



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, 6th semester
2. Bhoomika G K, 6th semester

Department Activities

- Sixth semester students visited System Consulting Information India (p) Ltd, Tumkur on 24-01-2020 to get exposure on real time projects implementation. The company delivered a presentation on Internships opportunities and projects that are available to students.
- An awareness program on “Opportunities after Plus 2/ PUC education” is conducted by the department staff for students of PU science colleges in Gubbi taluk on 25-1-2020. Students are informed about various openings available to them after passing PUC exams.
- Samartha InfoTech Pvt Ltd Bengaluru and Dept of ISE has organized a one day workshop /Technical talk on Internships and Final project in the Data Visualization and Computer Networking for 6th semester students of ISE, CSE, ECE, TCE, EEE on 27-1-2019
- Technical talk on “Technology Evaluation and Qualities of a successful IT professional” by Mr. Bhargav Haritsa of NXP certified software architect was arranged in the department for 4th semester students on 15-02-2020
- Dept of ISE in association with Samartha InfoTech Pvt Ltd Bengaluru has organized a Two day workshop on “Data Analytics and Visualization” for 6th semester students of ISE on 28-2-2020 and 29-2-2020

Department Activities

- Parent meeting was conducted on 19-2-20 in the department.
- 4th and 6th semester students along with two faculties attended the “Open Day” event at IISc, Bengaluru on 29-02-20.
- Online classes were conducted for students through Google Meet during Corona Holidays.
- Prasanna Kumar M, Asst. Professor, delivered an online guest lecture on “Trends and Opportunities in IoT” at CIT, Gubbi.
- A one-day workshop on “NBA-CO-PO Attainment” was organized in the department

Digital Twin Technology

The digital twin is a digital or virtual copy of the physical product and its dynamics in all aspects. It covers the whole lifecycle of a product. Digital Twin describe the design of the product, how to manufacture the product and how the product behaves in operation, in service and in maintenance. If we have a digital twin that really represents the physical product in the digital world, then we can optimise the system, adopt new ways of working and gain flexibility. Until optimal solution is obtained, we spend less resources like monetary resources and manpower. Thus, a product behaviour can be simulated and tested long before a physical prototype has been built. It is more than a simulation and a kind simulation of many different models instead of one.



The term digital twin was first coined by Michel Grieves in 2002. Nasa was one of the first to use this technology for space exploration missions. Digital twin connects the real and virtual world by collecting data from the installed sensors. The data is evaluated and simulated in the virtual copy of the physical assets. This integration of real and virtual helps in optimizing the performance of the real assets. Digital twin can be used in manufacturing, automotive, construction, utilities, health care and so on. Digital twin is the next big thing in the fourth industrial revolution for the development of new products and processes.

For example, manufacturing an aircraft machine can be a complex and costly process. Assembling the first prototype from the parts that haven't been developed to test it together often cause problem and getting everything to function properly may require significant amount of time, material and effort. We can combine the all plans for our machine into a single virtual model called digital twin. The machine can be tested in different environments and on the actual task that it has been designed. We will be able to detect potential problems before anything even been built. Beyond this digital twin facilitates to monitor aircraft machine in real time and detect potential failure or wear and tear of the machine well before any damage.

Digital twin can be thought of as a living model that drives business outcome. They are also changing how technologies such as IoT, AI and analytics are optimized. Digital twin enables more profitable, safe and sustainable operations. Some of the companies offering digital twin services today are Cisco, IBM, Bosch, Microsoft Azure digital twin, Siemens, and etc

Prasanna Kumar M,
Asst Professor
Dept. of ISE.

Artificial Intelligence: The future mankind

A classic introduction to Artificial Intelligence intended to bridge a gap between theory and practical, as we all know AI is the most trending topic of this decade. AI refers to the simulation of human intelligence in machines that are programmed to think like humans. The ideal characteristic of artificial intelligence is its ability to work that have the best chance of achieving a specific goal, and the goal includes learning, reasoning, and perception.

In Bagavad Gita [9.10], the AI system of Lord Krishna is described as follows:

“mayadhyaksena prakrtih
suyate sa-characharam
hetunanena kaunteya
jagad viparivartate”

Just like an engineer feeds his computer programming into a machine, the intellectual head feeds his programming into the cosmic machine and it works without a fault ostensibly with a brain of its own. When most people hear the term artificial intelligence, the first thing they usually think of is robots. That's because big-budget films about human-like machines that wreak havoc on Earth. But nothing could be further from the truth. Artificial intelligence is based on the principle that human intelligence can be defined in a way that a machine can easily execute tasks, from the most simple to more complex and main subject of AI is Machine learning further into deep learning, the motto of artificial intelligence is to make machine learn things.

Categorization of Artificial Intelligence

- Weak Artificial Intelligence
- Strong Artificial Intelligence

Weak artificial intelligence embodies a system designed to carry out one particular job. Weak AI systems include video games, personal assistants such as Amazon's Alexa and Apple's Siri and Google assistant. Strong artificial intelligence systems are systems that carry on the tasks considered to be human-like. These tend to be more complex and complicated systems. They are programmed to handle situations in which they may be required to problem solve without having a person intervene. These kinds of systems can be found in applications like self-driving cars or in hospital operators.

The fields of computer vision and Natural Language Processing (NLP) are making breakthroughs that no one could've predicted. We see both of them in our lives more and more, facial recognition in our smart-phones, language translation software, self-driving cars and so on. Prudent governance at the global level will be essential to ensure that this era-defining technology will bring about broadly shared safety and prosperity.

Today, the error rate in humans is only 3% in computer vision. This means computers are already better at recognizing and analyzing images than humans. What an amazing feat! Decades ago, computers were hunks of machinery the size of a room; today, they can perceive the world around us in ways that we never thought possible. The progress we've made from 26% error in 2011 to 3% error in 2016 is hugely impact. The way I like to think is, computers have now evolved eyes that work. So, what might we see in near future is Sci-fi becoming a reality, and it is only a matter of time before we attain “Artificial General Intelligence”

Chinmaya Udupa, Student, 3rd Semester, ISE

Conference and Publications

- T Shreekumar and K Karunakara, “An Active Appearance Model based Face Recognition from Surveillance Video”, TEST Journal of Engineering and Management, ISSN: 0193-4120 Page No: 6969-6981, May June 2020
- Chethan B. K., M. Siddappa, Jayanna H. S., “Trust correlation of mobile agent nodes with a regular node in a Adhoc network using decision-making strategy”, International Journal of Electrical and Computer engineering (IJECE) Vol.10, No.2 April 2020, pp. 1561 ~1569 ISSN: 2088-8708
- Chethan B. K, Dr. M Siddappa and Dr. H S Jayanna, “Novel Framework using Dynamic Passphrase towards Secure and Energy-Efficient Communication in MANET”, International Journal of Electrical and Computer Engineering, Vol.10, No.2, April2020, pp. 1552~1560, ISSN: 2088-8708

Photo Gallery



Technical talk on “Technology Evaluation and Qualities of a successful IT professional” by Mr. Bhargav Haritsa of NXP certified software architect.



4th and 6th sem ISE students in “Open Day“ event at IISc, Bengaluru



Industrial visit to System Consulting Information India (p) Ltd, Tumkur on 24-01-2020

PLACEMENTS - 2019-20

Sl. No.	Name of the student placed	Enrollment no.	Name of the employer
1	Meenakshi	16IS035	TCS
2	Roshan Kumar Rauninyar	16IS064	THOUGHTFOCUS
3	Neha Pradeep Bhat	16IS041	Thought Focus
4	Yashavantha Babu B S	16IS089	Creators Technology
5	Ashwini P N	16IS009	TORRY HARRIS
6	Chirag D	16IS017	Zenopsis
7	Harshitha H R	16IS026	Knowx Innovation
8	Sanketh T K	16IS072	Knowx Innovation