Department of Computer Science & Engineering

UniCS

THE TECH MESSENGER

News Letter – Volume of the Year
August 2017 – July 2018

Intelligence is the ability to adapt to change!

- Stephen Hawking

Vision of the Institute

"To be **center of excellence** recognized **nationally** and **internationally**, in distinctive areas of **engineering education** and **research**, based on a culture of **innovation** and **invention**."

Mission of the Institute

"BIET contributes to the **growth** and **development** of its students by imparting a board based **engineering education** and **empowering** them to be successful in their chosen field by inculcating in them **positive approach**, **leadership qualities** and **ethical values**."

Vision of the Department

"To be a center-of-excellence by imbibing state-of-the-art technology in the field of Computer Science and Engineering, thereby enabling students to excel professionally and be ethical."

Mission of the Department

M1: Adapting best teaching and learning techniques that cultivates Questioning and Reasoning culture among the students.

M2: Creating collaborative learning environment that ignites the critical thinking in students and leading to the innovation.

M3: Establishing Industry Institute relationship to bridge the skill gap and make them industry ready and relevant.

M4: Mentoring students to be socially responsible by inculcating ethical and moral values.

Newsletter Objectives

➢ Achievements of the Students and Faculty members from the CS & E department in Curricular, Co-curricular and Extra-curricular Activities.
➢ The Recent trends in the area of Computer Science & Engineering and related areas.

About the Department:

Department of Computer Science and Engineering was established in 1984 as an academic center for undergraduate studies in engineering. Department offers Undergraduate, Post graduate and research programs in Computer Science and Engineering field and is affiliated to Visvesvaraya Technological University, Belagavi, Karnataka. Undergraduate program is accredited two times by NBA.

It is supported by well qualified faculty, non - teaching staff and best - in - class Infrastructure. The faculty members are actively involved in research and development. The staff members have also won the awards from reputed IT organizations like Infosys, IBM and Wipro and achieved academic excellence. 12 faculty members are pursuing research at reputed universities. Department has applied for one Indian patent in the field of Cluster head election Strategy. One of the faculty members has got best paper award in the URENG conference held at Dubai. Department has produced 5 doctorates in last 10 years.

The Department of Computer Science and Engineering of BIET has been at the forefront of churning out software engineers with a high caliber of technical expertise. It continues to foster and engender the innovation and breadth of vision necessary to excel in the blooming software industry.

From the Editorial…

Greetings to all!

The department is cheerful to present the latest edition of the Department of CSE Newsletter. It motivates, enlightens and enables the Student & Staff community to focus on their goals and achieve more. This newsletter explores the hidden talents, commitment, involvement and achievements of the Department Students and Staff Community in their Extra and Co-Curricular activities to the world.

The yearly newsletter of the Department of CSE covers the information about the Faculty Development Programme, faculty participation, student activities.

We look forward to your continued contribution and participation in this Newsletter. Your good ideas, comments or valuable suggestions about this Newsletter are welcome. This may lead to enhance the quality and professionalism of this newsletter in forth coming editions. Thank you for choosing and spending time with this newsletter.

We hope, this Newsletter encourage you to conquer more in your field.

sd/-
Editorial

NEWS LETTER COMMITTEE

Patrons

Dr. Shamanur Shivashankarappa
MLA, Hon. Secretary, BEA

Sri. S. S. Mallikarjun
Joint Secretary, BEA

Advisory Board

Prof. Y. Vrushabhendarappa
Director, BIET

Dr. S. Subrahmanya Swamy
Principal, BIET

Dr. Nirmala C.R.
Professor and Head

Editor

Prof. S B Mallikarjuna
Associate Professor

Prof. Waseem Khan
Assistant Professor

Student Editors

Mr. Rohan Suresh

Ms. Akila Shreedhar

Message from HOD's Desk:

I feel proud that Dept. of Computer Science & Engineering is releasing its Annual Newsletter Tech Messenger on 18/09/2018. Faculties of our department are highly encouraged to carry out their research work and explore different opportunities on the horizon. Our forum Unics is a platform to bring out the hidden talents of students and nurture them with multi-dimensional skills. Department has organized many Technical Talks, workshops for students and FDPs for faculties. This newsletter will highlight all such activities. I congratulate editors of the Newsletter for their efforts in bringing out this Newsletter colorfully with all the events covering from August 2017 To July 2018. I wish them all the success.

Dr. Nirmala C.R.
Prof. & Head, Dept.
of CS&E

Department Activities

- Inauguration of CS Forum "**UniCS**", SWAT Club Inauguration and Orientation to third Semester students was held on 05-09-2017. Mr.Bhimasen V Purohit [Alumni], Data Scientist, Sakha Global, Bangalore, Mr. Hanumanthappa Budhihal [Alumni] and Mr. Md. Abrar [Alumni] were the Chief Guests for the program.

Inauguration of the SWAT Club, By Mr. Bhimsen V Purohith

- Hanumanthappa Budihal [Alumni] had delivered Technical Talk on ".Net and its applications" on 04-09-17 for final year Students.
- Mohammed Abrar [Alumni] had delivered Technical Talk about "IBM BlueMix Services and Watson Analytics Services" on 04-09-17 for final year students.
- Dept. of CSE was conducted "Parents Meeting" on 08-09-17 at Aryabhata Seminar Hall from 3:00 pm to 5:00pm. Around 60 parents were present for the meeting.
- Inauguration of "B.I.E.T Premier League (BPL)", Inter Departmental Cricket match on 21st September 2017, 36 teams has been registered.

- Department conducted "**Campus to Corporate Session**" for Final year students on 23-09-2017

Campus to Corporate - Interview Tips

- Inter collegiate competition "**C-Quest C Programming Contest**" and "Stress Pass" was Held on 23-09-2017.

- A Session on "**Personality Development Program**" by Prof. Prashantha Kumar, Associate Professor, Bapuji MBA College was held in the Department for 3rd Sem Students on 26-09-2017.

- Department conducted "**Mock Interview**" for 7th semester students on 27-09-2017.

Written Test   **Group Discussion**

HR-Interview

- In Association with Salesforce, department hosted 3 days workshop on "**Salesforce Fundamentals for Business Administration**" for 5th semester students from 17-11-2017 to 19-11-2017. Mr. Kumara Murali from Salesforce was the resource person. 60 pre-final year students participated in the workshop.

- Mr. K S Naveen Sharma Apple Inc. USA gave power seminar on "**Life-Skills after Studies**" for pre-final and Final year students on 25-11-2017
- Bridge course on "**Object-Oriented Programming with C++**" for 4th semester students was held in the department from 23-01-2018 to 31-01-2018.

- **"The Largest Learnathon of India"** – a 36 hours non-stop coding competition has been hosted in association with ICT Academy and Salesforce for 100 final, pre-final and 2nd year students from 02-02-2018 to 03-02-2018.
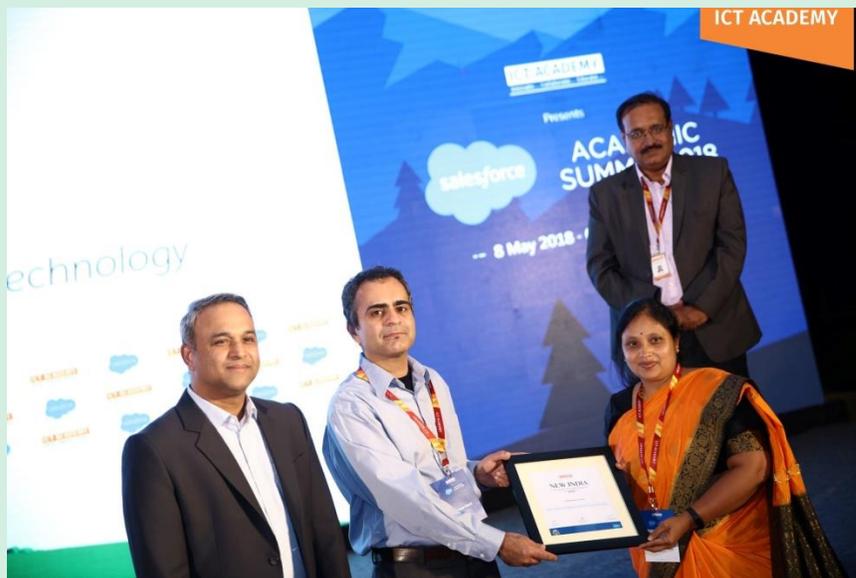

Mr. Basavadarshan, Relationship Manager, ICTAcademy inaugurating the "Learnathon"

- Bapuji Institute of Engineering & Technology and ICT Academy **"Membership Certificate Exchange program"** was held on 14-03-2018 at Research Lab, CS and E Department. Mr. Vishnu Prasad and Mr. Basavadarshan of ICT Academy, Shri. A C Jayanna, Chairman, Dr. Subrahmanya Swamy, Principal and Prof. Y.Vrushbhendrappa, Director were present for the program.

**Shri. A C Jayanna, Chairman, BIET and Mr. Vishnu Prasad, Center Head,
ICT Academy Exchanging the MOU documents**

- Dept. of Computer Science and Engineering faculty members has attended one day workshop on **"IoT, Data Analytics and Software Defined Network"** conducted by TCS at BIET, Davangere on 16-03-2018.
- Bapuji Institute of Engineering and Technology received **"Outstanding Contributor"** award in **"NEW INDIA Student Championship 2018"–A 36-hours non-stop coding competition**. Dr. Nirmala C R, HOD, CS and E department received the award on 07-04-2018 in the Salesforce Academic Summit-2018 held at Chennai.

Dr. Nirmala C R, HOD, CS and E receiving the "Outstanding Contributor Award"

- **Valedictory program of the UniCS and Farewell** to outgoing students of the department was held on 16-05-2018. Mrs. Veena Jade, Senior Delivery Manager, Philips India Ltd. Bangalore was Guest of Honor.

Faculty Participation

- Prof. Vani M and Prof. Rekha A attended Three days' workshop on "**Python**" organized by Department of Computer Science and Engineering, Center for Post Graduate, Visvesvaraya Technological University, Jnana Sangama, Belagavi, from 21-08-2017 to 23-08-2017.

- Prof. Pooja H and Prof. Divya B S has attended Three days Train The Trainer Program on "**Data Visualization Tools**" organized by Infosys Bangalore, held at Ballari Institute of Technology and Management, Ballari, Karnataka from 06-09-2017 to 08-09-2017.

- Prof. Ashoka K has participated and presented a paper titled "**Enhanced utility in Preserving Privacy for Multiple Heterogeneous Sensitive Attributes Using Correlation and Personal Sensitivity Flags**" in 6th International Conference on Advance in Computing, Communication and Informatics (ICACI'17) held at Manipal University, Karnataka, India, from 13-09-2017 to 16-09-2017.

- Prof. Vinutha H P has participated and presented a paper titled "**Detection of Outlier using Interquartile Range Technique from Intrusion Dataset**" in 6th International Conference on Frontiers in Intelligent Computing Theory and Applications (FICTA) organized during 14th-15th October,2017 at KIIT University, Bhubaneswar, Odisha, India.

- Prof. Vinutha H P has participated and presented a paper titled "**Data Mining Applications in Network Security**" in 6th International Conference on Frontiers in Intelligent Computing Theory and Applications (FICTA) organized during 14th-15th October,2017 at KIIT University, Bhubaneswar, Odisha, India.

- Prof. Roopa G M, Prof. Ashoka K, Prof. Abdul Razak M S, Prof. Naveen Kumar K R, Prof. Arun Kumar Hiremath has participated and presented papers in the National Conference on Recent Advance in Electronics and Communication Engineering", Organized by the Department of E&C on 31-10-2017 at BIET Davangere.

- Prof. Roopa G M has been awarded as "**Best Session Paper**" for the paper titled "**A Hospital Queuing Recommender System for Predicting Patient Treatment Time using RE Algorithm**" in the National Conference on

Recent Advance in Electronics and Communication Engineering, Organized by the Department of E&C on 31-10-2017 at BIET Davangere.

- Prof. Naveen Kumar K R and Prof. Arun Kuamr G H attended two days' National Seminar on "**Data Science and Analytics**" at PES University, Bengaluru from 10-11-2017 to 11-11-2017

- Dr.Nirmala C R and Dr. Pradeep N attended K-GIS Academic Meet at Karantaka State Remote Sensing Application Center, Bengaluru on 18-12-2017.

- Prof. Waseem Khan has participated in 5 day workshop on "**Firewall Installation, Configuration and Management**" conducted by ICT Academy in Alva's Institute of Engineering & Technology , Mangalore from 8-1-2018 to 12-01-2018.

- Dr.Pradeep N along with 6 students has attended one day workshop on "**Smart India Hackathon**" held at New Horizon College of Engineering, Bangalore with final year and pre-final year students on 11-01-2018.

- Prof. Naveen K R has attended and successfully completed 30 hours of professional development for Oracle Academy course on Java fundamentals on 12-01-2018.

- Prof. Rajeshwari Kisan and Prof. Shankar Sarji P has attended Three days' workshop on "**System Software and Compiler design/Operating System Laboratory**" organized by Department of Computer Science and Engineering of Global academy of Technology, Bangalore from 17-01-2018 to 19-01-2018.

- Dr.Nirmala C R has been invited to attend "**Lean-In Women in Technology**" conference hosted in association with Walmarts Lab, Bangalore on 20-01-2018.

- Prof. Gangadhar S and Prof. Vivek Bongale has attended two day workshop on "**ARM Cortex M3 Microcontroller**" organized by Department of Electronics and Communication Engineering of Bapuji Institute of Engineering and Technology on 23-01-2018 to 24-01-2018.

- Prof. Gangadhar S and Prof. Naveen H M has attended International Conference on "**Integrated Intelligent Computing, Communication and Security(ICIIC-2018)**" organized by Dept. of Computer Science and Engineering, SJB Institute of Technology, Banglore on 24-01-2018.

- Prof. Vinutha H P has attended and presented a paper titled "**Analysis of NSL-KDD Dataset Using K-means and canopy Clustering Algorithms based on Distance Metrics**" during 2nd International Conference on "Integrated Intelligent Computing, Communication and Security(ICIIC-2018)" organized by Dept. of Computer Science and Engineering, SJB Institute of Technology, Bangalore from 24-01-2018 to 25-01-2018.

- Prof. Roopa G M has attended and presented a paper titled "**Intelligent BOTS Architecture for E-Advertisements**" during 2nd International Conference on "Integrated Intelligent Computing, Communication and Security(ICIIC-2018)" organized by Dept. of Computer Science and Engineering, SJB Institute of Technology, Bangalore from 24-01-2018 to 25-01-2018

- Prof. Abdul Razak M S has participated 2 day workshop on "**Data Science with Python**" organized by Dept. of Computer Science and Engineering at Jain Institute of Technology, Davangere held on 15-2-2018 and 16-02-2018.

- Prof. Gangadhar S and Prof. Abdul Razak M S has attended one week workshop on "**Pedagogy Training in Technical Education**" organized by VTU Human Resource Development Centre (VTU-HRDC) for PG studies,Muddenahalli, Chickaballapur (Dist.) from 20-02-2018 to 24-02-2018.

Alumni Corner

Dr. Shreedhara K S
Principal, UBDTCE, Davanagere

Dr. Shreedhara K S completed his post-graduation at NITK, Surathkal and Ph.D from Manipal University, Manipal. He is presently working as professor in CSE, University BDT College of Engineering, Davanagere from 1993 to date. He is working/ worked as Chairman DOS in CSE, Co-ordinator(Tabulation), Dean(Academic), Placement and Training Officer etc. For his contribution to these works, he receive "Letter of Appreciation" from Kuvempu University and "Academic Achievement Award" from UBDT-VTU. He is instrumental in starting on-line thesis evaluation software at examination section of VTU and actively involved in various development activities of VTU as a Member/ Chairman of various committees for which he received "Letter of Appreciation" from Registrar (Evaluation), VTU, Belagavi. He is presently academic Senate member and BOS Chairman of CS/IS Board of VTU. Tumkur University used his service to execute Campus Wide Networking (CWN) project and other various development activities of the University for which he received letter "Letter of Appreciation" from Tumkur University, Tumkur. He developed course materials for the Distance Education Programme of Kuvempu University and he is a co-author for the textbook entitled "Computer Graphics with Open GL". He is a Fellow member of IEI, life member of ISTE and CSI. He has published more than 30 research articles for various Conferences/ Journals out of which he has received four "Best Research Paper Awards" and a fellowship of $2100 from Boston University, Boston, USA. He received a grant of Rs. 20.00 lakhs from VGST, Department of IT/BT, Government of Karnataka to establish Research Lab at UBDT College of Engineering, Davanagere and Rs. 17.00 lakhs from AICTE, New Delhi for MODROB Project.

Faculty Corner

Prof. Abdul Razak M S

Assisstant Professor
CS&E Dept., BIET

Data arrives continuously over a period of time known as Data Streams. Stream data processing is beneficial in most scenarios where new, dynamic data is generated on a continual basis. It applies to most of the industry segments and big data use cases. Streaming data includes a wide variety of data such as log files generated by customers using your mobile or web applications, ecommerce purchases, in-game player activity, information from social networks, financial trading floors, hospital data, or geospatial services, and telemetry from connected devices or instrumentation in data centers. This data needs to be processed sequentially and incrementally on a record-by-record basis or over sliding time windows, and used for a wide variety of analytics including correlations, aggregations, filtering, and sampling. Information derived from such analysis gives companies visibility into many aspects of their business and customer activity such as –service usage (for metering/billing), website clicks, and geo-location of devices, people, and physical goods –and enables them to respond promptly to emerging situations. Initially, applications may process data streams to produce simple reports, and perform simple actions in response. Eventually, those applications perform more sophisticated forms of data analysis.

Comparison between Batch Processing and Stream Processing

Parameter	Batch Processing	Stream Processing
Data scope	Queries or processing over all or most of the data in the dataset.	Queries or processing over data within a rolling time window, or on just the most recent data record.
Data size	Large batches of data.	Individual records or micro batches consisting of a few records.
Performance	Latencies in minutes to hours.	Requires latency in the order of seconds or milliseconds.
Analyses	Complex analytics.	Simple response functions, aggregates, and rolling metrics.

Student Corner

Mr. Sharath P J

Student
CS&E,
2016-2020batch

Pokémon GO Niantic launched Pokémon GO in the summer of 2016. It was the first new Pokémon game in years, the first official Pokémon smartphone game which was augmented reality game developed for Android and iOS devices. It was Niantic's first project in concert with a major entertainment company. The game was a runaway hit and more popular than anyone expected. Pokémon GO was able to scale efficiently because of Kubernetes and it grew to 500+ million downloads and 20+ million daily active users. Pokémon GO's success greatly exceeded the expectations of the Niantic engineering team. Prior to launch, they load-tested their software stack to process up to 5x their most optimistic traffic estimates. The actual launch requests per second (RPS) rate was nearly 50x that estimate—enough to present a scaling challenge for nearly any software stack. To further complicate the matter, the world of Pokémon GO is highly interactive and globally shared among its users. All players in a given area see the same view of the game world and interact with each other inside that world. This requires that the game produce and distribute near-realtime updates to a state shared by all participants. Pokémon Go faced a severe challenge when it came to vertical and horizontal scaling because of the real-time activity by millions of users worldwide. Niantic was not prepared for this. The solution was in the magic of containers. The application logic for the game ran on Google Container Engine (GKE) powered by the open source Kubernetes project. Niantic chose GKE for its ability to orchestrate their container cluster at planetary-scale, freeing its team to focus on deploying live changes for their players. In this way, Niantic used Google Cloud to turn Pokémon GO into a service for millions of players, continuously adapting and improving. This gave them more time to concentrate on building the game's application logic and new features rather than worrying about the scaling part. On top of this upgrade, the engineers worked in concert to replace the network load balancer, deploying the newer and more sophisticated HTTP/S load balancer in its place. The HTTP/S load balancer is a global system tailored for HTTP/S traffic, offering higher throughput for the amount and types of traffic Pokémon Go was seeing.