career opportunities Knowledge Kindle Group was started in 2014 and it bridges the gap between academic inputs and industry demands. The group aims at enlightening the students on various technical fields and tools used in various applications. The students also gain an understanding of the various job opportunities in the domain. the focus of the group was on 3 main emergening and relevant contemporay technology ie Data Analytics, Network Security and IoT.

Various relevant topics on these technologies were explained to the students by senior IT professionals from various renowned industries and research scholars from various institutions who are currently working in the respective projects and research areas. The overall aim of knowledge kindle group is to communicate and to collaborate in the emerging domain of study.

COMMON INTEREST GROUP



Common Interest Group aimed to provide a platform for students to discuss, share and update the knowledge to hone their technical and soft skills. There were nine common interest groups namely Coding/Debugging, Quiz, Web Designing, Lecture or Presentation, Event Management, IT Manager, Electronics, Mathematics and Statistics. The Coding and Debugging community analyzed the logic behind few applications and discussed on common programming errors. The Quiz community shared the current happenings in the IT domain and organized quiz competitions during the community meetings.

The Lecture/Presentation community concentrated on improving the paper presentation skills of the students. The web designing community provided the students with an introduction to HTML and hands on session on Photoshop. The event Management community aimed to develop the organizing and leadership skills of the students. The IT Manager community sharpened the various managerial skills of students through various activities.

The statistics community analyzed the data on various problems and solved various statistical problems. The electronic community provided the students an understanding of various electronic components and projects and the mathematics community solved various problems and puzzles during the session. The common interest group had kindled on the interest in different subjects beyond curriculum for the students

XACTITUDE Inter Collegiate Fest



Xactitude is the Inter-Collegiate IT fest organized by the Computer Science Department of Kristu Jayanti College. Xactitude 2K18 was organized on 24th January 2018.It is named for 'Exactitude' - the quality of precision which is the driving force behind modern technology and continues to spur mankind on towards greater heights. Like its name, Xactitude has been instilling a passion for perfection among its participants ever since its inception in 2009. Students have developed SyncApp software to conduct aptitude rounds for various events like ITManager,IT Quiz,Coding & Debugging,Grapho Tech,Gaming,Movie Making,Lecture contest,Math event,Stat event,Electronics event,Best tech team and Exhibit contest.

The fest was inaugurated by Mr. Pradeep Desai, CEO, Thelsat Innovations private limited, Bangalore. Mr. Pradeep spoke on the emerging technologies in IT Industry to aspire the students to concentrate towards research work and also threw light on the current trends of the IT industry.

Rev. Fr. Josekutty P.D, Principal, Kristu Jayanti College appreciated the efforts of the department and motivated the students by reminding the opportunities the students have these days. He also explained the importance of developing the creative ideas to cope up with the current changes in the technology. Mr. Prathap G, Staff Coordinator, Computer academy, presented an overview of XACTITUDE 2K18. During the valediction Rev. Fr. Augustine George, Vice Principal, Kristu Jayanti College addressed the gathering and appreciated all the staff and students behind the success of the fest. The participants provided their feedback about the IT fest. The star of Xactitude 2K18 was won by Mr. Santhanudey from St.Alosiyous college, Mangalore. Among all the 13 colleges with 169 participants, St.Alosiyous College, Mangalore bagged the overall championship. Xactitude 2K18 was a fest to be cherished.





GALAXIA



To experiment and innovate with curriculum learning, Galaxia the science projects exhibition was organized. Students exhibited projects related to Computer science, Electronics, Maths, Statistics and General projects. The computer science Department, organized two days science exhibition which included Computer Science, Electronics, Statistics, Mathematics and interactive Projects. Our students exhibited their talents in this exhibition.

This exhibition created a platform for understanding latest technology and innovation in the respective fields. A total of 148 projects were showcased, many interesting projects were displayed in which Student assist, smart trolley, Android based school bus tracking project was the main focus of attention during the exhibition.Beauty of mathematics, coin booth solar mobile charger, math App, Decision theory, 21 flags, 6 cups

NATIONAL CONFERENCE ON CHANGING PARADIGMS IN TEACHING & RESEARCH IN STATISTICS



Department of Statistics organized a conference on changing paradigms in teaching & research in statistics on 14th December 2018. The conference was inaugurated by Dr.P. G. Sankaran, Pro Vice Chancellor, CUSAT, Cochin emphasized on the scope and relevance of higher studied in Statistics. He narrated the need for in-depth knowledge in every aspect which is missing in the present generation which depends on Google and Wikipedia completely for any information. Checking the validity of information provided in internet is very essential, and hence it is always better to depend on authentic books for proper information-he commented.

Technical Session I of the conference was on Quantile Modeling in Reliability aimed at analysis of lifetime data using quantile functions. The resource person Dr.P. G. Sankaran, Pro Vice Chancellor, CUSAT, Cochin highlighted the work on modelling and analysis of statistical data with probability distributions through two approaches, one using distribution function and other through quantile functions. Sir explained the concept on L' Moments and its importance to summarize the shape of a probability distribution.

Dr. P.G. Sankaran also highlighted various quantile reliability concepts and Hazard quantile functions. Technical Session II was on Characterization of Zero-inflated Gamma Distribution by Prof. G. Nanjundan , Professor and Head, Department of Statistics, Bangalore University. Professor explained about Zero-inflated Gamma Distribution which is characterized through a differential equation satisfied by its moment generating function. He connected it to Zero-inflated

exponential distribution as a special case. Professor gave an explanation of his topic by considering a queueing system. He concluded by throwing light on zero-inflated gamma distribution as an appropriate model for the waiting time of a customer in this queueing system.

Prof.Dr.K.K.Suresh,Former Dean, Faculty of Science,Director School of Mathematics and Statistics,Professor and Head Department of Statistics ,Bharathiar University, Coimbatore presented the Application of Statistical Models in Industrial Product Control.This session was about the application of Statistical models in Statistical Quality Control (SQC) technique that are used in industry and particularly in military standards for contracts and procurement of products. He highlighted the application of models in different areas like Astrostatistics, Biostatistics, Business Analytics, Chemometrics, Demography, Econometrics, Environmental Statistics, Epidemeology, Geostatistics, Operation Statistics, Population Ecology, Psychometrics, Quantitative Psychology and Reliability Engineering.



Dr. K K Suresh detailed about Acceptance sampling plan, its categories and how it is designed. Keynote Session on Current Trends In Applications Of Statistics In Industry by Dr. R.P. Suresh Principal Director - Advance Analytics, Accenture Digital, Bangalore was about the application of various statistical techniques in manufacturing industry, processing industry, service industry and new age industries and also the future of statistics in these fields.

The session highlighted supply chain analytics, failure analytics and warranty analytics. Sir discussed one case study on warranty analytics and explained the challenge in estimating failure rate with past data, estimating failures beyond warranty period, challenges for predicting beyond warranty and displayed simulated results from exponential distribution. The conference had Research Paper presentation session. They were two panels and the chairpersons of the panel were Prof. Parameshwar V Pandit, professor, Department of Statistics, Bangalore University and Prof. Nagraj Rao Chillale, Professor, Department of Statistics, Vijaya College.

FACULTY ARTICLES

NANO BIOTECHNOLOGY



Ms.K.Kalaiselv Faculty, Dept. of Computer Science

Science has long been structured into relatively strict disciplines. However technology, as a practical study, has a natural tendency to be interdisciplinary. Yet, the scientific activity that habitually tracked the growth of major technologies in the past, so as to clarifythe successes involved only one or two disciplines. Nanotechnology does not trail this pattern.

Nanotechnology is science, engineering, and technology piloted at the nanoscale, which is about 1 to 100 nanometers. It is the study and application of exceptionally small things and can be used across all the other science fields, such as chemistry, biology, physics, materials science, and engineering. It has the facility to perceive and regulatediscrete atoms and molecules. A Nanoparticle is any material having atleast one of its dimensions in the range of 1-100 nm.

A nanometer is one billionth of a meter (10-9m). Nano materials can be naturally occurring such as forest fires, sea spray, minerals, composites, volcanic ash and viruses. It can be man-made materials such as cooking smoke, diesel expend, welding fumes, industrial emissions, sand slating, metals, nano capsules and sun screen pigments.

Nanobiotechnology builds the tools for biological applications. The size of the nano particles helps the devices to interact readily with the biomolecules on the surface of the cells. They gain access to the body parts, detect the disease and induce the treatment. Most problems, which human faces today are commonly faced by other organisms also. During the course of evolution they have learnt to live and the organisms that are alive today are the successfully evolved model. Nanotechnology has provided as a source to learn from nature to solve sustainable problems.

Biomimicry is the best teacher which has helped man kind to find new solutions to the age old problems. The lessons that are learnt through nano are plenty. Certain biomimicry are precious to mankind, can be as simple as invention of aircraft from the flight of a bird.

- Gecko animals are known for its climbing skills. Its feet are covered with nano size hair that uses intermolecular forces. Scientists have replicated this and developed a water proof adhesive that conceals the wounds or patches caused by stomach ulcer and breaks down as the injury heals. Gecko tapes made from these adhesive can lift 150kgs. The nanostructure of these tapes is used in mountaineering shoes to improve the grip of shoes.
- The strength of the suction in the Spider foot is due to the van der waals forces at the nano scale pulling at the same time. This is mimicked in the astronaut's space suits which help them to stick on to the barriers of the space craft.
- Self-cleaning windows are developed from Moth eyes. The ultra-water resistant property of these windows forms spherical droplets which rolls easily picking up the dust and washes them away.
- Chameleon like materials are developed at California University which changes color on demand. The nano scale bounce backs the light and changes the color of ultra-thin material.
- Anti- microbial physics has been learnt from cicada which tears the bacterial in the infected body and weakens them. The wing of this fly has number of pikes which are densely packed and the nano patterns pierce the membranes of the bacterial body.
- Inspired by the fish scale, a transparent under water surface has been created by the Chinese researchers. Fish scale repels oil by trapping water in the scale to prompt self-cleaning and to produce an oil repellent coat. This has application in under water diving goggles, camera and suits.
- The vivid range of colors and the brightness in the filament of the peacock lead the researches to concentrate on the pigments and created structural color brown and transparent layers. The light is absorbed and randomly scattered light creates the magic in colors due to interference.
- The butterfly wings inspired the scientists in two ways. The butterfly wings are separated by layers of air nano particles. The color of the wings seems to be changing according to the perception. Scientists have used this in textiles by assembling the layers of nanoparticles in a structured manner. The change in the wing color has led to the intelligent nano thin layered solar panel, which changes the angle with respect to the sunlight. The scales in the butterfly wings can sense more than 1000 chemicals which is mimicked to generate thermal imaging sensors.
- The nano coating in certain leaves prevent the water and beads up into little droplets called lotus effect. This happens due to nano ridges and wax coated hairs. Lotus effect is mimicked and engineers have made clothes to protect from strains and dirt using nano super hydrophobic coating. Super hydrophobicity has been used for non-stick bottles too.
- Namib beetle lives in desert and collects the dew drops to drink using nano spots in the body. This is replicated by the Rice University by giving the nanotubes super hydrophobic bottom and hydrophilic top. This attracts the water molecules from the air and traps them inside the nano tubes.
- Wood pecker beak provides solution to problems related to energy absorber and shock mitigation. The geometrical advantage of the pecker is mimicked in car bumper and athletics helmets.
- The shark skin differs in size, shapes and texture at the micro and nano levels. This reduce drag and helps shark swim very fast. This is simulated in the athlete's suits to reduce drag and perform fast.

Biomimicry is the lesson taught by nature. Nanobiotechnology is the tool to implement it to expand our survival in the universe.

Visit to Home of Faith Charitable Trust





As part of Social outreach program students visited Home of faith charitable trust, Kuvempu Layout Bengaluru on 11th September 2018. The organization homes orphaned children. The experience of visitng orphaned people made the students to count their blessings. The students interacted with the children present at the home and performed some entertainment programs. The inmates of the home also showcased their talents. It was indeed an overwhelming experience for the students to see those smiling faces of children who despite of not having their parents are happy with their mentor.



SYNCHRONIZE



SYNCHRONIZE 2K18 is an intra-collegiate IT fest organized by the Computer Academy- Intellectual club of the Department of Computer Science (UG), in order to provide a platform for students to showcase their potentials, develop leadership qualities and team work.

The final year students organized the fest with an innovative spirit for the first and second years to provide them with an opportunity to organize, participate and showcase their intelligence and creativity in myriad facets of information technology. The fest was well organized under the able guidance of Faculty Coordinators Prof. S. Gopika and Prof. K. Suresh with the leadership of student coordinators Mr. Stephen Lal Abraham (V BCA D), Ms.SupriyaNickam (V BSc CSME).

The first and second year students were equally divided into EIGHT groups and the groups were named after the Artificial Intelligent assistants Jarvis, Sophia, Alexa, Watson, Donna, Siri, Cortana and Bixby.

Thirteen events were conducted as a part of the intra-collegiate IT Fest were Grapho-Tech, Photoshop War, Coding and Debugging, Gaming, Stat Event - Estadistico, Math Event - Macubique, Electronic event - Electrobitz, Lecture Contest, IT Quiz, IT Manager, Physics Event - Coherence, Best Tech Team.Mr. Satish Ramaiah, Center of Excellence lead and Technology Transformation Architect for large enterprises at DXC Technologies, Bengaluru was the chief guest for the inaugural ceremony who inspired the students and told them about the importance of undergoing different co-curricular courses.

The star of Synchronize 2K18 was won by Simran Verma of III BCA A. The group Cortana were the runners and the group Donna were the overall winners. Synchronize was a nourishing moment to all the students.





Visit to ISRO satellite centre

V Semester BCA and B.Sc students visited ISRO Satellite Centre, Bangalore on 17th July 2018.Mr.H.L. Srinivasa, Scientist, ISRO Satellite Centre briefed the students on various aspects of ISRO ,space technology.the objectives and the various facilities for research, construction, test, launch, track and control facilities of ISRO through video presentations including one on the Chandrayan-1. Sir also elaborated on the different launch vehicles like SLV,ASLV, PSLV and GSLV and spoke on the various satellite programmes of ISRO like INSAT (Indian National Satellite System), Indian Remote Sensing satellites (IRS),Radar Imaging Satellites and GAGAN satellite navigation system and its applications.

The scientist also updated the students on the forthcoming satellites, launch vehicles and launches and also spoke on the Chandrayaan-2 mission planned to be launched to the Moon by a GSLV including a lunar orbiter, lander and rover in 2018. The students visited the clean room equipped with harness lab for fabricating onboard harness of the spacecraft and Mechanical lab with mechanical ground support equipment required for the assembly, integration and testing of the spacecraft and had an opportunity to see Chandrayaan-2. The students had an opportunity to know their weight on various planets. Mr. Srinivas also informed the students on the wide range of career opportunities available in ISRO. The visit provided an insight to the research happening in the area of space technology and the applications of satellites.

Computer Literacy Program



Computer literacy program is a social outreach program where the students of computer science department visit the nearby Government schools and teach basic computer fundamental concepts to

the school children. Students repaired few systems in the lab and the computer lab was prepared for practical session. They conduct theory and practical sessions to the school children. The college students took class for the lower primary and higher primary government school students and thought the basic knowledge about computers they also had a practical session where in the students taught the basics of Operating system and MS Office.

This year the program was organized on 13th and 14th of December 2018 at three schools Govt Higher primary school, Kyalasalahalli Bengaluru, Govt Higher primary School, Kothanur, Bengaluru

and Govt. Lower primary School, K.Narayanapura, Bengaluru.The program was well appreciated by the school students and Jayantians were very happy to contribute in enriching the learning experience of the school children.



SOCIAL OUTREACH PROGRAMME

Visit to Association of People with Disabilities



Students visited Association of People with Disabilities, Lingarajapuram as part of Social outreach program on 18th September, 2018. The main objective of Social outreach program is to understand the various intervention levels and the ostracized, the fundamental change required to development their abilities. There is a need for students to be sensitized about the physical and psychological needs of the

ostracized and to develop people oriented attitudes and concern for others.

The students visited "Association of People with Disabilities" which is in Hutchins road, Bangalore. The program started with the brief explanation from Mr. Mansoor & Mrs. Manjula, which helped the students to know more about the activities and the working of the organization.

This made the students to understand their purpose and all the work they do. Students also visited students and got a chance to interact with the various intervention level of people. Student got the chance to visit manufacturing unit of various artificial legs and hands are made, which was done by the disability people who are living and working in the same organization. Students felt the civic and social responsibility in helping each other, especially the physically disable people. The students could count their blessings when they saw the differently abled people trying their best in spite of the challenges they faced.

ALUMINI CORNER



Mr. Aashish Dulal, Kazan, Russia

Alumni! See how life changes. I remember few months back I was 15cs1h121 and now I am being addressed as alumni. It's cruel but life is about making cruelty to kindness. I was taught to be kind. We are living in a world where we don't appreciate the good things around us. It can be the college that we are studying, the government or the person who loves you and so on. Trust me, an Institute whose core values are Unity, Integrity, Dignity, Faith and Excellence cannot be a bad institute. Kristu Jayanti gives every opportunity to explore for those students who showed excellence by participating in various fest conducted by various department and I was one in thousand who took that opportunity. I travelled to paticipate in various fest Mangalore, Bangalore even Assam. My team "Jayantians" was the only group from Bangalore who participated in Hackathon organized by Government Of India. Such was the dedication of Computer Science administration. I am Student, Kazan Insitude of Technology, told to share my experience. I have studied in various schools and Army Public School was one among them. I saw the same kind of discipline and punctuality that we were taught in

Kristu Jayanti College too. Kristu Jayanti provides every opportunity to grow provided if you are ready to take up the challenges. I am just a recent graduate with 0% experience, I have so much to say but I don't have any position so far. However, I won't be wrong if I say that Kristu Jayanti College is one among the best institute in Bangalore and in India. The graduates are so well nurtured and also according to the industries requirement. I hope and firmly believes that in the years to come the college will shine and thrive towards excellence and light the world with knowledge and kindness. I wish the entire fraternity of Kristu Jayanti College more success in the year to come and I deeply wish it to be a University, which it deserves in all way.

STUDENT SPEAK



Mr. Ashish Kumar (IV BCA D)



Mr. Arshad Ahamad (IV BCA D)

The Times Ahead: From 4G to 5G

The world is changing at such a fast pace and the cause of this change is technology. What is inevitably guided us through our pursuit of a better world is communication technology. 4G technology is now widespread and used

all around the world for internet, calls and other services. However, the potential speeds and reliance of the next generation (5G) network is too good to delay. It has pushed manufacturers like Verizon, AT & T, Nokia and Ericsson to bring this technology into the market as soon as possible. Many in the industry have predicted 5G to be implemented in 2020 or 2021.

Changing the definition of Fast

The expression 'At the blink of an eye' may be too long of an interval to describe the speed of 5G. With a response time of less than 1 millisecond, it is 400 times faster than 4G which can go up to 50 milliseconds. A recent simulation of 5G by Qualcomm at the Mobile World Congress showed 490 Mbit/s median speeds for 3.5 GHz 5G Massive MIMO and 1.4 Gbit/s median speed for 28 mmWave. To further understands the speed difference, let us look into the download speeds of various networks for a 2-hour long movie. On 3G, it takes a few hours and on 4G, it takes around 6 minutes. Astonishingly, the same movie can be downloaded in 3.6 seconds on a 5G network. The minimum peak speed of 5G is predicted to be 20 Gb/s whereas 4G stands at 1 Gb/s. With the unpredictable world increasingly becoming dependent on the internet, 5G could be a game changer for automotive, IoT, Robotics, Medicine and many other industries who are at the brink of the next technology boom. The term Enhanced Mobile Broadband (eMBB) is given for the use case of 5G from the currently running 4G LTE technology.

How is the technology different from

4G technology resolved many of the problems of the 3rd generation network and improved the quality of video calling and long-distance communication. Its glory was short lived as technology such VR streaming became very taxing on 4G networks. Also, the network tends to get slow at times of higher traffic. On the contrary, 5G can support over 1000 devices more per meter than the previous generation. The frequency of 5G signals are much higher and has shorter bandwidth. 4G signals range below 6 GHz but 5G uses extremely high frequencies from 30 GHz - 300 GHz. It is unlike the 4G towers that emit signals in all directions and end up wasting energy over unused signal points. Instead, 5G devices directly connect to high-frequency towers and are required to stay in the line of sight of them. This would mean a lot of strategically placed antennas to keep

the device connected. This also gives users to switch between power modes for less demanding services like messaging and browsing.

Environmental Effects

A recent experiment with 5G resulted in the sudden deaths of many nearby birds who were affected by the high frequency signals. Moreover, researchers who have studied the frequency waves emitted by 5G have predicted that the extensive use of this technology is harmful for human beings as well. Long term exposure to RF-EMF frequencies could leave

Hurdles of 5G evolution

One of the main reasons why 5G is not practical yet is the monstrous cost of implementing it. It costs so much that network operators might have to come up with a totally new business model to commercially provide 5G. Since the fundamentals of the network involve high frequency and low range towers, it creates a need to place a lot of antennas

or 5G compatible towers or both. Since it is completely different from 4G, this technology requires different towers and radio frequencies. Also, 5G signals are more likely to get distorted due to rain or humidity. 5G technology may be coming soon but is certainly not coming overnight.

Sources: <u>www.cnbc.com</u> <u>www.lifewire.com/5g-vs-4g</u> <u>www.ehtrust.org</u>

The Future of Currencies



Mr. Ismail Vilayat Hussain (VI BCA D)

A lot has been heard about the "Bitcoin-bubble" in 2018. It had been the talk of the town as Bitcoin witnessed a sudden surge in its value and usage. It drew attention from various domains of the population including investors, computer science enthusiast looking for a career opportunity, government organizations laying regulations for its usage, and a lot more. Bitcoin - a decentralized digital currency without a central bank or single administrator that could circulate without intermediaries, across countries, alongside offering the benefits of being fraud-proof.Blockchain, incepted as a concept in cryptography for secure data transfer in a distributed network, emerged as an alternative to provide a globally accepted form of currency. In layman terms, blockchain is a group of nodes(blocks) which are connected to each other such that data at one block cannot be modified without the consent of the other blocks in the network/chain. Such a

collaborative group provides advantages of being decentralized or without a single ownership. Each peer has equal authority in a blockchain.

Moreover, any external, or even and internal, entity cannot alter the details of this transaction without having to do so at all the nodes, which is practically impossible provided the number of nodes one would have to alter.

Having understood the basic functioning of blockchain, let's look at some of its unique features.

- Anonymity blockchain technology provides each user with two keys: a private key to initiate and receive transactions. (it's similar to a UPI pin) and a public key, which is a sequence of numbers and letters. The public key is a user's digital identity and it's entirely different from his/hers actually identity. A transaction is categorized by using both the private and public key. Anonymity provides a user security on the internet and from various organizations tracking their personal information.
- High security before I say much about security of blockchain, have you ever heard about a Bitcoin fraud? Probably no. This is because blockchain uses a digital ledger which is available at every node. It does not have a central server or single point of control or authority which could be tampered toexploit the system. It is this system of digital ledgers that makes blockchain such a feasible system for transactions.
- Availability of records assume a blockchain of 10 users. Every transaction ever made by any user is validated by every other user and every user holds a copy of all the transactions ever made. This system of digital ledger is even more robust than our traditional banking system.

All the other benefits of blockchain are a subset of the ones listed above, and it is up to the developer how to extract more from this ever-evolving and ever-increasing chain. Some exciting and helpful ways where benefits of blockchain could be harness are follows.

- Digital voting-For many years the idea of digital voting has crossed many minds, and it could soon be a reality by making use of the blockchain technology. The hitch in the implementation of digital voting had been the concern over tampering of no. of votes or details of voters. Since blockchain is decentralized and uses digital ledgers, this could no more be a concern. With the right infrastructure and a plan of execution, digital voting through blockchain is a plausible idea.
- Protection of copyrights, property documents, wills and more we've come across numerous cases of copyright infringement, property disputes and confusions in wills, all this even though a system is in place to keep track of these details. The root cause of this is server-centric storage of these records. With implementation of blockchain, multiple copies of these records could be saved and new records could be validated such that a violation is highly impossible.
- Real estate, auto and assets transfer The incorporation of blockchain can make transfer of lands, automobiles and other assets of value simple, secure and entirely digital, saving time, manual labor and threat of misuse.
- Weapons sales monitoring The defense sector is always at alert when it comes to monitoring of weapons. Any vulnerability in the record system could lead to catastrophes. With blockchain in the defense sector, sells, purchase and usage monitoring of arms could be made more resilient to malpractices.

Virtualization

A talk on virtualization was organized for V BCA-A students on 30th June 2018. The resource person Ms. Shirley Mercy Shalom, System Engineer, VMware Inc, give an Introduction to Virtulization. VMware, Inc. is a subsidiary of Dell Technologies that provides cloud computing and platform virtualization software and services.

It was the first commercially successful company to virtualize the x86 architecture. The resource person gave a good insight into VMware's desktop software which runs on Microsoft Windows, Linux, and mac OS, while its enterprise software for servers, VMware ESXi, is a bare-metal hypervisor that runs directly on server hardware without requiring an additional underlying operating system.

SAP ABAP



The resource person Ms. Bhavya Latha, Sr. Consultant, Integration India Pvt. Ltd, Bangalore gave an introductory description on SAP (System Applications and Products). She emphasized on the

demerits of a decentralized approach of data storage, which led to widespread acceptance of SAP. The speaker also cited several advantages of using SAP in a typical business environment.

A quick note on ERP solutions was also given by the speaker to correlate with the concept of SAP. Thereafter, Ms. Latha elaborated the functional and technical modules of SAP and also threw light on the Different Industry Solution (DIS) approaches that can be attained through it. Special attention was given to the SAP HANA which is an

in-memory database used for storing frequently used data in RAM. Several features of HANA were discussed at length.

The speaker also shared testimony of several eminent personalities who have included SAP in their business setup. The session concluded with an open Q/A session for the audience and the participants showed great enthusiasm by asking their queries. The session was organized for second year BCA and B.Sc students.

Emerging Technologies in IoT

Mr.Ashray Venkat Full Stack Developer, Fryed Advertising, Bengaluru provided an insight to the Internet of Things (IoT) which is the network of physical devices, vehicles, home appliances, and other items embedded with electronics, software, sensors, actuators, and connectivity.

He also explained with examples on how it enables these things to connect and exchange data, creating opportunities for more direct integration of the physical world into computer-based systems, resulting in efficiency improvements, economic benefits, and reduced human exertions. He spoke on how the technology allows those components to be connected together, communicate, and add value to the data generated.

He elaborated on cyber security and privacy issues highlighting on howIoT can optimize processes and improve efficiencies in our business.Discussion was entertained from the perspective of an IoT developer with the efficiency of the day to day applications.

The resource person shared his expertise in choosing the basic tools for the IoT development. The students have shown interest in the migration

skills required for an IoT developer.the session was organized on 30th June 2018 for first year BCA students.



Self Motivation

A session on self motivation was organized for second year BCA and B.Sc Students on self motivation on 25th August 2018. Ms. Savya Sherlin, Team Lead. Ernst and Young was the resource person. Ms. Sherlin began the session with a note on how the present generation gets influenced by their surroundings and faces peer pressure day in and day out. The speaker emphasized on the importance of self awareness and how critical it is for a person to succeed in life.

The students were introduced to a new definition of success -"success is something which should drive you day in and day out and should draw satisfaction and happiness to you." Ms. Savya told the students to identify the little things that have the power to change their life.

The significance of self-motivation cannot be under mined and it would wrong on their part to expect motivation from outer world. Towards the end of the session, the speaker enunciated the difference between positive and negative motivation and also encouraged the students to understand the difference between the two. Ms. Sherlin also conducted a simple story-building exercise with three volunteers. Finally the session was kept open for queries session for the students. The students enthusiastically participated in the session.

Career Opportunities in Electronics



A guest talk on Career Opportunities in Electronics was organized for I BSc CSME/I BSc PME on 30th June 2018. The resource person Prof. Rajashree Padaki, HOD Dept of Electronics, SFGC, Yelahanka New Town, Bengaluru discussed about Changing global landscapes in electronics design and manufacturing capabilities, and cost structures have turned the attention of

global companies towards India.65% of the electronics is currently imported.Less than 10% of the electronic systems are completely designed and manufactured in India. Electronics applications markets such as telecom electronics, automotive electronics, consumer electronics and industrial electronics are major areas in electronics.

English for Competitive Exams



The lecture on "English for Competitive Exams" dealt with the kind of question which can be expected in any competitive exams. The resource person Dr. Navkiran Kaur Bedi explained the importance of joy of reading rather mugging huge books.

The session was very interactive since it involved discussions and question & answer session. The students got an insight into how to improvise

vocabulary by using new words in day to day life. The usage of certain ambiguous words which are commonly used were a key part of the discussion.

The session involved tasks where in the students were assigned work related to finding of as many number of synonyms as possible for a set of words. The session was organized on 30th of June 2018 for IBSc[PMCS] students.

Business Consultancy and Microsoft Dynamics



A guest lecture on Business Consultancy and Microsoft Dynamics was organized on 30th June 2018 for second year BCA and B.Sc students. The resource Mr.Jayant Joseph began the session with an enlightening note on the need of ERP solutions in the market today. He emphasized the role played by them in various sectors like purchasing, finance etc. The students were also given a complete picture of the sure step methodology which is used in the industry to improve consistency and agility of the process. The speaker also elaborated the various features of Dynamics 365 (version 9). He described the various industries where it is widely applied. Some of the notable ones are

manufacturing, retail, distribution, transportation, warehouses, and customer support centers. Towards the end of the session, the available career options in this field were also cited. As a business consultant, technical developer or as a techno-consultant where the job profile includes being the front face of the customer, writing the most optimum code and a combination of both respectively. The session was kept open for Question and Answer session for open questioning by the students.

Industry Expectations and Preparations



A talk on Industry Expectations and Preparations was organized for V BCA – D students on 30th of June 2018. The resource person Solomon S, Transaction Risk Investigator, TRMS, Amazon kept the

session interesting and interactive. Students learnt basic knowledge about the company and all of their exclusive packages and offer that for a student. He in general spoke about the industries expectation from the students.

He gave a good lecture and basic study on the company and as a student what we can be benefited. To further enhance the knowledge of students, he interactively presented on the topic "Internet of Things (IOT)". The topic was explained with relevant examples and student interaction. The presentation

was followed by live demonstration of Amazon Echo products and smart bulbs, that broadened students' knowledge about how IoT works and what are its applications.

The presentation was also supported with video clips focused on automation and IoT. The two-hour long session served as a platform for students to have their doubts cleared about the industrial environment, alongside enriching students' knowledge about current IT trends.

Backup and recovery - Although our current cloud backup system is serving the need of the hour, but reports of exploitation of vulnerabilities in the system are inevitable. To make the cloud system more robust and secure, cloud and blockchain could be combined to make our digital data safe and protect it from use by companies without authentication.

Opportunities for computer science students in blockchain.

- Cyber security experts since blockchain is still in its raising phase, it requires cyber-security experts to find any vulnerability that might exist and could be exploited by anti-social elements. To ensure the smoothing sailing of the system, these professionals play a vital role.
- Blockchain developers- anyone who builds up on blockchain is a blockchain developer. Many programs are coded to implement blockchain in various areas of its application. A blockchain developer facilitates the usage of it by common masses.
- Blockchain host the infrastructure needed to implement blockchain is still quite complicated and expensive. One may provide this infrastructure as a service and build a career in blockchainBlockchain is still an evolving idea. A lot many countries are hesitant to approve of its usage pertaining to cryptocurrencies. Many people are still unaware of its usage and potential. Like every new field, it opens up a wide-variety of doors for investors, developers and researcher. If you find an idea that best harnesses its potential, then it could well be the future of technology.

Build through Linux



Mr.Israel Sathyan (VI BCA C)

Building an operating system is a long and tedious process, the line of code which goes into it and some time the logic might go overhead and the person whose is building it might lose interest in building it. To drive away these problems cloud based utensils are introduced which helps you to build own Linux based operating system and this article will provide you information about that tool which help you do it.

Suse Studio- SUSE Studio was an online Linux software creation tool by SUSE. Users could develop their own Linux distro, software appliance or virtual appliance, mainly choosing which applications and packages they want on their "custom" Linux and how it looks. Users can choose between openSUSE or SUSE Linux Enterprise as a base and pick from a variety of pre-configured images including jeOS, minimal server, GNOME and KDE desktops. The steps to create the same are given below.

Image Formats and Booting Options SUSE Studio supports the following image formats / booting options:Live

CD/DVD / ISO image, VMware image / VMDK, VirtualBox, Virtual Hard Disk, Hard disk / USB image, Xen, KVM, OVF, Amazon EC2 (AMI), PXEBoot (Onsite version only)

SUSE Studio in use.

On SUSE Gallery one can find a catalog of the images created in SUSE Studio. These are available for download as well as immediate deployment on the supported cloud platforms. Upon logging in, cloning and test-driving images is possible.A number of projects, both related to the openSUSE Project and independent, use SUSE Gallery as the preferred way to get virtual- and Disk images to their users. SUSE Studio is what powered the fanmade Chrome OS, which was a semistripped-down system loaded with the developers' version of Google Chrome, Google web application links, and OpenOffice.org (not to be confused with Google's "Chrome OS").

The desktop environments supported (not limited to):Brltty, JeOS, Server, Qt only, LXQt, Gtk+ only, GNOME, Cinnamon, MATE, XFCE, Enlightenment, Qt and Gtk+ integrated, KDE.Shutdown

On November 9, 2017, Novell announced that they would be shutting down SUSE Studio Online on February 15, 2018. SUSE Studio Express will replace the service, because of previous merging with Open Build Service and SUSE Studio Online. Services are openSUSE Project, SUSE Linux, SUSE Studio ImageWriter, YaST, ZYpp, openSUSE Build Service.

My own work on SUSE studio







Reference https://studioexpress.opensuse.org/

VIGNANAMANTHAN



Vignanamanthan is a program which provide a platform for interaction with stalwarts from industry . The program focused on Hardware and Software Co-design on New-Generation IoTs by having a highly interactive panel discussion with professionals from the academic and industry in association with professional bodies like ACM and IEEE. The Chief Guest of

the programme was Dr. Amlan Chakrabarti, Professor & Dean, School of IT, University of Calcutta.

The first technical session on "Software Hardware Co-Design for New Generation IoT's was headed by Dr.Amlan Chakrabarti. IoT or Internet of Things is an upcoming technology that makes use of internet to control/monitor electronic/mechanical devices, automobiles and other physical devices connected to the internet. He focused on the new growth engine of IoT sparking global enthusiasm.

The Panel Discussion was moderated was Dr. Amlan Chakrabarti. The discussion enlightened the students minds with innovative ideas along with business strategies associated with scientific challenges. IoT projects using arduino and raspberry pi board are an inspiration to students and researchers for further IoT research. The panelists from Microsoft, Intel and IEEE Computer Society motivated the students to take up research projects and future IoT research was discussed. They highlighted on the use of IoT for home/industry automation and monitoring various physical parameters over the internet.

POWER SEMINAR



A seminar was organized to inspire the students to make use of the Digital Gadgets efficiently to live a dignified life and create a positive Impact within the society. The seminar was organized on 15th February 2018 and the resource persons were Ms.Bhanu Das Gupta, Country Head, Oracle Academy, Bangalore,

Mr.Prakash, Sr.Advisor, DELL-EMC, Bangalore were the resource persons. It was a half- day seminar, featuring highly technical issues and the fundamentals of a specific application in the contemporary technological evolution. The seminar had the sole objective of igniting student's mind which lead to some interesting cross-disciplinary thoughts and get some new ideas. The Objective of this topic was to encourage and motivate the youngsters to have a positive impact through the Technologies. The resource person spoke about. "How we are, Who we are not and What we are". Mr. Prakash, spoke on "What were the changes and How Dramatic they are and their Implication and How to Enable the Changes for a positive impact on our society". The seminar was indeed a motivation for the young audience about the Millennial Generation and how they can transform the energy and ideas to enrich and strengthen the society.

SUJNANAMANTHAN (Industry Mentorship Program)



SUJNANAMANTHAN an industry mentorship program was organized for the final year students on 19th February 2018.The

mentors were from Cerner Corporation .Ms.Annu Mathew, Director-HR, Ms.Princy V Thomas, Director-Cerner Works, Mr. Muthurajkumar, Team Lead- Senior Recruiting Partner , Ms.GautamiNaik , Recruiter were the mentors from Cerner Corporation.The gathering was a one to one interactive session where the students could clarify all their doubts regarding the career. Delegates shared their experience on how the industry works and what are their expectations from a candidate during hiring process. All the queries by the students were addressed which made them realize that their academic activities and Co-Curricular plays a major role apart from their Percentage. They also discussed on the art of resume writing and the techniques to be used to grab the attention of recruiters.

history of Srinivasa Ramanujan Sir, his work and numerous contribution. An exclusive "Ramanujan Quiz" was conducted and various posters, charts and mathematical models were presented by the students.

The program included presentations on theory of zero and Vedic maths. .On 22nd December, Dr. Emmanuel Jebarajan graced the auspicious occasion of National Mathematics Day as the Chief Guest and delivered lecture on the great work done by the Sir .Srinivasa Ramanujan. Sir highlighted various concepts and tricks on forming a Magic Square. He also explained various formulae and conveyed its importance in determining speed of computers.



GUEST LECTURES

Industry Expectations and Preparations



A guest talk on Industry Expectations and Preparations were organized for V BCA - C students. The resource person Mr. Umesh TJ who is an employee working with Amazon in the post of Transaction Risk Investigator gave a lot of information about the company. He kept the session interesting and interactive.

He spoke in general about the industries expectation from the students. Speaker made students think about their passion, each and every one of them had since their childhood and asked them whether it is the same until now, if yes what are we doing about it? This question made the students realize what's the purpose of their life ?What is that they are doing? He did encourage students to take every opportunity that they get and utilize it and extract knowledge.

He did ask them to actually take the free courses that are offered and available by the Amazon to the students. He informed students about the free and paid offers by Amazon to the students. Finally he spoke about the three important individual virtues which every student should have in their lives. They are- Faith, Hope and Love, which was inspiring and thoughtful. He spoke about not suppressing others and not judging others. He stressed on these three concepts and concluded.

Orientation on Statistics and its Applications



A lecture Statistics and it's Applications was organized for I Semester B. Sc(CSMS). Most people don't realize how essential Statistics is. Our daily life is surrounded by

the Products of Statistics. Prof. Purushotham Rao, explained the importance of Statistics in real life. He also shared his experiences on the statistics projects handled by him. He enriched the students regarding scope of Statistics in the industry and in academics.

Different statistical software in use was also mentioned in his talk. The speaker discussed the use of statistics in the fields of medicine, insurance, business, psychology, education etc. Also different statistical tools used in prediction and analysis were discussed. Statistics is mostly used by the researcher.

They use their statistical skills to collect the relevant data. Otherwise, it results in a loss of money, time and data. Towards the end of the session he answered all the questions raised by the students. It was an interesting and informative session.

Data Analytics

A guest talk on data analytics was organized for V BSC CSMS and CSME students on 30th June 2018. The resource person Ms. Anjali K Vasudevan, IQVIA, Associate Clinical Data Programmer introduced herself and explained about her company and her role. She explained about data analytics in a very simple way.

She said that it is mainly about collecting the data and cleaning up the data based on the client's need. She made the students understand that the basic knowledge about each person's subject is very important. Each one should be an expert in at least one field. The session ended with questions raised by the students.

PARIKALPANA - A mint of creativity: Workshop on Interactive Web Design



ACM-W Student chapter, Department of Computer Science(UG), organized a workshop on interactive web design "PARIKALPANA-A mint of creativity" on 21st July 2018. The event was inaugurated by Dr.Calistus Jude, Dean of Sciences along with Prof.Sevuga Pandian, Staff Coordinator and

Dr.Ranjitha M, Faculty Sponsor, ACM-W Student Chapter. Ms.Karunya Chella, Student coordinator, ACM-W Student Chapter welcomed the gathering and the resource persons of the day-Ms.Sherlin, Ms.Preethi and Ms. Aishwarya. Dr.Calistus Jude addressed the students and congratulated the ACM-W members for organizing this workshop.Prof.SevugaPandian also stressed on the need of these types of workshops.

Ms.Preethi.S initiated the session with the basic features of HTML, forms and it's attributes with examples. Followed by this Ms.Aishwarya B Pillai continued with the session on CSS, User Interface, CSS Background, fonts and Border Levels that gives dynamic aspect to the Web Pages by keeping up the same determination and interest among the students.Quiz was also held for the students in between the session that kept the workshop lively. Ms.Sherlin Susanna Shaji demonstrated on web hosting services that allows hosting a website on the internet

Hour of Code



As a part of Computer Science Education Week the Department of Computer Science (UG) in association with ACM-W student chapter conducted Hour of Code from 03rd to

07th of December,2018. The session was inaugurated in the presence of Dr.Calistus Jude, Dean of Sciences, Prof.Sevuga Pandian, Faculty Co-ordinator, Department of Computer Science (UG), Dr.Ranjitha and Prof.Neeraja, Faculty Sponsors, ACM-W. Dr.Calistus Jude and Prof.Sevuga Pandian congratulated the Faculties and the Peer Tutors for initiating such sessions and wished the best.

The resource persons were trained students. Students from various Departments participated in the program. The peer tutors taught the students to develop simple games namely Multiplication Escape, Candy Quest etc. using Block Programming within an hour. The participants were initially trained with the basic programming concepts like Conditional statements and Loops. The session was a good experience for kindling an interest in programming.

GANITAAGYA

COMMEMORATION ON NATIONAL MATHEMATICS DAY



Ganitaagya- A unification of two Sanskrit words Ganith and Pragya which means true wisdom of mathematics. Ganitaagya is a dynamic platform set up by the Department of Mathematics for budding students to discover the undiscovered in the field of mathematics. It encourages the students to get together, exchange ideas, conduct and participate in events that enhance their critical ability and mathematical reasoning. It is a forum for those with a mathematical mind- set. "Ganitaagya-Celebration of Numeracy" aims at providing a stage for the potential mathematicians to contribute in their own little way to maths by studying a bit more about the history, the inventions and most importantly a study on Indian Mathematicians and hence further contribute by seeking ideas from the earlier work. With "Celebration of Numeracy" as the theme of Ganitaagya 2018 aimed to inculcate the basics of number theory in our students and master in it.

This year as a commemoration to the great mathematician, Srinivasa Ramanujan's birthday, the Department of Mathematics of Kristu Jayanti College celebrated on 20th December,2018 ,"Ganitaagya", a venture initiated by the department as a tribute to National Mathematics Day. The program witnessed active participation from all the B.Sc students beginning with the various presentation on life

FACULTY DEVELOPMENT PROGRAMMME

FDP on Mobile App Development



A FDP on mobile app development was organised on 19th & 20th November 2018. The resource person Ms. Fareha Hareem, Senior Technical Trainer, ICT Academy explained the differences between android and other mobile development environments, understand how Android applications work, their life cycle, manifest, Intents, and using external resources, design and develop useful android applications with compelling user interfaces by using, extending, and creating your own layouts and Views and Menus. The session was indeed a motivation for the faculty members to use the software. Learning with hands on training was a good experience and was appreciated highly. The resource person urged the participants to contribute to the Android community and making possible for the world to experience their innovative ideas.

LaTeX - A Document Preparation System



An FDP on LaTeX - A Document Preparation System was done on 25th April 2018. The objective of FDP on "LATEX - A Document Preparation System" was to enable the faculty members to know some of the useful commands in LATEX and learn to write scientific documents and thesis using LATEX. The resource person Dr. Emmanuel Jebarajan, Rtd. HoD Department of Mathematics, The American College, Madurai, Tamil Nadu explained the basic commands in LATEX and how to prepare scientific documents using the same. LATEX (pronounced lay-tek) is a Document Preparation System for producing professional-looking documents; it is not a word processor. It is particularly suited to producing long, structured documents, and is very good at type-setting equations. LATEX saves formatting time and effort. Hands on sessions was conducted and several examples were worked out. The session was indeed a motivation for the faculty members to use the software.

Research Discussion on IoT



An FDP on Internet of Things was organised on 11th May 2018. The Resource person, Dr. Cecil Donald began the session with various emerging technologies in the current era. He discussed about the importance of IoT and the driving force behind IoT. He also spoke about different architectures of IoT, Applications of IoT, current Research challenges in IoT and IoT Technologies. The role of IoT in our daily life was depicted through a video followed by, different components of IoT System, What is IoT Platform, Best IoT Platforms, IoT IDE, different Developments board were discussed by Dr. Vinothina. She also addressed steps involved in programming IoT using Arduino IDE with few examples.

Then live demo on controlling LED, controlling light from Wi-Fi network, controlling light from cloud and reading room temperature and moisture using DHT11 sensor were demonstrated by the resource persons. Finally, session concluded by explaining the summary of research issues and hints to be followed during the research tenure.

WORKSHOP

Design, Development and Deployment of Machine Vision Intelligence

in IoT Edge



A workshop on the Design, Development and Deployment of Machine Vision Intelligence in IoT Edge was organized on 14th and 15th November 2018 for the faculty members. The objective of the workshop was to explore the world of new opportunities of the Internet of Things and to manage them efficiently. The Faculty members were introduced to know a model tool set with the domain knowledge, train the tool set with experience in the algorithm level, test and deploy the future of business in IoT Edge.

The workshop enabled them to create a model in Watson Studio in the IBM Cloud and also install Tensor Flow software in Ubuntu 64 bit machines. The resource person explained about the IEEE BLP and its contribution to the world of IoT in education sector, ADAS, home automation, primary health center, taxi service etc. He also dealt with the 6 ways of how Internet of Things is dealt in

education. The various other IoT applications and their design guide were also explored. Machine learning in the model and its possible use of Innovation at the IoT edge was also discussed. Dr. Jayakumar S emphasized on Watson Studio as an integrated environment designed to make it easy to develop, train, manage models and deploy AI-powered applications. It is a SaaS solution delivered on the IBM Cloud. Watson Studio provides a suite of tools for data scientists, application developers and subject matter experts to collaboratively and easily work with data. They can then use that data to build, train and deploy models at scale. These tools are preconfigured, so builders don't have to spend time installing, setting up and maintaining them.



The built-in catalog function enables knowledge sharing and retention. Watson Studio can infuse AI into your business. The faculty members were motivated to create an IBM cloud

account, open IoT Device type, add IoT device and get the IoT device information. Different data sets were added and the model was trained for visual recognition to find the optimized image. Custom network designed with Kera version of TensorFlow: Hands on Training in TIDL (TI Deep Learning) tool set were provided with methods and process to import Deep Learning model in Tensorflow (1.0).

As a part of workflow, offline training of the model was also considered and the same was used in Ubuntu 14.04 OS based PC. Data for training was taken from Tensorflow Github. By learning Watson IBM studio and installation of Tensorflow with machine optimization, the faculty members were be able to focus on deep learning and understand the various applications that can be created on the IoT Edge. The resource persons for the workshop were Dr. Jayankumar Singaram, Founder, RINANU Semiconductor LLP, Bengaluru and Dr. Jayakumar Venkatesan Chief



Science academies lecture workshop on Introduction to Machine Learning



The Science Academies Lecture Workshop on "Introduction to Machine Learning" was organized by the Department of Computer Science(UG)and sponsored by the Joint Science Education Panel of the Science Academies-Indian Academy of Sciences(IASc)Bengaluru, Indian National Science Academy (INSA), New Delhi, The National Academy of Sciences India (NASI), Allahabad. The two day workshop conducted on 29th and 30th November,2018 was intended to introduce the concepts Machine Learning and Deep Neural Networks. The course also included hands-on-sessions where the participants learnt to implement Neural Network and Deep Neural Network Models for simple problems .The first two sessions were an overview of machine learning and statistical models for classification.

The Resource Person Prof. M N Murthy delivered the session on An Overview of Machine Learning and on Statistical Models for Classification. The session was interesting and interactive with an insight into an introduction to machine learning, its history, its inventors and its classification with a slogan which goes Logic is AI and AI is Logic, which actually made us contemplate. He also highlighted on the classification and abstraction of uncommon complex pattern and recognizing these patterns for decision making. He also throwed light on Baye's theorem and its importance in Machine Learning. Professor gave introduction on various algorithms and their implementations with clear examples. The generic and non-generic questions were well explained in a clear

and concise manner.He also elaborated on the three kinds of Machine Learning viz.Supervised Learning, Unsupervised Learning and Reinforcement Learning.Professor M.N Murthy discussed about optimal classifiers using prior and posterior probabilistic approaches in his second session. The session highlighted more about Bayesian classification, Naïve Bayesian classification, Decision tree classification, Support Vector Machine (SVM) classifier, AdaBoost classifier for machine learning etc. An overview of Neural Network Models were discussed during session-3.

The Resource Person: Prof. P. S. Sastry began the session with a brief introduction about Neural Networks. Professor also addressed the basics of Convolution Neural Network, Artificial Neural Networks, Importance of Artificial Intelligence, Trends and Characteristics of AI, Future development in Artificial Neural Network and The latest trends in Machine Learning. Deep Neural Networks and its Applications were discussed during session-4.

In Session-4, Prof.Sastry focused on the working of pattern recognition and classification, regression and interpolation from sparse observations, control and optimization. He also introduced perceptrons and discussed its capabilities and limitations as a pattern classifier and later developed concepts of multilayer perceptrons with backpropagation learning.





Session 5 on Support Vector Machines elaborated on Support Vector Machines for classification. Various techniques in the SVM - Kuhn-Tucker condition, Duality optimization problem, Non-Linear Discriminate function were also discussed was the resource person Prof.P.S. Sastry.

Deep Neural Networks for Image Processing was discussed by the resource person Prof. Venkatesh Babu during session 6.Professor highlighted on the challenges that are faced during the development of computer vision algorithms and the difference between the conventional recognition approach and deep vision approach. He also educated the participants on Semantic Gap, Deep Learning and CNN-Black box.Session 7 and 8 were on Implementing Neural Networks Classifiers and Implementing Deep Neural Networks and the resource persons were Prof P.S.Sastry and Prof VenkateshBabu.Resource persons briefed on neural networks and provided a demo on how it can be implemented. The various packages available on Scikit-learn were also demonstrated and developed with examples.

Participants were able to understand and develop simple Neural network models and Deep Neural network models by using the set of algorithms that parse data to learn from the parsed data and use those learning to discover patterns of interest.

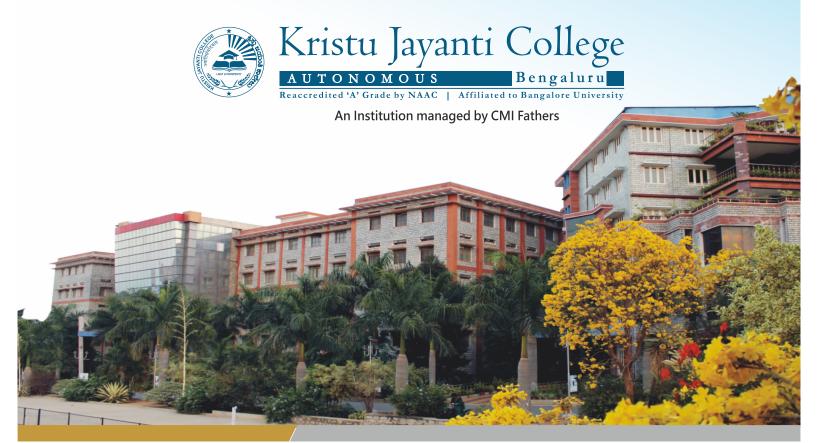
Microsoft Build Local 2018 - Bengaluru



A Microsoft Build Local conclave was organized on 30th June 2018. The conclave had 3 sessions. The first session on Serverless Computing was aimed at understanding the working of server-less computing via cloud computing. The resource person Mr. Kuppurasu Nagaraj, Microsoft Azure MVP, C# Corner MVP, Technical Coordinator, explained cloud computing and its aspects with practical and real world examples. He briefed on the various cloud model services, its advantages and disadvantages. In his talk, he introduced to us

the Microsoft Azure: Cloud Computing Platform. He spoke more on various services offered by Microsoft Azure and how to work with the cloud computing technology. He demonstrated the hosting of a website using Microsoft Azure, where he explained to us step by step the process of hosting a website.

Session 2 on Learning more about Cognitive Services had a hands-on session on the features of Microsoft Cognitive services. The session threw light into various cognitive services offered by Microsoft. The resource person Ms. Alagunila Meganathan, Microsoft MVP & C# Corner MVP explained in detail the various APIs under each service and how to use the demo APIs.Session 3 of the workshop was on What's new in Xamarin.Forms3.0.The resource Person Mr. Anbu Mani, Software Engineer, Changepond Technologies, and Microsoft Student Partner highlighted the following features to develop an user friendly app.Native user's interfaces-apps built using xamarian contains standard,native user interface controls,Native API access: Apps built using xamarian have access to the full spectrum of functionality exposed by the underlying platform and device, including platform specific capabilities like ARKIT and ANDROID multi window mode and Native performance: Apps built using xamarian, leverages platform specific hardware acceleration and are compiled for native performance. The advantages of Xamarin forms and building an efficient app was the key focus.



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(5 year Integrated Programme)

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BA Journalism, Psychology, Computer Science

BA Journalism, Political Science, English Literature

BA Journalism, Psychology, English Literature

BA History, Economics, Political Science

BA History, Tourism, Journalism

BA Journalism, Economics, English Literature

BA Economics, Political Science, Sociology

Research Centre - Social Work

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M.Com. FA CGMA Integrated

MA Economics

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BBA CGMA Integrated
BBA Business Analytics

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B.Sc. Biotechnology, Biochemistry, Genetics

B.Sc. Microbiology, Biochemistry, Genetics

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B.Sc. Physics, Mathematics, Electronics

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