Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

(Estd. 1986) Oorgaum, Kolar Gold Fields, Karnataka – 563120
(Affiliated to VTU, Belgaum, Approved by AICTE - New Delhi)
NAAC Accredited 'A' Grade, NBA Accredited for CSE, ECE & Mining Engg Programs

DEPARTMENT OF COMPUTER SCEINCE AND ENGINEERING

ZByte – CP NEWS 2023-24

PRESIDENT MESSAGE

It is indeed a proud moment that the Computer Science and Department has initiated to bring out its Sixth edition of "Zbyte-CP". I would like to see very active student participation and also more activities to be covered in the coming editions. I wish all students to excel in the coming examinations. I wish this newsletter to continue and attain the heights of excellence. My best wishes to everyone associated with this newsletter, and special thanks to the editorial team.

FROM PRINCIPAL DESK

It gives me immense joy to share that "Zbyte-CP" is doing very well. I appreciate the hard work of all students, faculty and whole heartedly thank them for presenting the Sixth edition of Newsletter in a very informative and attractive way. This Newsletter consists of various articles on current trends meticulously curated by our editorial team. We hope it will inspire you and enrich you with practical knowledge in the field of Computer Science and Engineering. Once again, deepest gratitude to everyone for making the newsletter a great source of learning.

FROM CHIEF EDITOR'S DESK

I am delighted to share that "Zbyte-CP" is thriving and making remarkable progress. I want to take a moment to acknowledge the hard work and dedication each one of you brings to our department. Our collective progress this past term has been remarkable, marked by innovative projects, collaborative efforts, and consistent growth in our goals. Your commitment continues to push our department forward, and I am grateful for the energy, creativity, and resilience you demonstrate daily.

ABOUT THE DEPARTMENT

The department of Computer Science and Engineering (CSE) was established in the academic year of 1988 with an intake of 60 and further enhanced to 240 seats in BE. The department has well equipped laboratories with updated software and hardware with an emphasis on practical learning in addition to curriculum. The department has well qualified and experienced faculties having extensive expertise and experience in their chosen fields. Faculties are actively involved in researching core areas of Computer Networks, Cloud Computing, Image Processing, Machine Learning, Data Mining and Artificial Intelligence.

The department endorses Industry-Institute Interactions under a governed MHRD's IIC. Department is associated with pioneer industry players like, TCS under CSR scheme for TCS-IT Employability Program since 2016, CISCO Networking Academy and Red Hat Academy for global certification in-campus touching beyond the syllabus limits. A well-furnished and established training and placement facilities are provided under various firms like Seventh Sense, FACE Academy and regular assessments are assessed from AMCAT and CoCUBES, for the year 2017-18 and 18-19, the Training and Placement department has offered 80+ placement opportunities and support to students in various MNC companies such as TCS, Accord, Wipro, Infosys, Mphasis, Tech Mahindra and many with a success rate of 75% students landing in jobs, 20% of Higher studies and rest as entrepreneurs.

The department is recognized under the MHRD established institutional level's Institute Innovation Council (IIC) since November 2018 by Govt. of India. The IIC encourages students and faculties to emerge and innovate recent developments in research and technology. The department has organized two national level conferences and one international level conference (ICRTTEAS - 2024) and the research outcomes are streamlined and published under various peer reviewed journals. The department's contribution in research and publications is recorded and archived in various prestigious indexing services such as Science Citation Index (SCI), Web of Science (WOS) and SCOPUS. The publications are supported and published by IEEE, Springer Nature, WILEY, Elsevier and Inderscience.

VISION OF THE DEPARTMENT

"To produce highly competent and innovative Computer Science professionals through excellence in teaching, training and research."

VISION OF THE DEPARTMENT

➢ To provide appropriate infrastructure to impart need-based technical education through effective teaching and research.

➢ To involve the students in innovative projects on emerging technologies to fulfill the industrial requirements.

➢ To render leadership skills and ethical responsibilities in students that leads them to become globally competent professionals.

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

PEO 1: To succeed in computing industry through effective analysis, design and development skills.

PEO 2: To Acquire new skills to work in multidisciplinary areas with strong focus on innovation and entrepreneurship.

PEO 3: To collaborate as team members and team leaders with ethics and good communication skills.

PROGRAM SPECIFIC OBJECTIVES (PSO)

PSO 1: To design and apply standard practices and strategies in software project development to solve real world problem.

PSO 2: To adapt to the future technology, to fill the research gap and become entrepreneurs.

- Organized Five days National Level workshop on "**Emerging Trends in Computer Science and Engineering**" in association with CSI Student chapter and Institution Innovation Council Cell of Dr. TTIT from 12th February to 16th February 2024.

- Organized Five days National Level workshop on "**Academics and Skills Enhancement Workshop ASEW – Feb 24**" in association with CSI Student chapter and Institution Innovation Council Cell of Dr.TTIT from 19th February to 23rd February 2024.

- Organized Five days Student Development Program on "**Hands On Mastery: Deep Dive Into Machine Learning And Deep Learning Techniques**" in association with B S Narayan center of excellence, BMS College of engineering, CSI Student Branch and Institution Innovation Council Cell of Dr.TTIT from 3rd to 7th June 2024.

SDP Inauguration on 3rd June 2024

WEBINAR / FDP ATTENDED

- The entire faculty from the Department of CSE participated in 5-days National-Level Workshop on "Emerging Trends in Computer Science and Engineering" from February 12th to February 16th, 2024. The Resource Persons were Dr. Naseer R., Associate Professor, BIET, Davangere, Karnataka. Mr. Syed Hynath, Assistant Professor, Cambridge Institute of Technology, Bangalore, Karnataka. Dr. Mohammed Rafi, Professor, BDT College of Engineering, Davangere, Karnataka. Dr. Vasantha Kumara M., Assistant Professor, Government Engineering College, Hassan, Karnataka.

- The entire faculty from the Department of CSE participated in 5-days National-Level Workshop on "Academics and Skills Enhancement Workshop ASEW – Feb 24" from February 12th to February 16th, 2024. The Resource Persons were Dr. Dayanand Lal N, Assistant Professor,

GITAM University, Bengaluru Campus. Parikshith Nayaka S K, Assistant Professor, GITAM School of technology, Dr. Mohan K G, Professor, GITAM School of technology, Karnataka.

- **Dr. Jansi Rani**, **Prof. Sharmila Kumari N, Prof. Preethi S and Prof. Parvathi T R**, has attended one day offline workshop on "Virtual Labs" conducted at Dr.TTIT on 5th February 2024.

- **Dr. Jansi Rani, Prof. Shalini G, Prof. Sharmila Kumari N, Prof. Sophia S, Prof. Preethi S, Prof. Parvathi T R, Prof. Sudha S and Prof. Swetha N** has participated in 5-days offline Faulty Development Program on "MERN" at Dr.TTIT, KGF from 23rd to 27th April 2024.

- **Prof. Shalini G, Prof. Sophia S, Prof. Parvathi T R and Prof. Sirisha** has participated in 5-days online FDP on "Data science and its applications", at Don Bosco Institute of Technology from 13th to 17th May 2024.

- **Prof. Sophia S, Prof. Sangeetha V and Prof. Ashwini S** has participated in 5-days NFDP on "Gen AI & Prompt Engineering using Microsoft Co-polit." by ExcelR from 15th April to 19th April 2024.

- **Prof. Thara Devi M, Prof. Sophia S, Prof. Sangeetha V** has participated in 7-days National level FDP on Python, organized by Star International Foundation for Research and Education on 19.03.2024 to 25.03.2024.

- **Dr.Kharmega Sundararaj G** has participated in 3-days National Level Workshop on "MATLAB- Data Analysis and Visualization", conducted by ACT Academy, Tamil Nadu, from 5th to 8th January 2024.

- **Dr.Mohamed Kareemulla N R** also participated in 1-Day Offline Workshop in "UIPATH ACADEMIC SUMMIT 2024, Bangalore" conducted by ICT Academy on 15th February 2024.

- **Prof. Thara Devi M** has participated in 5-days online workshop on Full Stack Development, organized by Dept. Of CSE, BIT, Bangalore, from 29th April to 3rd May 2024.

- **Prof. Sophia S** also participated in 7-Days online workshop "SQL for Data Analytics and Data Science", A.C.T Academy, Kerala from 5th to 12th April 2024.

- **Prof. Sudha S** has participated in 5-days Workshop on "Entrepreneurship, Management Startup and Tech-Readiness Level" from 12th to 16th March 2024 organized by EDC & IIC at Dr. TTIT, KGF.

- **Dr. Kharmega Sundararaj G** has participated in 7-Days Online FDP on 'Result Oriented Teaching' conducted by HI Learn Edutech Institute from 5th January to 11th January 2024.

- **Dr. Kharmega Sundararaj G** has participated in 6-Days Online NFDP on 'Emerging Research Trends in Engineering and Technology' conducted by KINGS Engineering college, Chennai, from 4th to 11th January 2024.

- **Dr. Kharmega Sundararaj G** has participated in 5-Days Online NFDP on 'Teaching Pedagogy' conducted by MAR Gregorios College of Arts & science from 26th February to 1st March 2024.

- **Dr.Mohamed Kareemulla N R** has participated in 6-Days Online FDP on 'Android Basics with Compose" conducted by ICT Academy from 15th to 20th April 2024.

- **Dr.Mohamed Kareemulla N R** also participated in 5-Days Online FDP on 'Incorporating Universal Human Values in Education' conducted by AICTE on 11th to 15th March 2024.

- **Prof. Mercy Flora Pritheba A** has attended Six Days Faculty Development Program on "Recent Trends on Embedded Systems & OS Development", organized at Dr TTIT, KGF, from 19th to 23rd February 2024.

- **Prof. Sharmila Kumari N** also participated in 5-Days online Faculty Development Program on "Programming Essentials in python", A.C.T academy, from 29 April 2024 to 04 may 2024.
- **Prof. Sophia S** also participated in 7-Days online Faculty Development Program on "How to write & publish Research papers", conducted by HI Learn Edutech Institute, vijaypura from 15th to 21st April 2024.
- **Prof. Ashwini S** has participated on 1-day IFDP on "Research paper writing using Tools", organized by ACE engineering College, Hyderabad held on 10th May 2024.

PUBLICATIONS

- **Dr. G. Kharmega Sundararaj** has presented a paper entitled "An Effective Cognitive Radio Network Based Improved Differential Evolution Optimization in Energy Harvesting Scenarios". in International Conference on Distributed Computing And Optimization Techniques (ICDCOT-2024) held on 15th and 16th march 2024.
- **Dr. G. Kharmega Sundararaj** has published a paper entitled "CNN Classification based on the MobileNet for Malware Detection", in International Journal of Advanced Trends in Engineering and Management (IJATEM), Vol. 3(01), January 2024.
- **Dr. G. Kharmega Sundararaj** published paper entitled "Analysis of Job Site in Constructing Using Artificial Neural Network", in International Journal of Advanced Trends in Engineering and Management (IJATEM), Vol. 3(01), January 2024.
- **Dr. G. Kharmega Sundararaj** published paper entitled "Heart Disease Prediction Using CNN Based on Deep Learning". in International Journal of Advanced Trends in Engineering and Management (IJATEM), Vol. 3(01), January 2024.
- **Dr.Mohamed Kareemulla N R** has published a paper entitle "A Comprehensive Approach to a Hybrid Block chain Framework for Multimedia Data Processing and Analysis in IoT-Healthcare" Journal of Wireless Mobile Networks, Ubiquitous Computing, and Dependable Applications (JoWUA) April 2024.
- **Dr.Mohamed Kareemulla N R** has published a paper entitled "Diabetic Retinopathy Detection and Classification Using Multi-Head Self Attention Based Convolution Neural Network" , in International Conference on Distributed Computing and Optimization Techniques (ICDCOT) IEEE Xplore 08 May 2024
- **Dr.Mohamed Kareemulla N R** has published a paper entitle "eMRA. A Multi-Objective Resource Allocation Technique using Genetic Algorithms for Cloud Computing". in International Conference on Distributed Computing and Optimization Techniques (ICDCOT) IEEE Xplore 08 May 2024
- **Prof. Shalini G** has published a paper entitle "A Fine Tuned Mobile Netv2 Based Approach for Weed Classification", in IEEE xplore February 2024.
- **Prof. Sharmila kumari N** has published a paper entitle "Face Recognition system with effective time approach", in IEEE xplore February 2024.

PATENT FILED & PUBLISHED

- **Dr. Geetha C Megharaj and Dr. Jansi Rani** has filed and published their idea in The Patent Office Journal no. 14/2024 with the title "An Image to Recipe Generation System Using Artificial Intelligence" on 5th April 2024.

- **Dr. Jansi Rani and Dr. G. Kharmega Sundararaj** has filed and published their idea in The Patent Office Journal no. 14/2024 with the title "Development of IRIS Recognition System Using Deep Learning Techniques" on 5th April 2024.

FACULTY ACHIVEMENTS

- **Dr.Mohamed Kareemulla N R** has established MoU with Infosys springboard for Single Point of Contact (SPoC).
- **Prof. Thara Devi M** has recognized as an educator by Eduskills- Juniper Networks Cloud & Automation Academy for training the students on JNCIA – JUNOS.

FACULTIES CERTIFICATION COURSES

- **Dr. Geetha C Megharaj, Dr. Jansi Rani, Dr.Mohamed Kareemulla N R, Prof. Shalini G** has completed the course "Teaching and Learning in Engineering (TALE)", for duration of 4 Weeks offered from SWAYAM National Program of Technology Enhanced Learning.
- **Dr. Geetha C Megharaj, Dr. Jansi Rani, Dr.Mohamed Kareemulla N R, Prof. Sudha S** has completed the course "NBA Accreditation and Teaching-Learning in Engineering (NATE)", for duration of 12 Weeks offered from SWAYAM National Program of Technology Enhanced Learning.
- **Dr. Jansi Rani** has completed the course "Internet of Things (IoT)", for duration of 12 Weeks offered from SWAYAM National Program of Technology Enhanced Learning.

Odd Semesters VTU Exam Result (May 2024)

Year	Semester	Number of Students Appeared	Number of Students Pass	Students Pass Percentage
2nd	3rd	100	71	71
3rd	5th	101	73	72
4th	7th	78	71	91
	8th	80	80	100

Technical Activities for Students:

Papers presented **on 6th International Conference on Recent Trends in Technology, Engineering and Applied Science (ICRTTEAS-2024)** held on 23rd and 24th may 2024.

- Hemanth G, Nadeem Pasha, Narendra C, Nelson Leo N, presented papers entitle" AI Kidney Cancer Diagnosis: A Deep Learning Approach Integrating CT-Scan and Blood Test Analysis".
- Naveena.B, Chandralekha.V, Indhu.S, Janani.J presented paper entitle" Prediction of Water Requirement for Mixed Crops using Machine Learning Algorithm".
- Kavya M K, K B N Naveen Kumar, Kavana R P, Abhishek, presented paper entitle "IoT based energy efficient smart street light with automatic brightness adjustment and Accident detection".
- Harika R, Harshitha S, M Indu Shree, Navya Shree K S, presented paper entitle "A robotic clinical system to classify a tumor MRI images via improved machine learning techniques".
- Aruna Shree, Chandrashekar, Kavyanjali, Deekhitha, presented paper entitle " An improved robotic power control system to automatically operate the CFL, FL and LED lamps in house for Limiting Electricity power utilization using improved ML concepts".
- Nisha N, Kruthika R, K S Sinchana, K S Sahana, presented paper entitle "A deep learning approach for sugarcane yield prediction using machine learning".
- Chandana V Janani N, Lini D S, presented paper entitle " Skin Cancer Detection using Deep Learning".
- Gopa Kumar, Arunan, Bhagyaraj, L N Karan, presented paper entitle"Knee osteoarthritis detection and classification using x-rays with CNN".
- Pradeep s, rajesh kumar s, sachin r, sanjay p, presented paper entitle "Bird Species Identification Using Audio Signal with Machine Learning and Neural Network Approach".
- Prajeeth S, Prathiksha , Preethish R, Samskruthi S J, presented paper entitle "Fish Diseases Detection and Species Recognition from Llow Quality Under Water Videos".
- Prathiba N V, Shalini G, Sopna K, Sushmitha S, presented paper entitle "An Improvement Image Search System to Retrieve the Related Image Based on Input Image Using ML Techniques".
- Sangeetha A, Sonakshi S, Tejashwini V, presented paper entitle "An Improvement Video Content Partition System to Automatically Split the Video Frames into Optimized Number of Clusters Using Clustering Technique".
- Shashank D, Venkateshd N, Venkatesh V, Chandrashekar V, presented paper entitle "Sign Explainer: An Explainable AI-Ebabled Framework for Sign Language Recgnition with Ensemble Learning".

- Supritha Shivappa Teli, Tharani, presented paper entitle "Abnormal Event Detection In Video Survelliance Scene Using Convolution Neural Network (CNN)".
- Shivaraj Kharatha, Swetha R, Mithun N S, presented paper entitle "Parametrically Optimized Automated Diagnostics System for Heart Disease Prediction using Deep Neural Network".
- Supriya S, Tejas S, Vamsi M, Gangothri, presented paper entitle "Time Series Forecasting and Modeling of Food Demand Supply Chain Based on Regressors Analysis".
- Tarun Kumar K, Vishal Kiran N, Parsad M, Steve Ajay J, presented paper entitle "Face Recognition Based Attendance System with Advancement Feature: Arrival and Leaving Time".
- Ajay S, Surya T S, Udaya N, Karthik R, presented paper entitle "Early detection of diseases in commonly used Spinach using ML".
- Shaziya Tabassum, Mohammeb Habeeb Ulla, presented paper entitle "Facial Based Automated Stress Detection System to Identify Human Stress using Machine Learning"

Winners of 6th International Conference on Recent Trends in Technology, Engineering and Applied Science (ICRTTEAS-2024).

1. Kavya M K, KBN Naveen Kumar, Kavana R P, Abhishek, presented paper entitle "Automated Blood Cancer Detection System to Detect Leukemia Using Improved ML Techniques."
2. Chandralekha V, Indhu S, Janani J, Naveena B, presented paper entitle "Prediction of Water Requirements for Mixed Crops Using ML Algorithm."
3. Prathiba N V, Shalini G, Sopna K, Sushmitha S, presented paper entitle "An Improved Image Search System to Retrieve the Related Image Based on Input Image Using ML Techniques."

Winners of ICRTTEAS- 2024

Winners of Project Expo held on 25th May 2024.

First prize:

1) ArunaShree, Chandreashekar, Kavyaanjali. "An Improved Robotic Power Control System to Automatically Operate the CFL, FL, LED Lamps in house for Limiting Electricity Power Utilization using Improved Machine Learning concepts."

2) Shivaraj Kharatha, Swetha R, Tejas S, Mithun N S. "Parametrically Optimized Automated Diagnostic System For Heart Disease Prediction Using Deep Neural Network."

Second prize:

1) Harshitha S, Harika R, M Indu Shree, Navya Shree K S. "A Robotic Clinical System To Classify a Tumor MRI Image Via Improved Machine Learning Techniques."

2) Prajeeth S, Prathiksha B, Preethish R, Samsukruthi. "Automated Fish Illness Detection System Underwater Using ML Techniques."

Third prize:

1) Tarun Kumar R, Vishal Kiran N, Prasad M, Steve Ajay J "Face recognition based attendance system with effective time approach."

Winners of Project Expo 2024

Students Certification Courses:

Students have registered and completed many courses offered by SWAYAM National Program of Technology Enhanced Learning (NPTEL).

- Niharika V, Pooja B, Hasvinie P, Mehak D, Shreeja G, Seshanth N, Bhavana K A, Sushimitha N, D Rakshitha from 3rd semester Abishek v from 5th semester has completed the course "Programming in JAVA" for duration of 12 Weeks.
- Priyadharshini, Vidhusha M, Niharika V, Vishal R, Hasvinie P, Sandhya S, Princy S from 3rd semester and Sophia B from 5th semester has completed the course "Computer Networks and Internet Protocol" for duration of 12 Weeks.
- Harshitha G, R Laxmipriya, Bhavani B, from 3rd semester has completed the course "Introduction to IoT" for duration of 12 Weeks.
- Hasvinie P, from 3rd semester has completed the course "cloud computing" for duration of 12 Weeks.
- Pradeep kumar, Dharshankumar, Manjunatha R, Abishek v, Dhanush M, Pandith Nawnith Kumar, from 5th semester and Pooja B from 3rd semester has completed the course "Data Analytics with Python" for duration of 12 Weeks.
- Lokesh V N from 5th semester has completed the course "Introduction to Database management system" for duration of 12 Weeks.

Sports Activities:

25th VTU Inter Collegiate State Level Athletic meet 2023-24 was conducted on 26th June 2024 to 29th June 2024 at Chamundi Vihar Stadium, Mysuru. Students of 4th and 6th sem have actively participated and won prizes in various events.

Department Club Activities:

Technical club INFINOX was inaugurated on 31st May 2024 by Prof. Rukmani Divakaran, Dean (Academics) and Dr. Geetha C Megharaj, Professor and Head, Department of Computer Science and Engineering along with all the faculty members and students of the department. The aim of club is to strengthen the student technical skills.

Technical club Inauguration on 31st may 2024.

Activities conducted by Technical Club (INFINOX)

➢ Technical Aptitude Test'
  INFINOX Technical Club has organized 'Technical Aptitude Test' on 14/06/2024 (Friday). The event was coordinated by student office bearers Bhavesh S Jain (President), Hemapriya (Vice-President), Vishnu Varshith (Secretary), Lokesh V N (Treasurer), along with CSE faculties and the event coordinators Dr. Kharmega Sundararaj G, and Prof. Tharadevi M, Department of Computer Science and Engineering. Students from the 4th and 6th semester have participated in the event. The event aims to enhance the technical knowledge and problem-solving ability in programming languages like C & C++.
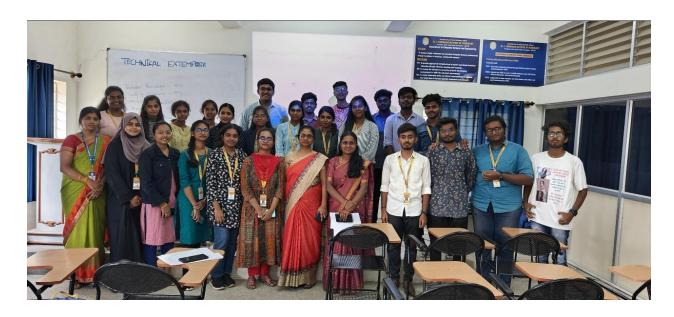
Technical Aptitude Test' on 14/06/2024 (Friday)

➢ Technical Extempore

INFINOX Technical Club has organized 'Technical Extempore' on 20/06/2024 (Thursday). The event was coordinated by student office bearers Bhavesh S Jain (President), Hemapriya (Vice-President), Vishnu Varshith (Secretary), Lokesh V N (Treasurer), along with CSE faculties and the event coordinators Dr. Kharmega Sundararaj G, and Prof. Tharadevi M, Department of Computer Science and Engineering. Students from the 4th and 6th semester

have participated in the event. The event aims to enhance the communication skills and to showcase the technical knowledge on diverse technical topics.

Technical Extempore' on 20/06/2024 (Thursday)