**CSE**
COMPUTER SCIENCE ENGINEERING

AICTE

B+ NAAC

# Computer Science & Engineering

### Tomorrow's World Through Today's Education

DEPARTMENT OF **Computer Science**

**NEWSLETTER** ✉

THE Leaflet

**VOLUME 6 (2019-2020)**

*issue.* ② **(AUG - SEP)**

NEWS LETTER

# Principal's Message



Dear Parents and Students,

It is with great pleasure that I welcome you to our College (DIET) Newsletter.

As Principal I am hugely impressed by the commitment of the college and the staff in providing an excellent all-round education for our students with our state of the art facilities. We as a team working together, strongly promote the zeal towards academic achievement among our students. The cultural, sporting and other successes of all our students and staff are also proudly celebrated together.

I congratulate the staff and students who brought latest technologies and concepts onto the day to day teaching learning platform. As long as our ideas are expressed and thoughts kindled we can be sure of learning, as everything begins with an idea.

I appreciate every student who shared the joy of participation in co-curricular and extracurricular activities along with their commitment to curriculum. That little extra we do, is the icing on the cake. 'Do more than belong – participate. Do more than care – help. Do more than believe – practice. Do more than be fair – be kind. Do more than forgive – forget. Do more than dream – work.'
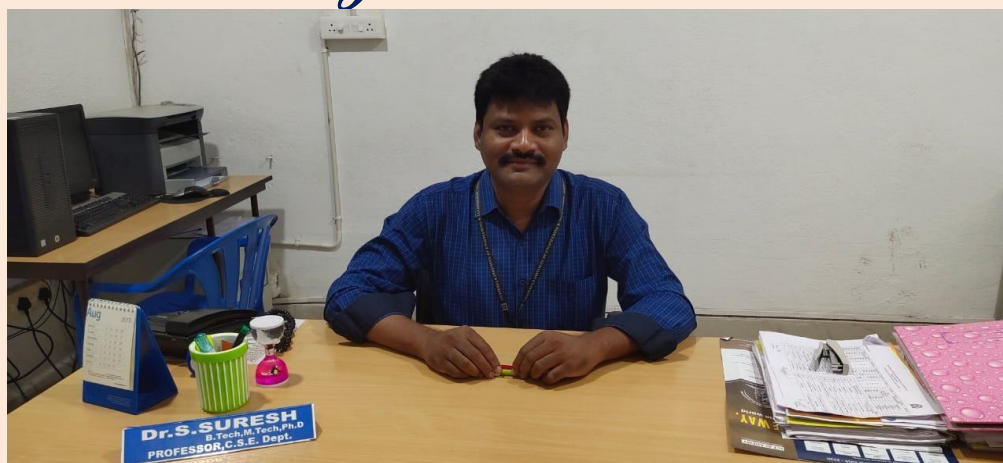
With a long and rewarding history of achievement in education behind us, our DIET community continues to move forward together with confidence, pride and enthusiasm.

I hope you enjoy your visit to the website and should you wish to contact us, please find details at the www.diet.ac.in/

Yours in Education,

**Dr.Ravi Kadiyala**

# Message From HOD



**Dr. S. Suresh Professor & HOD,**
**Computer Science and Engineering**

*Greetings from the Department of CSE, Dhanekula Institute of Engineering & Technology, Vijayawada.!!!!*

"It is a pleasure to be the head of the department of CSE. The department offers B-Tech (CSE) and M-Tech (CSE). The department has a team of highly experienced and motivated faculty members who are in process of tuning the young minds to make them globally competitive. The department is equipped with state-of-the-art laboratories where students can enhance their knowledge and skill. The strength of the department is highly motivated students who understand the dynamics of the industry and upgrade their skills accordingly. The scope of computer science is endless. The students of the computer science and engineering are highly demanded by the recruiters of the top companies. Depending upon the interest of the student, he/she may choose to go for higher studies or if employed can choose to do research, development, design, production, application, testing or management in the Information Technology industry. In our department we not only give emphasis on study but also apply our knowledge in understanding what computers are, how to efficiently program them, different tools and technologies, the interface between the computer and the user, the computer graphics, computer networking, managing the database, software engineering and testing them efficiently and more. Through innovative teaching-learning process a teamwork approach and leadership building experience, our students gain vital communication and critical-thinking skills. Our institution provides a platform for the students to enhance their employability skills through Industry Institute Collaboration."

*I, Congratulate the team of faculty members and the students for their brilliant and original efforts. I wish all the Students and Faculty a great academic career.*

**Dr. S. Suresh Professor & HOD**,
Computer Science and Engineering,
Dhanekula Institute of Engineering & Technology,
Vijayawada - 531 139.

**Department Vision:**     To empower students of Computer Science and Engineering Department  to be technologically adept, innovative, global  citizens possessing  human values.

 **Department Mission:**

To Encourage students to become self-motivated and problem solving  individual To prepare students for professional  career  with academic excellence and leadership skills. To Empower the rural youth with computer education. To Create  Centre's of  excellence in Computer Science and Engineer

## Program Educational Objectives(PEOs)

**PEO1:** Excel in Professional career through knowledge in mathematics and engineering principles.

**PEO2:** Able to pursue higher education and research.

**PEO3:** Communicate effectively, recognize, and incorporate societal needs in their professional endeavors.

**PEO4:** Adapt to technological advancements by continuous learning.

# DEPARTMENT ACTIVITIES:

Dept of CSE celebrated The Department of Computer Science Engineering had organized Guest Lecture on "Intenet of Things & Advancements" on 16-9-2019 on the eve of "World Engineers Day" . Geust Speaker Dr.Md. Asdaque Hussain, R&D Dean, KL University



Guest Lecture on "Intenet of Things & Advancements" on the eve of "World Engineers Day"



Student Keynoting Guest Dr.Md.Asdaque Hussain, R&D Dean, KL University by telling Bio-data .



Geust Speaker Dr.Md.Asdaque Hussain, R&D Dean, KL University started session on "Intenet of Things & Advancements"



Students participation on Guest Lecture



Felicitating Guest speaker from CSE Department.



Saying Vote of Thanks to Guest for knowledge sharing.

# TEACHERS DAY CELEBRATIONS:

**Teachers Day Celebrations @CSE: A moment of joyful rededication…**

CSE celebrated Teachers Day with traditional fervor and gaiety by paying rich tributes to Master Teacher &Statesman, Dr. Sarvapalli Radha krishnan on his 131th Birthday on 5th Sept'19. Our Beloved principal Dr.K.Ravi Presented Best Teacher Award to Faculty of CSE Department Mr K.Sandeep in recognition of their meritorious service to teaching.
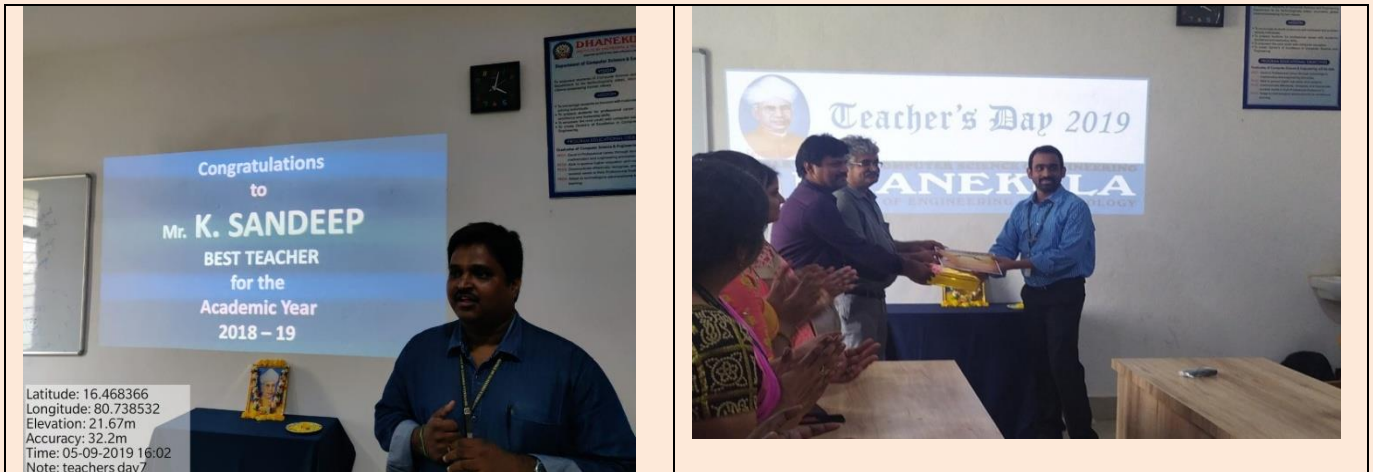


# ORIENTATION PROGRAM FOR FRESHERS DAWN OF AN EXCITING JOURNEY !!!

The newly admitted students of B.Tech Programme of the A.C.Y.2019 were welcomed into the portals of our beautiful center of learning in an impressive induction program on 13stSep'19. The program was inaugurated by Sri.Dr.S.Suresh HOD& Prof of CSE, Sri.Dr.A.Srinivasa Rao, HOD gave an exhaustive and insightful orientation to the inductees. Among others, faculty and staff as well as students attended the program

# Industrial visit:

Dept. of CSE Organized a local industrial visit

- for 2 $^{nd}$ yr students of cse to visit Securities and Exchange Board of India on 23$^{rd}$Sep'2019
- for 3$^{rd}$ yr students Green Bud Software technologies on 19$^{th}$ Sep'2019
- for 4$^{th}$ yr students Medha Towers kloud Maaya on 25$^{th}$ Sep'2019

# Real time learning @ Python Training Program

The Department of CSE organized training program on "Python Programming" for III year students during the period i.e.30-9-2019to1-10-2019. Sri D. Brahmesh, System Engineer, Infosys Technologies, Bangalore imparted Message on What is python programming, purpose & impotence of python programming ,Need& its applications of python. HOD of CSE and other faculty members coordinated the program.



## STUDENTS ACHIEVEMENT:

It is proudly say that our final year student of CSE K. Krishna tulasi ,placed in Optum Global Solutions (pvtlmtd), India, K. Ravi ,HOD Dr. Suresh appreciated that student.

## STUDENTS ARTICLES

# Parallel File System For Linux clusters

As Linux clusters have matured as platforms for low cost, high-performance parallel computing, software packages to provide many key services have emerged, especially in areas such as message passing and networking. One area devoid of support, however, has been parallel file systems, which are critical for high performance I/O on such clusters. We have developed a parallel file system for Linux clusters, called the Parallel Virtual File System (PVFS). PVFS is intended both as a high-performance parallel file system that anyone can download and use and as a tool for pursuing further research in parallel I/O and parallel file systems for Linux clusters.

In this paper, we describe the design and implementation of PVFS and present performance results on the Chiba City cluster at Argonne. It provides performance results for a workload of concurrent reads and writes for various numbers of computer nodes, I/O nodes, and I/O request sizes. It also presents performance results for MPI-IO on PVFS, both for a concurrent read/write workload and for the BTIO benchmark. We compare the I/O performance when using a Myrinet network versus a Fast- Ethernet network for I/O-related communication in PVFS. It is obtained read and write bandwidths as high as 700 Mbytes/sec with Myrinet and 225 Mbytes/sec with fast Ethernet.
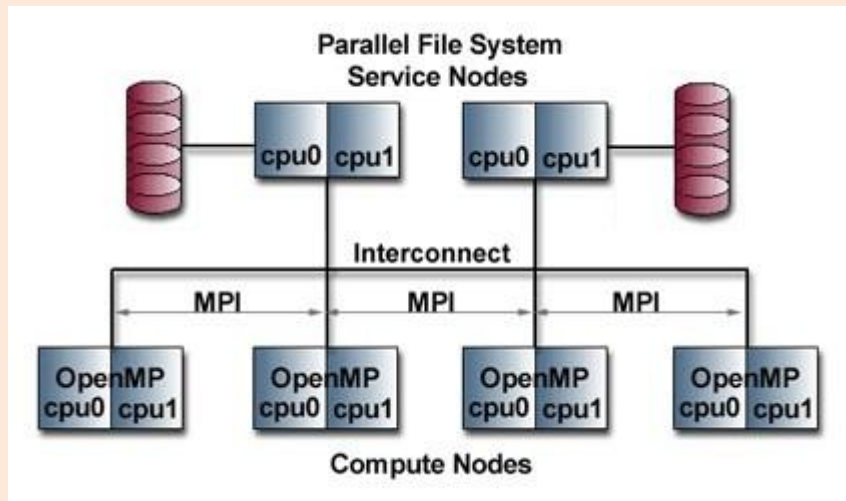
The first group comprises commercial parallel file systems such as PFS for the Intel Paragon, PIOFS. And GPFS for the IBM SP, HFS for the HP Exemplar, and XFS for the SGI Origin2000. These file systems provide high performance and functionality desired for I/O-intensive applications but is available only on the specific platforms on which the vendor has implemented them. (SGI, however, has recently released XFS for Linux. SGI is also developing a version of XFS for clusters, called CXFS, but, to our knowledge, CXFS is not yet available for Linux clusters.)

The second group comprises distributed file systems such as NFS, FS/Coda, Intermezzo, XFS and GFS. These file systems are designed to provide distributed access to files from multiple client machines, and their consistency semantics and caching behavior are designed accordingly for such access. The types of workloads resulting from large parallel scientific applications usually do not mesh well with file systems designed for distributed access; particularly, distributed file systems are not designed for high-bandwidth concurrent writes that parallel applications typically require.

The third group includes, A number of research projects existing in the areas of parallel I/O and parallel file systems, such as PIOUS, PPFS, and Galley. PIOUS focuses on viewing I/O from the viewpoint of transactions, PPFS research focuses on adaptive caching and prefetching, and Galley looks at disk-access optimization and alternative file organizations. These file systems may be freely available but are mostly research prototypes, not intended for everyday use by others.

PVFS Design and Implementation

As a parallel file system, the primary goal of PVFS is to provide high-speed access to file data for parallel applications. In addition, PVFS provides a cluster-wide consistent name space, enables user-controlled striping of data across disks on different I/O nodes, and allows existing binaries to operate on PVFS files without the need for recompiling. Like many other file systems, PVFS is designed as a client-server system with multiple servers, called I/O daemons. I/O daemons typically run on separate nodes in the cluster, called I/O nodes, which have disks attached to them. Each PVFS file is striped across the disks on the I/O nodes.

PVFS Manager and Metadata: -

A single manager daemon is responsible for the storage of and access to all the metadata in the PVFS file system. Metadata, in the context of a file system, refers to information describing the characteristics of a file, such as permissions, the owner and group, and, more important, the physical distribution of the file data. In the case of a parallel file system, the distribution information must include both file locations on disk and disk locations in the cluster. Unlike a traditional file system, where metadata and file data are all

stored on the raw blocks of a single device, parallel file systems must distribute this data among many physical devices. In PVFS, for simplicity, we chose to store both file data and metadata in files on existing local file systems rather than directly on raw devices.

PVFS files are striped across a set of I/O nodes in order to facilitate parallel access. The specifics of a given file distribution are described with three metadata parameters: base I/O node number, number of I/O nodes, and stripe size. These parameters, together with an ordering of the I/O nodes for the file system, allow the file distribution to be completely specified. An example of some of the metadata fields for a file /pvfs/foo is given in Table 1. The pcount field specifies that the data is spread across three I/O nodes, base specifies that the first (or base) I/O node is node 2, and ssize specifies that the stripe size—the unit by which the file is divided among the I/O nodes—is 64 Kbytes. The user can set these parameters when the file is created, or PVFS will use a default set of values

By  Md.Rehana,168T1A0561,IV CSE

# 3D INTERNET

3D Internet, also known as virtual worlds, is a powerful new way for you to reach consumers, business customers, co-workers, partners, and students. It combines the immediacy of television, the versatile content of the Web, and the relationship-building strengths of social networking sites like Face book.

Yet unlike the passive experience of television, the 3D Internet is inherently interactive and engaging. Virtual worlds provide immersive 3D experiences that replicate (and in some cases exceed) real life.

People who take part in virtual worlds stay online longer with a heightened level of interest. To take advantage of that interest, diverse businesses and organisations have claimed an early stake in this fast-growing market.

They include technology leaders such as IBM, Microsoft, and Cisco, companies such as BMW, Toyota, Circuit City, Coca Cola, and Calvin Klein, and scores of universities, including Harvard, Stanford and Penn State.

What is 3D Internet?

3D Internet is the next generation after the current 2d web.3D Internet consists of interconnected services, presented as virtual worlds.



Imagine a set-up of interconnected virtual worlds inhabited by users who can visit and consume services through "teleporting" from one world to another.

3D Internet will rely on the same basic technology and components as that of a traditional browser, and it will interact with the same search engines and servers. Aside from the use of 3D computer graphics and personalized avatars, the important difference lies in a much more social experience compared to the two-dimensional Internet of today.

3D Internet is incredibly social. If you're reading a document, you can see other people reading the same document. You connect organically with other people that share your interests and consume the same services that you do.

3D Internet: Why?

One of the often heard arguments against the 3D Internet is in the form of the question "why do we need it?" For most of its users the Internet is a familiar, comfortable medium where we communicate with each other, get our news, shop, pay our bills, and more.

We are indeed so much used to and dependant on its existence that we don't think about its nature anymore just like we do not think about Ohm's law when we turn on the lights. From this perspective what we have, i.e. the 2D version, seems "sufficient" and the 3D Internet is yet another fad.

Otherwise, the user would get lost sooner or later. Since this is a very abstract environment, there is no straightforward way of providing a navigation scheme which would be immediately recognizable to human beings. The situation is not any better when traveling between websites.. It is no surprise that Google is the most powerful Internet Company of our times.

By  K.Sudeshna,168T1A0555,IVCSE

# ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEM

Artificial intelligence (AI) is the intelligence of machines and the branch of computer science that aims to create it. According to Textbooks, Artificial Intelligence is "the study and design of intelligent agents, where an intelligent agent is a system that perceives its environment and takes actions that maximize its chances of success".

Artificial intelligence has been the subject of optimism, but has also suffered setbacks and, today has become an essential part of the technology industry, providing the heavy lifting for many of the most difficult problems in computer science. All research is highly technical and specialized, deeply divided into subfields that often fail to communicate with each other Subfields have grown up around particular institutions, the work of individual researchers, the solution of specific problems, longstanding differences of opinion about how AI should be done and the application of widely differing tools.

The use of Artificial Intelligence methods is becoming increasingly common in the modeling and forecasting of hydrological and water resource processes. Artificial intelligence (AI) is the field of scientific inquiry concerned with designing mechanical systems that can simulate human mental processes. The field draws upon theoretical constructs from a wide variety of disciplines, including mathematics, psychology, linguistics, neurophysiology, computer science, and electronic engineering.

Here are a few more examples from our day to day life that use AI- Apple's Siri, Samsung's Bixby, Netflix recommendation engine, games like call of duty, self-driving cars, spam filtering engines, ride sharing in Uber, speech and pattern recognition, etc.
Another prominent example of an AI-based machine is Jarvis (not from Iron Man movie). Facebook's CEO

Mark Zuckerberg has built Jarvis which is currently deployed in his smart home. Jarvis is able to process language, control sensors, doors, cameras, light and thermal controls and perform face recognition.

INTRODUCTION:

The term  Artificial Intelligence was coined by John McCarthy,  in 1956, who defines it as "the science and engineering of making intelligent machines. The field was founded on the claim that a central property of humans, intelligence. The sapience of Homo sapiens can be so precisely described that it can be simulated by a machine. This raises philosophical issues about the nature of the mind and limits of scientific hubris, issues which have been addressed by myth, fiction and philosophy since antiquity.

Artificial Intelligence (AI) is the key technology in many of today's novel applications, ranging from banking systems that detect attempted credit card fraud, to telephone systems that understand speech, to software systems that notice when you're having problems and offer appropriate advice. These technologies would not exist today without the sustained federal support of fundamental AI research over the past three decades. Artificial Intelligence (AI) in the field of information technology focused on creating machines that can participate in behaviors that humans consider intelligent. The possibility of intelligent machines to have human curiosity since ancient times and today with the advent of computer and 50 years of research into AI programming techniques, the dream of smart machines is a reality. Researchers create systems that can mimic human thought, understand speech, then the best player chess husband, and countless benefits not possible before.

In conventional computer programs, problem-solving knowledge is encoded in program logic and program-resident data structures. Expert systems differ from conventional programs both in the way problem knowledge is stored and used. An expert system is a computer program, with a set of rules encapsulating knowledge about a particular problem domain (i.e., medicine, chemistry, finance, flight, etc). These rules prescribe actions to take when certain conditions hold and define the effect of the action on deductions or data. The expert system, seemingly, uses reasoning capabilities to reach conclusions or to perform analytical tasks. Expert systems that record the knowledge needed to solve a problem as a collection of rules stored in a knowledge-based are called rule-based system

Expert systems are especially important to organizations that rely on people who possess specialized knowledge of some problem domain, especially if this knowledge and experience cannot be easily transferred. Artificial intelligence methods and techniques have been applied to a broad range of problems and disciplines, some of which are esoteric and others which are extremely practical.
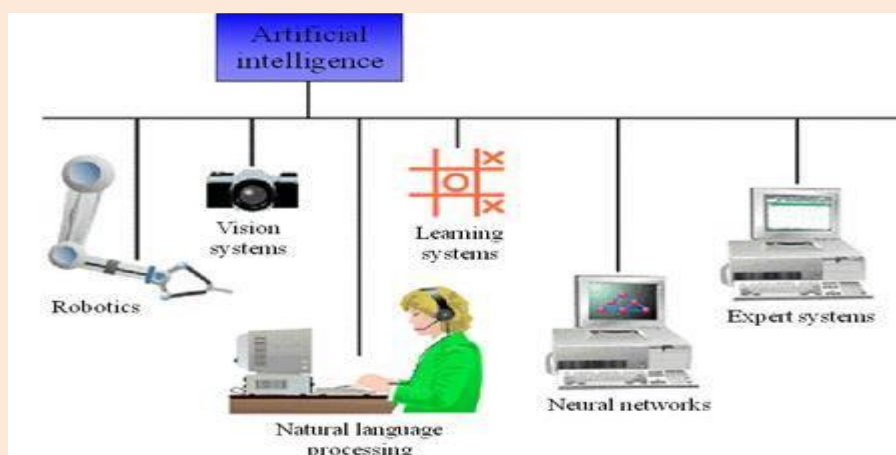


By G.Ramya, 168T1A0533,IVCSE

**MAKE A SUGGESTION**
*Your Idea Counts!*

You Can Also Send Your Articles
For Future Issues Through Mail

Mail ID :- csedhanekula@gmail.com

| Technical Review Committee | Editorial & Design Team: |
|---|---|
| Dr.S.Suresh HOD& Professor | Faculty: Ms.P.Sunitha,Asst.Prof |
| Dr.A.Srinivasa Rao, Professor | |

**Student Coordinators :**

N.Yeshwanth , G.Krishna Sai , K.Lakshmi Tulasi , K.Dhanunjay Raju