

கே.எல்.என் பொறியியல் கல்லூரி

Amarar  
Shri K.L.N. KRISHNAN

# K.L.N. COLLEGE OF ENGINEERING

Pottapalayam-630612,(11km from Madurai City) Sivagangai District,Tamil Nadu,India.

(Sponsored by K.L.N Sourashtra College of Engineering Council,Madurai)

Approved by AICTE,New Delhi and Affiliated to Anna University, Chennai.

Included under 2(f) and 12(B) status of UGC Act of 1956.

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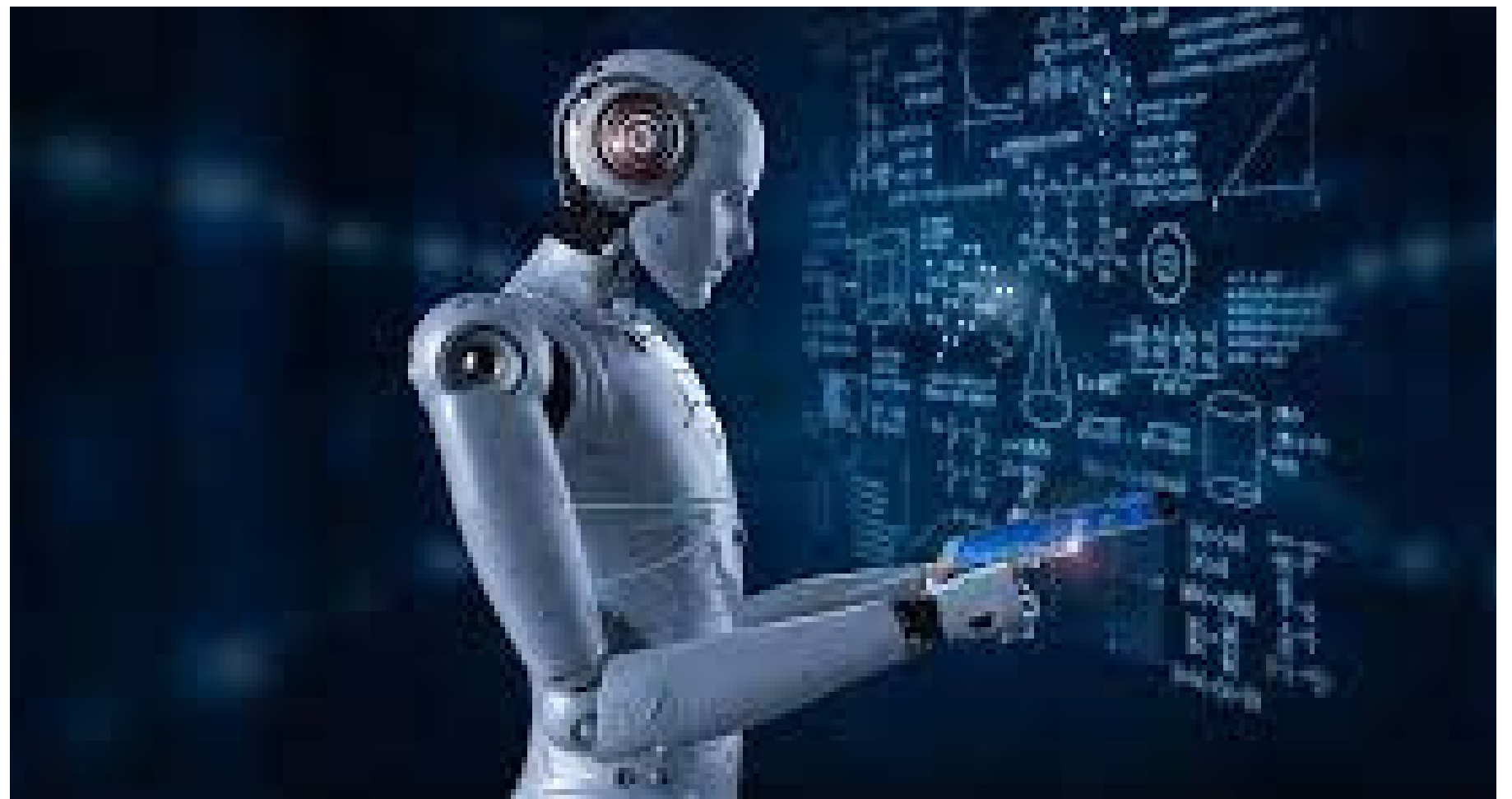
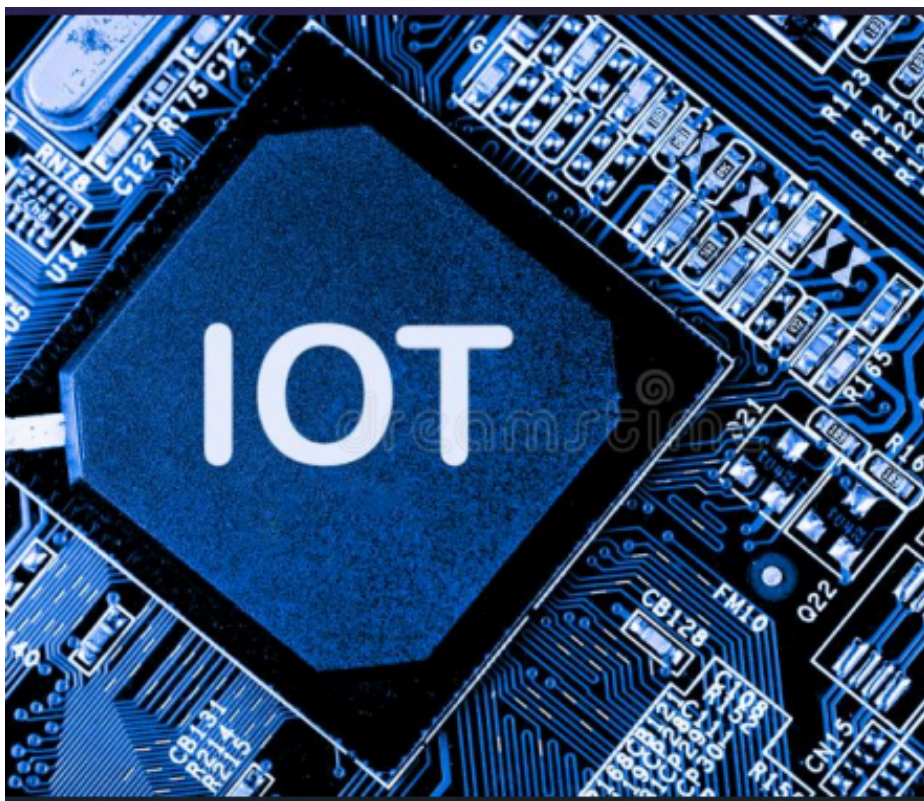
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Founder President  
(1918-2001)

Estd. 1994

## INTERFACE



# InterfACE NewsLetter

## "There's Nothing called giving up!"

### VISION OF THE INSTITUTION

To become a Centre of Excellence in Technical Education  
and Research in producing Competent  
and Ethical professionals to the society

### MISSION OF THE INSTITUTION

To impact value and need based curriculum to the  
students with enriched skill development in the field of  
Engineering, Technology, Management and  
Entrepreneurship and to nurture their character with  
social concern and to pursue their career in the area of  
Research and Industry

# DepartmentOf Computer Science and Engineering

## VISION OF THE DEPARTMENT

To be a competent Professional in the field of Computer Science & Engineering through quality education, training and innovative research

## MISSION OF THE DEPARTMENT

- ▶ Imparting proficient education through quality teaching – learning process in tune with the interdisciplinary needs of global work environment.
- ▶ Inculcating the attitude of continuous learning through industry institution interaction, consultancy and research activities.
- ▶ Cultivating professionalism, Ethics and integrity of character for positive contributions to society.

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## Principal's Message

As students are the members of the progressive society, the teachers shall not fight today's battle with yesterday's weapon, but they must prepare them to face all the eventualities of life. Thus teachers are the architects of a country. Consequently, the true education should deepen our insight, widen our horizon and create a meaningful outlook. Fortunately, the students are born in a free nation, with all the facilities to shape their careers in such a way, that they should be a part of good and healthy society with progressive attitude towards divinity.

## HOD's Message

My appeal to all my dear students is to attend all the classes, make use of the libraries extensively and read text books regularly and take part in technical paper presentations and seminars and undergo training in various, skill sets, so that, they will not face difficult times in their professional careers, since they will be mostly on standalone mode. In this respect, I humbly request the parents and guardians to show more interest in their wards day to day activities and overall performance. Parents are also requested to attend the parents association meeting held by the college

## Editor's Words

Dear Students,

A warm welcome to the latest issue of our Departments Newsletter INTERFACE for the year 2020-2021.The objectives of the Newsletter are: -To recognize the achievements of students and faculty of our department. -The showcase the works and talents of our students and faculty. I congratulate all my team for their constant efforts in bringing out this Newsletter, We are grateful to the Management, EO, and Our Principal for the constant support.

## Editing Team

### EDITOR IN-CHIEF

Dr. P.R. Vijayalakshmi (Professor and Head)

### EDITORS

Dr. S. Miruna Joe Amali (Professor)

Dr. R. Lakshmi (ASP/CSE)

Dr. P. Prem Kumar(ASP/CSE)

Mrs.S.Venkatalakshmi(AP/CSE)

### STUDENT INCHARGE

Mr. Jivithesh Harshaa .R.D , 1st yr, CSE

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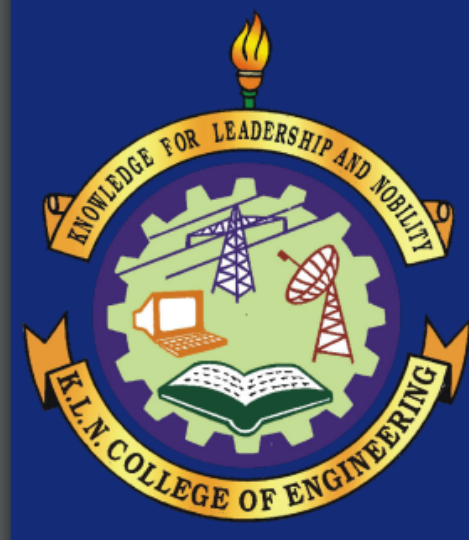
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## About Our Department

Computer Science is taking over the world by storm. Computer Science and Engineering as a branch caters to all the needs of the fast paced world of technology. Computer Science and Engineering demands a blend of creative and technical skills. Computer Science and Engineering graduates are widely employed in the software industries throughout the world. Taking this in mind, the department is always committed in creating the engineers that the future demands



## Program Educational Objectives(PEO's)

- PEO I: Contribute effectively to the society by applying principles of computer science and engineering for analyzing the real world problems to produce Optimal and acceptable technical solutions.
- PEO II: Sustain as good professionals by pursuing career / advanced studies and practice innovation in emerging technologies through lifelong learning.
- PEO III: Build professionalism, team work, effective communication, ethical values and leadership qualities

## Program Specific Outcomes (PSO's)

- PSO 1: Ability to apply good analytical, design and implementation skills to formulate and solve scientific and business applications pertaining to Algorithms, Computer Systems, Networks, Security, Data Analytics and Artificial Intelligence.
- PSO 2: Ability to update knowledge continuously in the tools like Rational Rose, MS VISIO, NS, VMware workstation, Mobile Application Development tools and technologies like storage, Computing, communication to meet the industry requirements.

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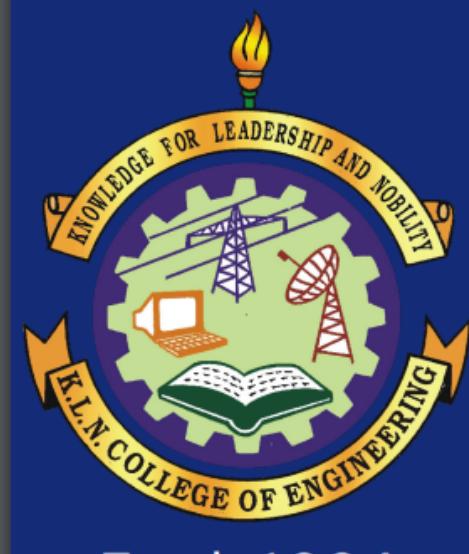
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## Salient Features of the Department

### 1. General

- Started offering B.E. in Computer Science and Engineering in the year 1997 with an intake of 40 (No - 730-52-227(E)/ET/97, dated 29th August, 1997, AICTE) with the latest intake of 120 in 2022 (F.No. Southern/1-10975962064 dated 07-July 2022).
- Accredited in May 2007 (First time - F.No.NBA/ACCR-242'2003, dated 22 nd May 2007) and Re-accredited (Second time - F.No.33-01/2010-NBA, dated 14 th Aug.2013) by National Board of Accreditation, New Delhi.
- Accredited under Outcome Based Education in February 2017 (F.No.33-01/2010-NBA, dated 04th Feb.2017) and Re-accredited (Compliance - F.No.33-01/2010-NBA, dated 22-03-2019) by National Board of Accreditation, New Delhi.

### 2. Infrastructure

- Programming and Data Structures Laboratory, Advanced Computing Laboratory, Software Development and Simulation Laboratory, Project Laboratory, Research Laboratory are equipped with systems, software, internet with Wi-Fi facilities.
- Latest software on Web Technology, Operating System, Computer Graphics, System Software, Internet Programming, Cloud Computing are available to study, solve, design, code, implement and test the software problems to experience the real time results.
- All the class rooms are equipped with computer systems and LCD to promote the Teaching – Learning Process more effectively.
- Separate library facility for CSE students with 2287 books and volumes for core subjects and hard copies of IEEE Journals and magazines is available for reference. Staff and student can access the softcopy of Journals, Proceedings published by IEEE, ASME, Mc Graw Hill.
- All the laboratories are provided with sufficient computing facilities, printing facility with internet connection to encourage laboratory experiments.

### 3. Staff

- Teams of well qualified, and experienced faculties with cadre ratio as per AICTE, are guiding the students to attain the best educational objectives.
- Excellent research environment promotes the staff and students to participate, present and publish their research works in the National/ International Journals and National International Conferences.
- Facility and experienced faculty available for guiding Ph.D. Scholars.
- Faculty Development Programme / Workshop / Seminar are organized regularly to share the knowledge of our experienced faculty with parent institution and other colleges' staff and students and Industry persons.

### 4. Staff with Ph.D

S.No	Name	Faculty	Specialization
1.	Dr. P.R. Vijayalakshmi	Information and Communication Engineering	Network Security
2.	Dr. S. Miruna Joe Amali		Optimization Techniques
3.	Dr.R.Lakshmi		Text Mining, Information Retrieval
4.	Dr. T. R. Vedhavathy		Manet
5.	Dr. P.Premkumar		Cloud Computing

## 5. Research Activities

- The Research work, Industrial Projects and Patentable Projects related activities are carried out in the exclusive Research Laboratory in areas like wireless networks, Optimization algorithms, network security and big data analytics and data mining.
- In order to discuss about the latest trends and research issues, the department conducts at least one faculty development programme per semester. Senior faculty members are regularly sending their proposal to Government funding agencies for organizing workshop, Seminar, Conferences and research.
- In order to get practice in the latest tools and systems, department actively works in association with Infosys, Honeywell and ICT Academy.
- Staff members are regularly attending seminars, workshops, conferences and competitions in order to develop their skills according to the latest developments and requirements.

## 6. Students

- High caliber students are identified and encouraged to pursue higher studies. Alumni are now working in reputed institutions.
- Students secured several University Ranks including Gold Medal in 2013 (UG-CSE) among 8500 students studied in 540 Engineering colleges all over Tamil Nadu.
- CSI and ISTE student's chapter are continuously conducting number of student technical programmes. Guest lecture from industries have been arranged periodically to promote industry - institute interaction and to bridge the gap between curriculum and latest trend in industry.
- To promote innovation, latest trends in industry and employability skills, student's professional activities are conducted every year in the name of symposium and conferences.
- Workshop/Seminar is regularly conducted for students to meet out the curriculum objectives.

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- Implant trainings are arranged for second and third year students to have hands on training in industry. Industrial visits are arranged every semester to know about the latest development process in Industry.
- Placement oriented training programme are conducted every semester right from the first year to develop soft skills, attitude, aptitude, self confidence, communication skills, interview skills, etc. so as to face the campus placement programme organized by the college. Professional Trainers from software companies, Bangalore, Chennai are being invited for such training programme.
- Various reputed certificate program like Infosys Foundation Program, IBM Certifications, HP academic program certifications, Oracle certifications, EMC storage certification, java certification, Dot net certifications are conducted.
- Students are encouraged to participate in various mini projects as well as project competitions to display their talents and develop project knowledge along with product development.
- Students are guided to involve in consultancy projects in order to get exposure about the industry requirements.



## Articles

### Data Science

#### What is Data Science?

Data science is a multidisciplinary field that uses statistical, machine learning, and analytical methods to extract knowledge and insights from data. Data scientists use a variety of tools and techniques to collect, clean, analyze, and visualize data. They then use this information to solve business problems, make predictions, and improve decision-making.

#### Why is Data Science Important?

Data science is becoming increasingly important in the modern world. As more and more data is being generated, businesses and organizations are looking for ways to make sense of it. Data scientists can help businesses to understand their customers, optimize their operations, and make better decisions.

What are the Different Branches of Data Science?

**There are many different branches of data science, each with its own focus. Some of the most common branches include:**

- **Machine learning:** Machine learning is a type of artificial intelligence that allows computers to learn without being explicitly programmed. Machine learning algorithms are used to analyze data and make predictions.
- **Natural language processing:** Natural language processing (NLP) is the field of computer science that deals with the interaction between computers and human (natural) languages. NLP algorithms are used to understand and process human language.

- **Big data:** Big data is a term used to describe the large and complex datasets that are being generated today. Big data analytics is the process of analyzing big data to extract insights and patterns.
- **Data visualization:** Data visualization is the process of transforming data into graphical representations that are easy to understand and interpret. Data visualization can be used to communicate insights from data to stakeholders.

### **What are the Skills Needed for a Career in Data Science?**

A career in data science requires a combination of skills in mathematics, statistics, programming, and machine learning. Data scientists also need to have strong problem-solving and communication skills.

### **What are the Job Prospects for Data Scientists?**

The job prospects for data scientists are very good. The demand for data scientists is growing rapidly, and there are not enough qualified people to fill the jobs. Data scientists can find jobs in a variety of industries, including healthcare, finance, retail, and technology.

by  
Sneha Prakash Patil.P  
CSE-C

## Big data

- **Big data** primarily refers to data sets that are too large or complex to be dealt with by traditional data-processing application software. Data with many entries (rows) offer greater statistical power, while data with higher complexity (more attributes or columns) may lead to a higher false discovery rate. Though used sometimes loosely partly because of a lack of formal definition, the interpretation that seems to best describe big data is the one associated with a large body of information that we could not comprehend when used only in smaller amounts.
- Big data analysis challenges include capturing data, data storage, data analysis, search, sharing, transfer, visualization, querying, updating, information privacy, and data source. Big data was originally associated with three key concepts: volume, variety, and velocity. The analysis of big data presents challenges in sampling, and thus previously allowing for only observations and sampling. Thus a fourth concept, veracity, refers to the quality or insightfulness of the data. Without sufficient investment in expertise for big data veracity, then the volume and variety of data can produce costs and risks that exceed an organization's capacity to create and capture value from big data

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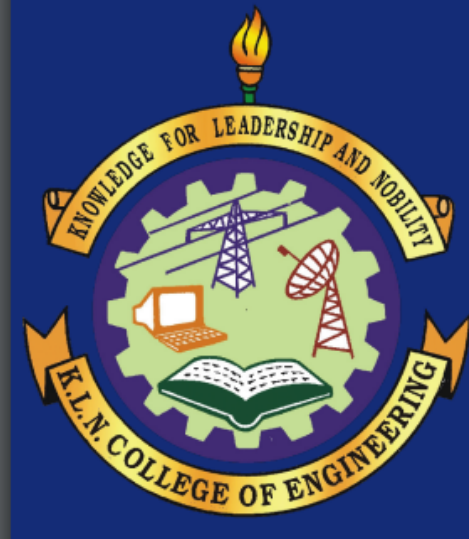
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- The term *big data* has been in use since the 1990s, with some giving credit to John Mashey for popularizing the term. Big data usually includes data sets with sizes beyond the ability of commonly used software tools to capture, curate, manage, and process data within a tolerable elapsed time. Big data philosophy encompasses unstructured, semi-structured and structured data; however, the main focus is on unstructured data. Big data "size" is a constantly moving target; as of 2012 ranging from a few dozen terabytes to many zettabytes of data. Big data requires a set of techniques and technologies with new forms of integration to reveal insights from data-sets that are diverse, complex, and of a massive scale

## BIG DATA



by

Shalini M

CSE-C

## Cloud computing

**Cloud computing** is the on-demand availability of computer system resources, especially data storage (cloud storage) and computing power, without direct active management by the user. Large clouds often have functions distributed over multiple | locations, each of which is a data center. Cloud computing relies on sharing of resources to achieve coherence and typically uses a pay-as-you-go model, which can help in reducing capital expenses but may also lead to unexpected operating expenses for users.

### Platform as a service (PaaS)

The definition of cloud computing defines Platform as a Service as:

The capability provided to the consumer is to deploy onto the cloud infrastructure consumer-created or acquired applications created using programming languages, libraries, services, and tools supported by the provider. The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, or storage, but has control over the deployed applications and possibly configuration settings for the application-hosting environment.

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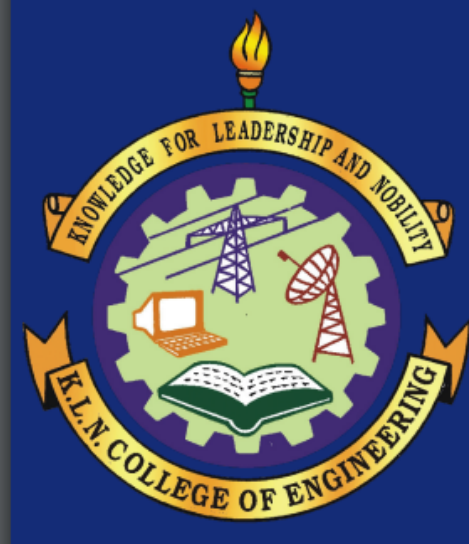
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## Software as a service (SaaS)

In the software as a service (SaaS) model, users gain access to application software and databases. Cloud providers manage the infrastructure and platforms that run the applications. SaaS is sometimes referred to as "on-demand software" and is usually priced on a pay-per-use basis or using a subscription fee. In the SaaS model, cloud providers install and operate application software in the cloud and cloud users access the software from cloud clients. Cloud users do not manage the cloud infrastructure and platform where the application runs. This eliminates the need to install and run the application on the cloud user's own computers, which simplifies maintenance and support. Cloud applications differ from other applications in their scalability—which can be achieved by cloning tasks onto multiple virtual machines at run-time to meet changing work demand.[45] Load balancers distribute the work over the set of virtual machines. This process is transparent to the cloud user, who sees only a single access-point. To accommodate a large number of cloud users, cloud applications can be multitenant, meaning that any machine may serve more than one cloud-user organization.

by

Soundarya P G  
CSE-C

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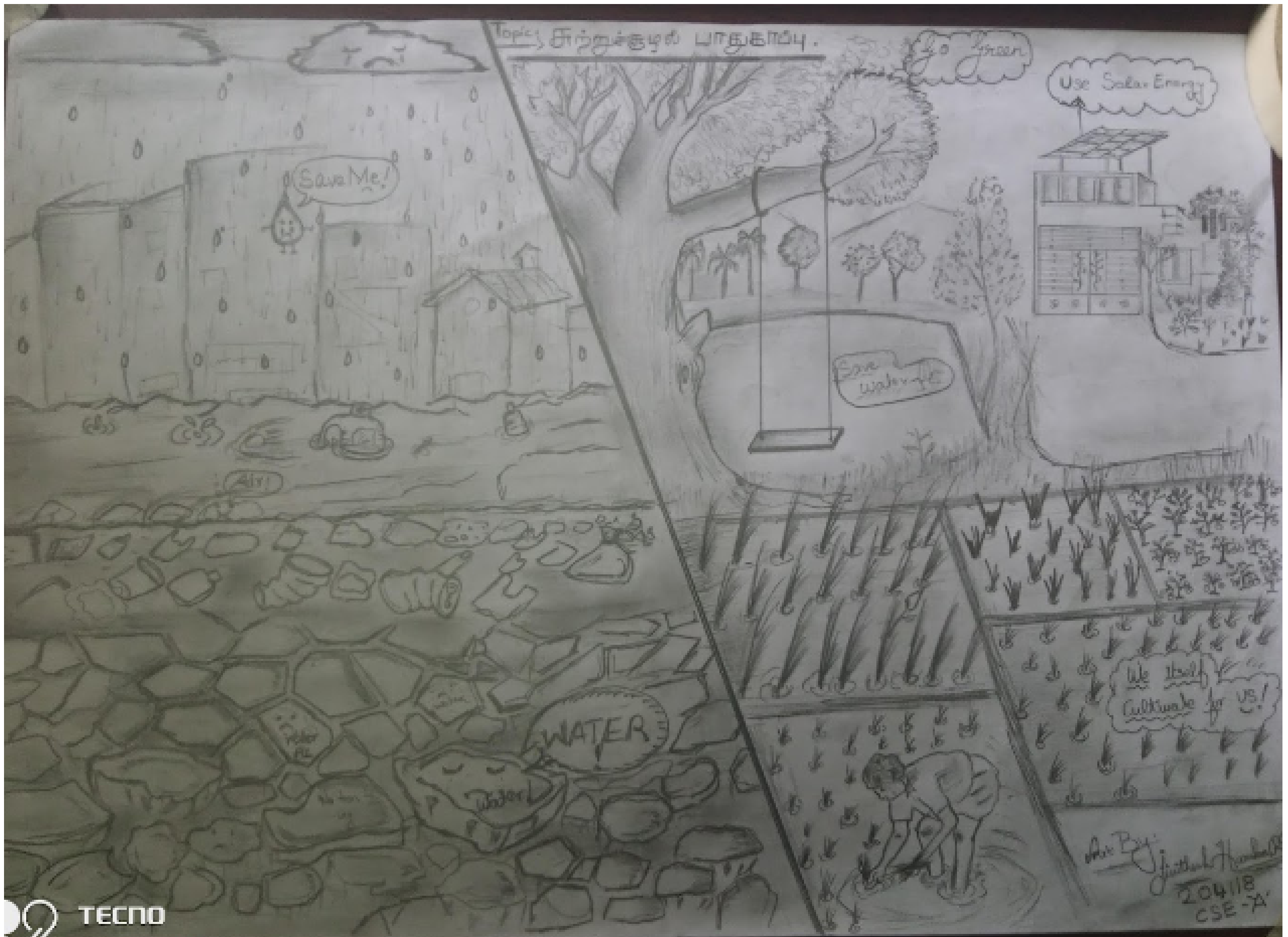


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## Pencil sketch

### Topic: Save environment



by

Jivithesh Harshaa .R.D

CSE-A