



Vision of the Department

“To impart knowledge to young aspirants to develop Information Technology based solutions for the Industrial and Societal needs”

Mission

- Prepare students to acquire knowledge in the field of Information Technology through effective teaching learning methodologies.
- Establish conducive environment for better learning through the state of the art curriculum to exhibit talents and ingenuity.
- Nurture the students to be industry ready by enhancing their employability skills and entrepreneurial skills
- Develop Information Technology based solution as per the need of Society.

Program Specific Outcomes(PSOs)

- Able to apply appropriate techniques for storage of huge amount of data and ensuring its integrity.
- Choose appropriate method for data acquisition from real world and propose suitable solutions to solve problems.

Editorial Board

Chief Editor:

Mr. Prasanna kumar M, Assistant Professor

Student Editors:

1. Karthik M P, 5th semester
2. Bhoomika G K, 5th semester

Department Activities

- A talk on “How to get placed” has been organized to create awareness for 5th semester students on the preparation needed for campus placement” by Miss. Meenakshi, Final year student on 3-10-19.
- MOU with e-flow Gurukul, Bengaluru on 4-10-19 as a part of Industry – Institute interaction.
- Conducted a workshop series on 21/10/2019 from ISTE students chapter " ABHIMAAN" to enhance the diploma student’s knowledge level at Aryabharathi Polytechnic, Tumakuru for Diploma Computer Science & Engineering.
- MOU with Samartha Infosolutions pvt ltd, Bengaluru on 30-10-19 for training the students in the field of Internet of Things and Computer Networking.
- All staff members attended Faculty Development program on Image processing, IoT and Cloud, which is scheduled on 27-11-19 at STEP Seminar hall. The FDP was conducted by TCS with collaboration of placement office.
- Workshop on "Road safety education" is organized on 12th, 13th, and 14th November 2019 by SSIT in association with Honda India Limited. ISE students actively participated in the event.
- Teachers Day was celebrated on 5th September 2020 to commemorate the birth anniversary of Dr. Sarvepalli Radhakrishnan.
- Alumni meet was conducted at college level on 8/12/2019.

Content Distribution Networks

NETFLIX is the leading subscription-based video streaming service providers for movies and TV shows in today's world. Netflix attracts more than 60 million subscribers in US alone, and about 183 millions world wide. It is the single largest source of Internet traffic, consuming peak downstream traffic. Like Netflix, Hulu also has a large viewer base and paying subscribers. Both providers offer video at multiple quality levels, capable of adapting to user's available bandwidth. Designing such large scale, fast growing video streaming platforms with high availability and scalability is technically challenging. Because of their popularity and size, the design and traffic management decisions of these services also have a profound impact on the Internet infrastructure. Netflix and Hulu architectures, which are designed to serve massive amount of content by combining multiple third party services. For instance, Netflix heavily utilizes Amazon cloud service, replacing in-house IT by Amazon Web Service (AWS), and using Amazon Simple DB, S3 and Cassandra for file storage.

A Content Delivery Network(CDN) refers to a geographically distributed group of servers which work together to provide fast delivery of Internet content. CDN allows quick transfer of assets needed for loading Internet content including HTML pages, Javascript files, stylesheets, images and videos. The popularity

of CDN services continues to grow and today the majority of web traffic is served through CDNs, including traffic from major sites like Facebook, Netflix and Amazon. A properly configured CDN may also help to protect websites against some common malicious attacks, such as DDOS.

At its core, a CDN is a network of servers linked together with the goal of delivering content as quickly, cheaply, reliably and securely as possible. Internet Exchange Points(IXPs) are the primary locations where different internet providers connect in order to provide each other access to traffic originating on their different networks. By having a connection to these high speed and highly interconnected locations, a CDN provider is able to reduce costs and transmit times in high speed data delivery. Beyond placement of servers in IXPs, a CDN makes a number of optimizations on standard client/server data transfers. CDNs place a Data Centers at strategic locations across the globe, enhance security and are designed to survive various types of failures and Internet congestion.

The design of streaming platform keeps evolving to be more scalable, more flexible, and provide better service. Netflix initiated its own Content Delivery Network called "Open Connect" so that ISPs can directly connect their networks to Open Connect. Open Connect CDN allows ISPs to peering with Netflix CDN for free at common Internet exchanges strong base and in applied manner. As the user base of OTT continues to grow, the design of streaming platform must evolve and advance accordingly.

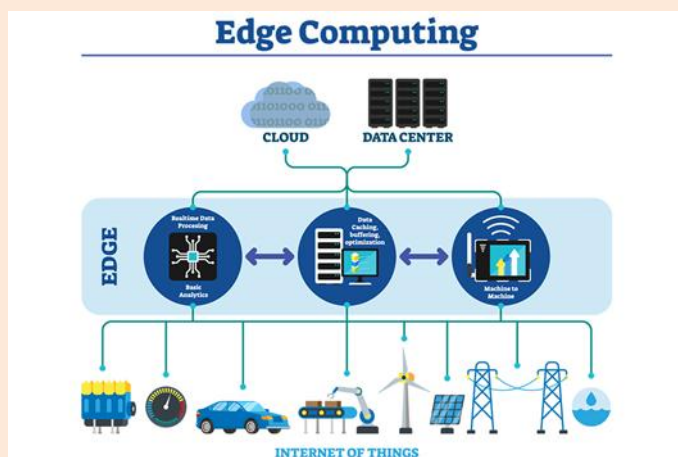
Mrs. Rakshitha C M

Assistant Professor

Department of ISE

Edge or Fog Computing in IoT

Connecting every physical thing around us to the Internet has some amazing benefits. IOT is a concept of connecting any devices to the Internet and to other devices. All devices in the network interact with each other to collect and share data. This helps in achieving operational efficiency and to drive new business insights. IoT devices need a lot of storage to share information for valuable purposes. Usually IoT devices generate massive amount of data and this data is sent to cloud to store, process and analyse data to draw some useful insights. IoT cloud provides a global endpoint no matter where our devices are in the world. However, in all the scenarios of IoT, it is not feasible to send data to the cloud for processing and waiting for the response especially in time critical applications. Sometimes we need to process data close to the devices where data is created and where actions to be taken immediately. This is where edge computing comes into picture in IoT. Edge computing is processing the data close to the data source.



There are three good reasons why we should consider edge computing for IoT deployment. The first one is security. A smart industry, for example, may need to have all of their sensitive information stored right on the site where all that industry work is happening.

The data is stored locally instead of in a third-party cloud service provider. The second is the cost of the network bandwidth. We are seeing an emergence in all IOT markets of the use of video and computer vision, machine learning, deep learning technologies really transforming the way the system can utilize video information. It isn't cost effective to send all of that from the device to the network and to the cloud for processing. And the third reason is time. Autonomous car is a good example for understanding the importance of edge computing. When we are cursing around in autonomous car and all the sudden our vehicle detects a hazard in the roadway ahead, then our vehicle has to communicate across the network, find the nearest data centre and ask "Hey, I found a hazard what should I do?". In this situation the decision to be made in real time. We can't send the data up to the cloud and wait for an answer back. The latency requirement is too tight. In such scenarios the local edge devices need to do analytics locally and react immediately. Thus Edge computing can deliver power that we can't get from a cloud connection.

Mr. Prasanna Kumar M
Asst Professor,
Dept of ISE

- ◆ Learning gives creativity, creativity leads to thinking, thinking provides knowledge, and knowledge makes you great.
- ◆ All of us do not have equal talent. But all of us have an equal opportunity to develop our talents.

By DR.A P J Abdul Kalam

Conference and Publications

- T. Shreekumar, K. Karunakara, "Identifying the Faces from Poor Quality Image / Video", International Journal of Innovative Technology and Exploring Engineering (IJITEE), ISSN: 2278-3075, Volume-8 Issue-12, October, 2019, pp.1346-1353.
- K.R. Asha, M.C. Supriya , Energy Efficient and Secured Key Based Management in Area Monitor by WSN , International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN: 2278-3075, Volume-8 Issue-10S, August 2019
- Chethan B.K., Siddappa M., Jayanna H.S, An Analytical Modeling for Boosting Malicious Mobile Agent Participation in Mobile Adhoc Network, in 3rd international conference on Computational Methods in Systems and Software at SSIT, Tumkur ,2019(ISSN 2194-5357)

Photo Gallery



MOU with Samartha Infosolutions Pvt. Ltd, Bengaluru on 30-10-19



MOU with e-flow Gurukul, Bengaluru on 4-10-19