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# கே.எல்.என் பொறியியல் கல்லூரி 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)  
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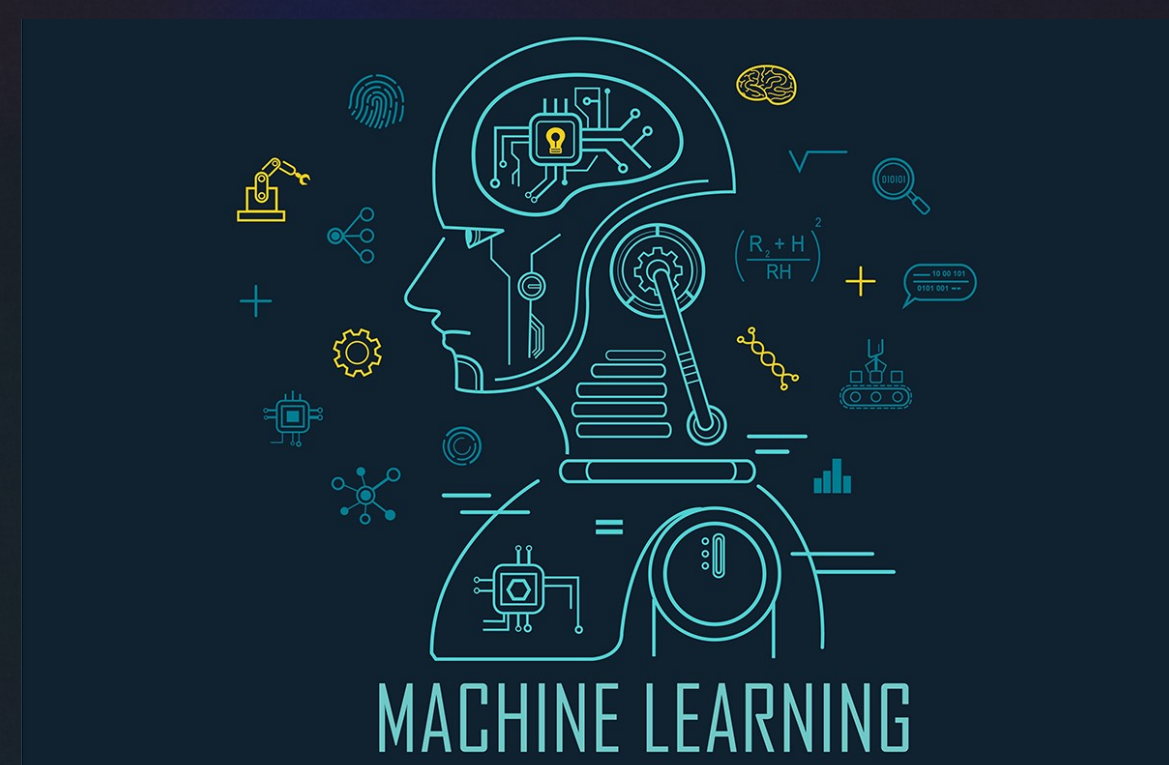
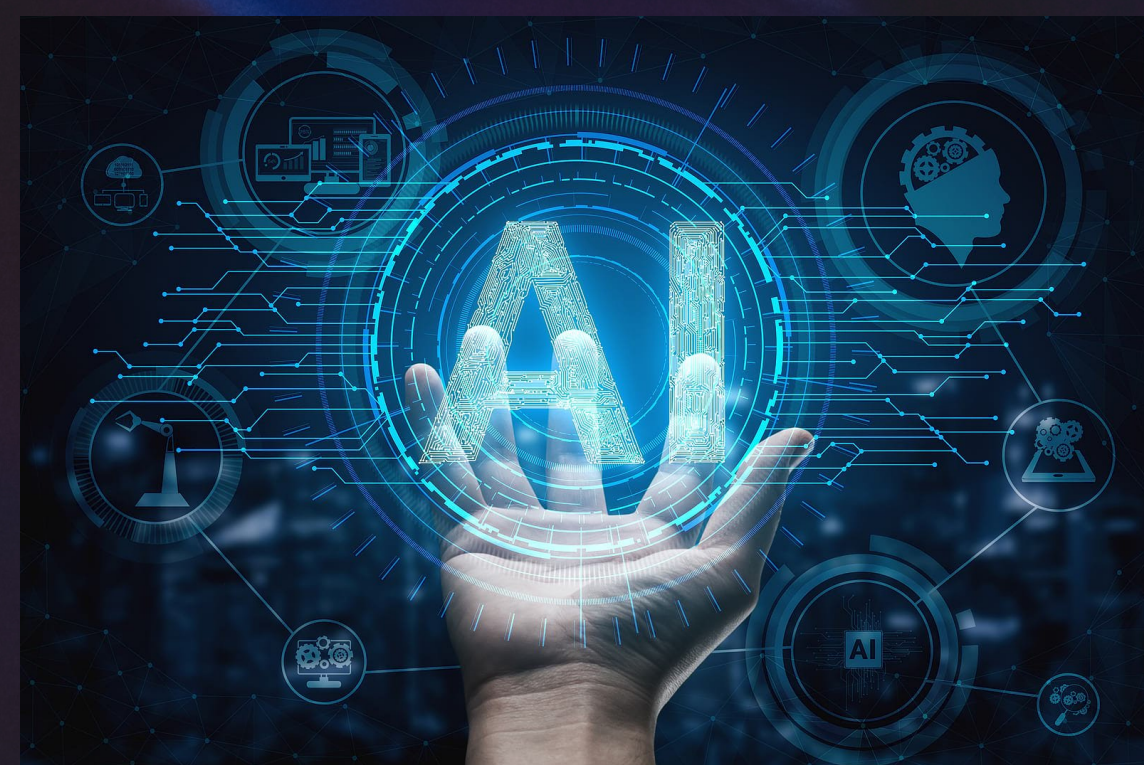
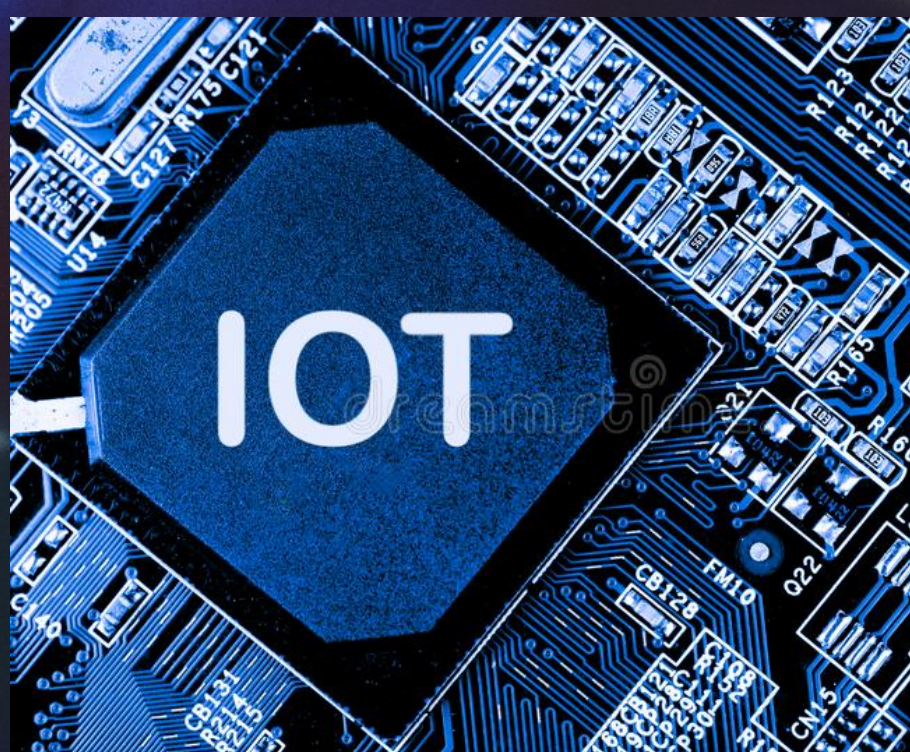
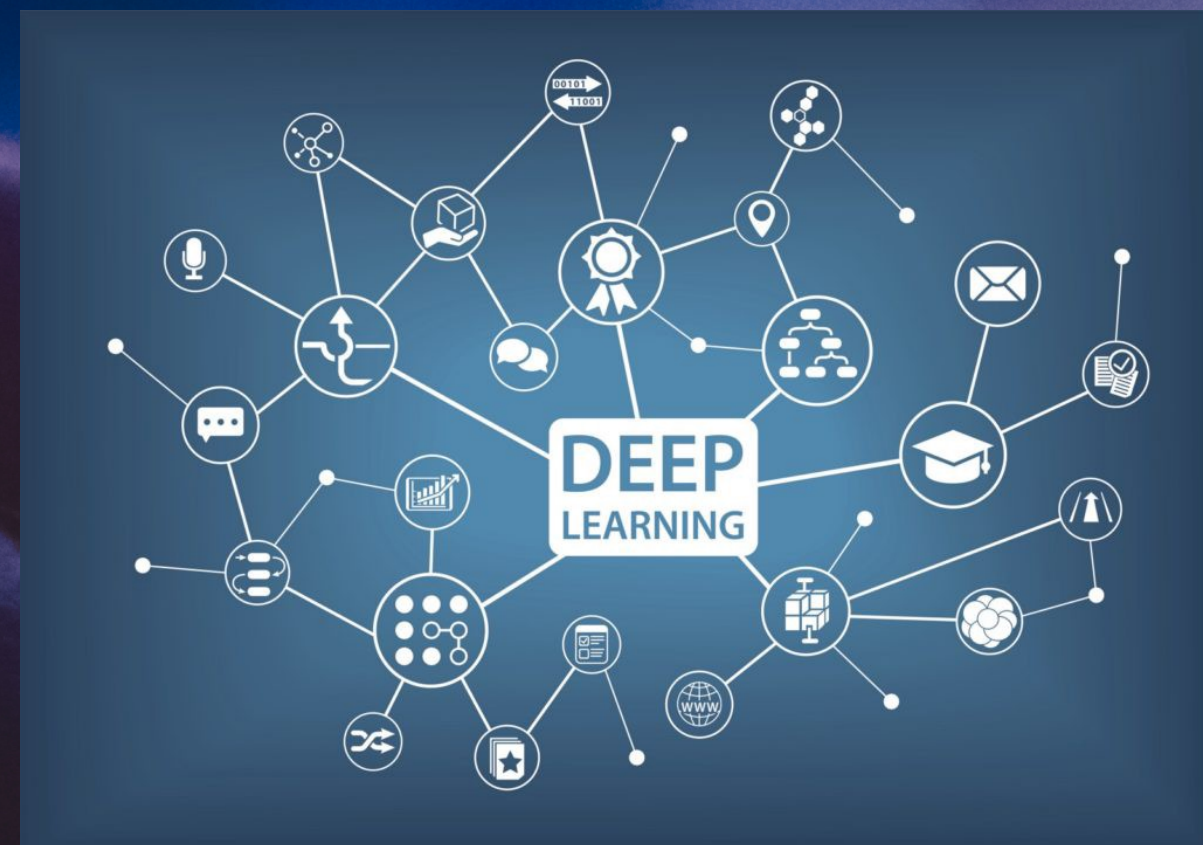
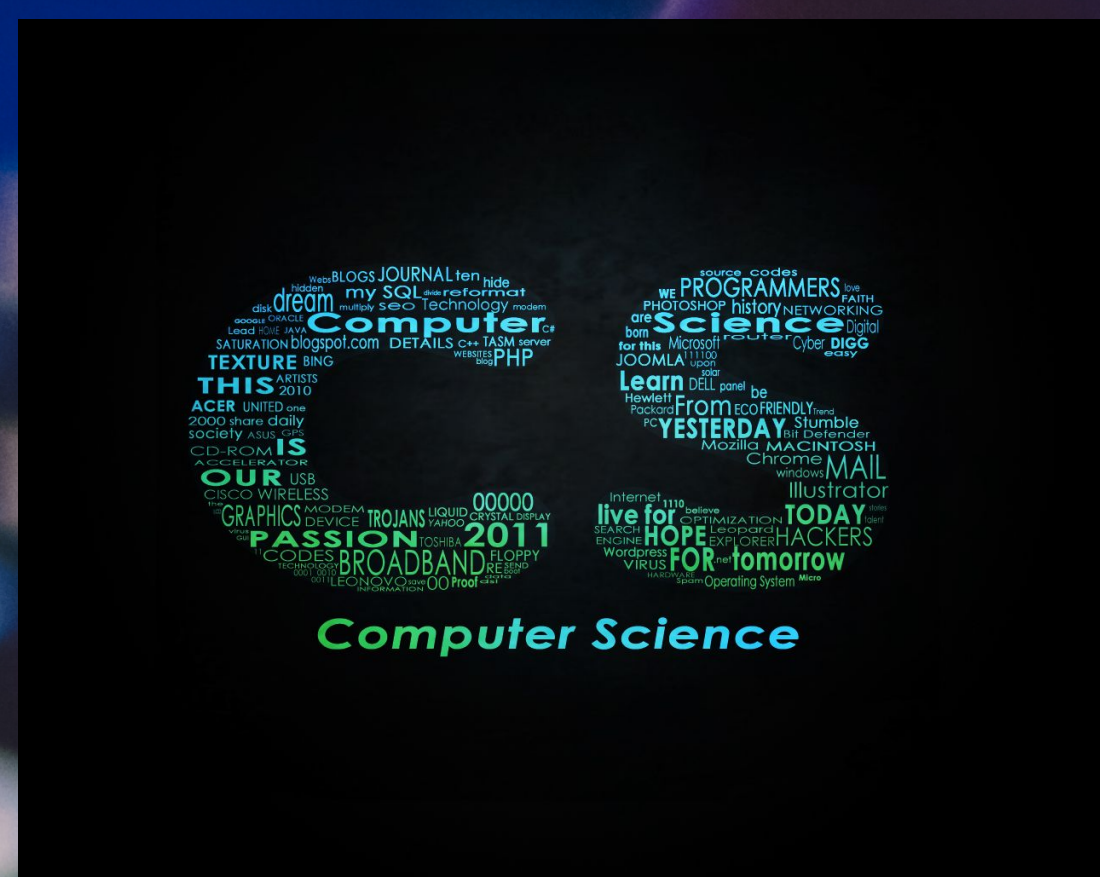


Amarar  
Shri K.L.N. KRISHNAN



Founder President  
(1918-2001)

## INTERFACE







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## **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



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## **DEPARTMENT OF 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





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## EDITOR'S WORDS

Dear Students,

A warm welcome to the latest issue of our Departments Newsletter INTERFACE for the year 2021-22.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. S. Mohamed Faiz , 3rd yr, CSE





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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.







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## **PROGRAMME 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

## **PROGRAMME 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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## 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.P.Premkumar		Cloud Computing
5.	Dr.S.Subashini		Data Mining





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## 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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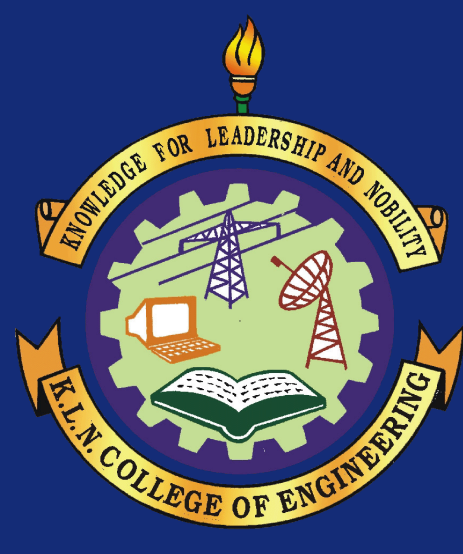
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- Implant trainings are arranged for second and third year students to have hands on training in industry. Industrial visits are arranged every semester to know about the latest development process in Industry.
- Placement oriented training programme 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.





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## Articles

### CRYPTOCURRENCY

#### What is Cryptocurrency?

A cryptocurrency is a digital or virtual currency that is secured by cryptography, which makes it nearly impossible to counterfeit or double-spend. Many cryptocurrencies are decentralized networks based on blockchain technology—a distributed ledger enforced by a disparate network of computers.

#### Some types of Cryptocurrency

- **Bitcoin (BTC)**

Bitcoin is regarded as the first decentralized cryptocurrency using blockchain technology to facilitate payments and digital transactions.

- **Ethereum (ETH)**

Ethereum is a platform that uses blockchain technology to enable the creation of smart contracts and other decentralized applications.

- **Dogecoin (DOGE)**

Dogecoin (DOGE) was created as a lighthearted alternative to traditional cryptocurrencies like Bitcoin in 2013.

- **Shiba Inu (SHIB)**

SHIB is a token designed to be an Ethereum-compatible alternative to Dogecoin (DOGE). The Shiba Inu ecosystem also supports projects such as an NFT art incubator and a decentralized exchange called Shibaswap.





## Difference between Coins and Tokens

Coins	Tokens
A Coin is a digital currency similar to the physical currency	A Token is a digital asset issued on a particular project
Coin operates on its own blockchain with its own protocol	Token does not operate on their own blockchain
Coins are purely used as a source of payments	Tokens are used for payments and signing digital agreements
For e.g. Ripple and Ethereum	For e.g. BON and DAO token

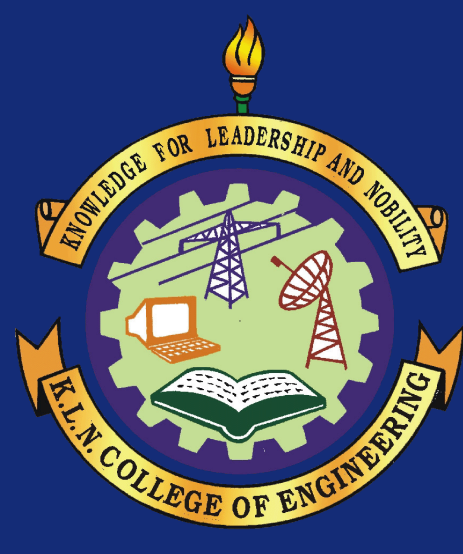
## Crypto Trading

- Cryptocurrency trading is a new, and growing, feature of the crypto world.
- Trading is separate from crypto’s use as a monetary system.
- Instead, users buy and sell cryptocurrencies as they would buy and sell shares of a company.
- Purchasing stock grants gives you ownership in a company, whereas purchasing a token grants you ownership of that cryptocurrency.

## How Users Increase Crypto Value ?

- **Buy low, sell high**  
Using the classic investment strategy, users can increase the value of crypto by buying and holding coins. The buying increases demand and hence crypto value increases.
- **Mining**  
The act of mining Bitcoins or altcoins can be profitable. It also impacts the supply of cryptocurrencies.





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- **Increasing utility**

As more institutions invest in crypto and accept it as a form of payment, its utility increases. As a user, you can contribute to this process. This will increase the value of cryptocurrencies over the long term.

- **Media coverage**

Crypto prices fluctuate according to media coverage. Users can impact this through their social media accounts.

## **The demand for a cryptocurrency depends on many factors:**

- Demand will be increased based on how useful it is to own the coins.
- This means if the crypto monetary system works well , if smart contracts become more common place, and if more businesses start to accept crypto, the demand for crypto will increase.
- Additionally, there is an increased demand for cryptocurrencies as a store of value investment.

## **How Does Cryptocurrency Gain Value?**

Cryptocurrency can gain value on exchange platforms. It increases in value based on supply and demand.

The supply of a cryptocurrency depends on how many new coins are being mined and how many current owners want to sell their coins.

## **Advantages of investing in Cryptocurrency**

- The Transactions are internet-based and are recorded in a blockchain.
- The blockchain shows the transaction history for each unit.
- The digital assets are best visualized as virtual tokens.
- Its use as a monetary system is still crypto's most lucrative feature.
- Because cryptocurrencies are not controlled by any central authority, it has unique advantages. There are usually little to no processing fees.





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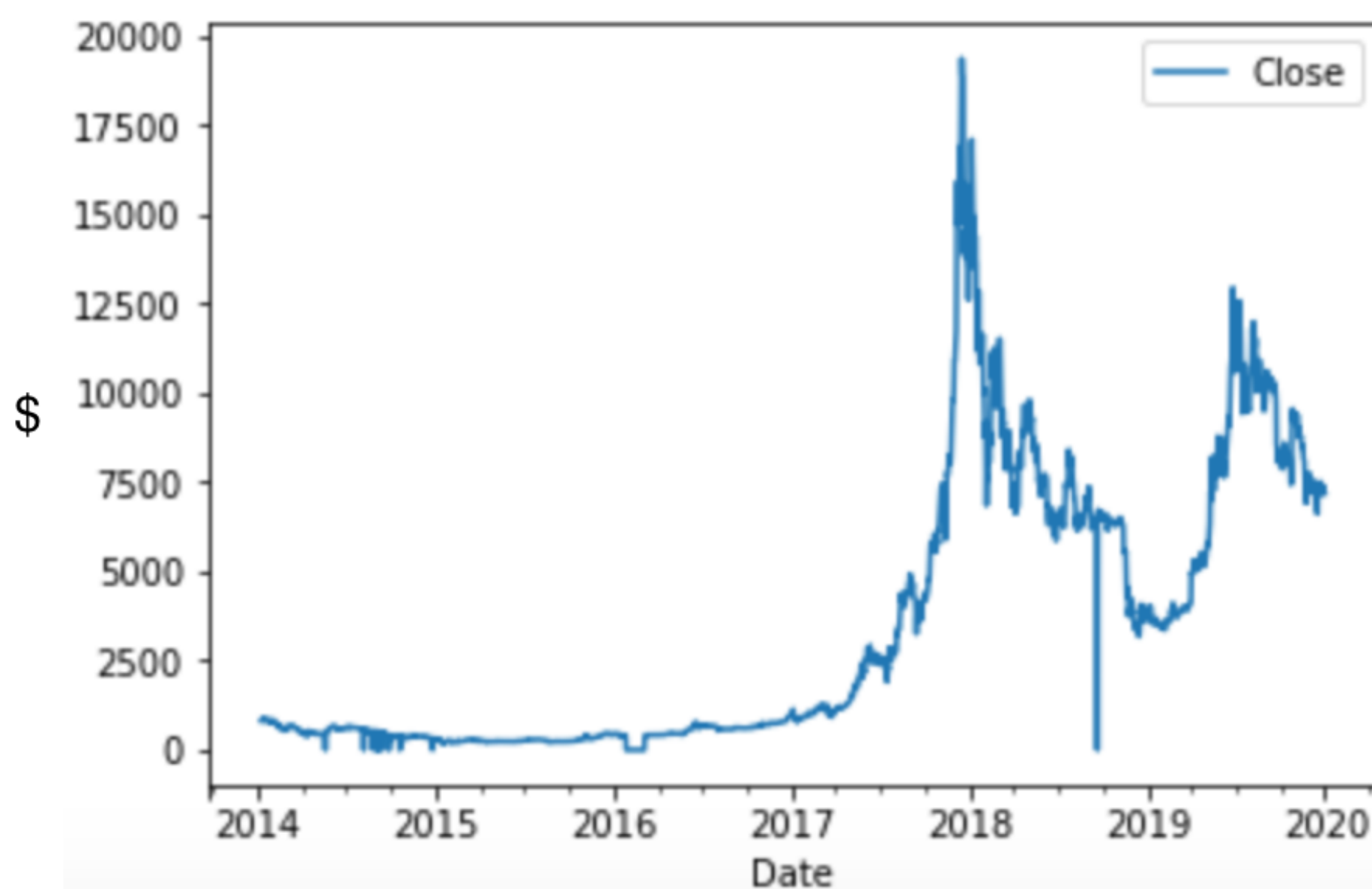


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(1918-2001)

## History of Bitcoin



By  
Mohamed Faiz S  
CSE-A, 3rd Year





Estd. 1994

# கே.எல்.என் பொறியியல் கல்லூரி K.L.N. COLLEGE OF ENGINEERING

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## NODE – RED TECHNOLOGY

Node-RED is a programming tool for wiring together hardware devices, APIs and online services in new and interesting ways. It provides a browser-based editor.

Since early 2014, the mobile has overtaken the personal computer (desktop/laptop) as the leading device used to navigate the Net. Along with the mobile, a number of other portable devices that connect to the Internet have also started proliferating at a very quick rate. Nowadays, most of us carry or possess at least one Internet-based device and mobile. So, the Internet of Things (IoT) now doesn't only mean different 'things', but has evolved into 'intelligent things' which have onboard computation and network connections. Most importantly, they have the capability to sense the environment around us and, accordingly, act intelligently. These devices are now referred to as connected devices, smart objects or the Web of Things.

This adaptation of technology has led to many developments in the visual programming and visual coding arenas. As a result, it has evolved into a visual programming/coding tool based on the already popular Node.js (a server side Java Scripting platform), mainly targeting the Internet of Things space.

Node-RED enables users to stitch together Web services and hardware by replacing common low-level coding tasks (like a simple service talking to a serial port), and this can be done with a visual drag-drop interface. Various components in Node-RED are connected together to create a flow. Most of the code needed is created automatically.

## Features of Node-RED

The major features of Node-RED are listed below.

- It supports browser-based flow editing.
- As it is built on Node.js, it supports a lightweight runtime environment along with the event driven and non-blocking model.
- The various flows created in Node-RED are stored using JSON, which can be easily imported and exported for sharing with others.



### Node-RED projects

Name	Description
Node-RED	A visual tool for wiring the Internet of Things
Node-RED Dashboard	A dashboard UI for Node-RED
Node generator	Command line tool to generate Node-RED node modules from several various sources, including Open API document and function node's source.
Node-RED Command Line Tool	Command-line tool allows you to remotely administer a Node-RED instance.

### Node-RED architecture

Some of the key aspects of Node-RED architecture are listed below:

- Node-RED (latest version 0.16) is fast because it is driven by the latest supported version of Node.js (LTS 6.x, 6.x).
- Asynchronous io and event-driven architecture.
- Single-threaded event queue, which supports simplicity.
- Single language support for JavaScript (both from front-end and back-end).
- Complete architecture has been built using express, d3, jquery and ws.





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## Where can Node-RED be used?

Node-RED can be used in a range of applications. The major ones are listed below.

- 1) In Bluemix, for connecting to IoT (with ReST and MQTT).
- 2) For binding and connecting to databases (MongoDB).
- 3) For storing IoT data for present and future computation.
- 4) For social media, when taking action and when event driven applications are needed (like Twitter).

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## ESSENCE OF MACHINE LEARNING IN DATA ANALYTICS

### INTRODUCTION:

Machine Learning is the practice of using algorithms to extract data, learn from it, and then forecast future trends for that topic. Traditional machine learning software is statistical analysis and predictive analysis that is used to spot patterns and catch hidden insights based on perceived data.

A data analyst is usually the person who can do basic descriptive statistics, visualize data, and communicate data points for conclusions. They must have a basic understanding of statistics, a perfect sense of databases, the ability to create new views, and the perception to visualize the data.

Machine Learning and Data Analytics are growing at an astronomical rate and companies are now looking for professionals who can sift through the goldmine of data and help them drive swift business decisions efficiently.

Machine Learning and Data Analytics can be different domain but how they related to each other lets see!







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## Data analytics with ML:

ML along with Data Analytics can be termed as Machine Learning Analytics. It is completely a different process. These algorithms operate without human bias or time constraints, computing every data combination to understand the data holistically. Further, Machine-learning analytics understands boundaries of important information.

Practically, Machine Learning techniques are;

- **Clustering:** The machine determines commonalities between different data to understand how certain things, like customers, are alike. These customers can be grouped together in ways that may not be immediately apparent or intuitive to a person performing the same exercise.
- **Elasticity:** The machine determines causes behind results. If many factors are changing simultaneously, how do you determine which factor is credited with which outcome? This technique tells employees that an increase in household income resulted in boosted sales, rather than product promotions, for example.
- **Natural language:** The machine maps phrases like “sales” to their coding language counterparts. In this way, business people don’t have to understand R or Python to perform deep analysis. They can simply ask everyday questions like “what were sales in ?” and the machine translates those words. With these techniques, machine-learning analytics determines the drivers beneath the data and the opportunities to grow the most.

This data is a goldmine for businesses as it can inform the decision-making process, assist with targeting customers and prospects, and deepen the level of analysis that can be performed.





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However, as the amount of data grows, so too do the challenges with harnessing its power:

- The roles and functions that make data-driven decisions are often removed from the data itself.
- The data itself is more complex. Businesses need to invest resources into data cleaning, structuring, and maintenance to ensure that data pipelines are supported properly.
- The value of data is becoming more apparent. As more businesses invest in syndicated data sources, how do businesses gain a competitive advantage, especially when competitors are accessing the same data?



## Key consideration of Data Analytics and Machine Learning:

Machine learning is new in most industries, and its benefits aren't necessarily obvious to employees who haven't been exposed to the larger conversation. This is especially true when employees are concerned about being replaced by automation.

A good implementation strategy is key.





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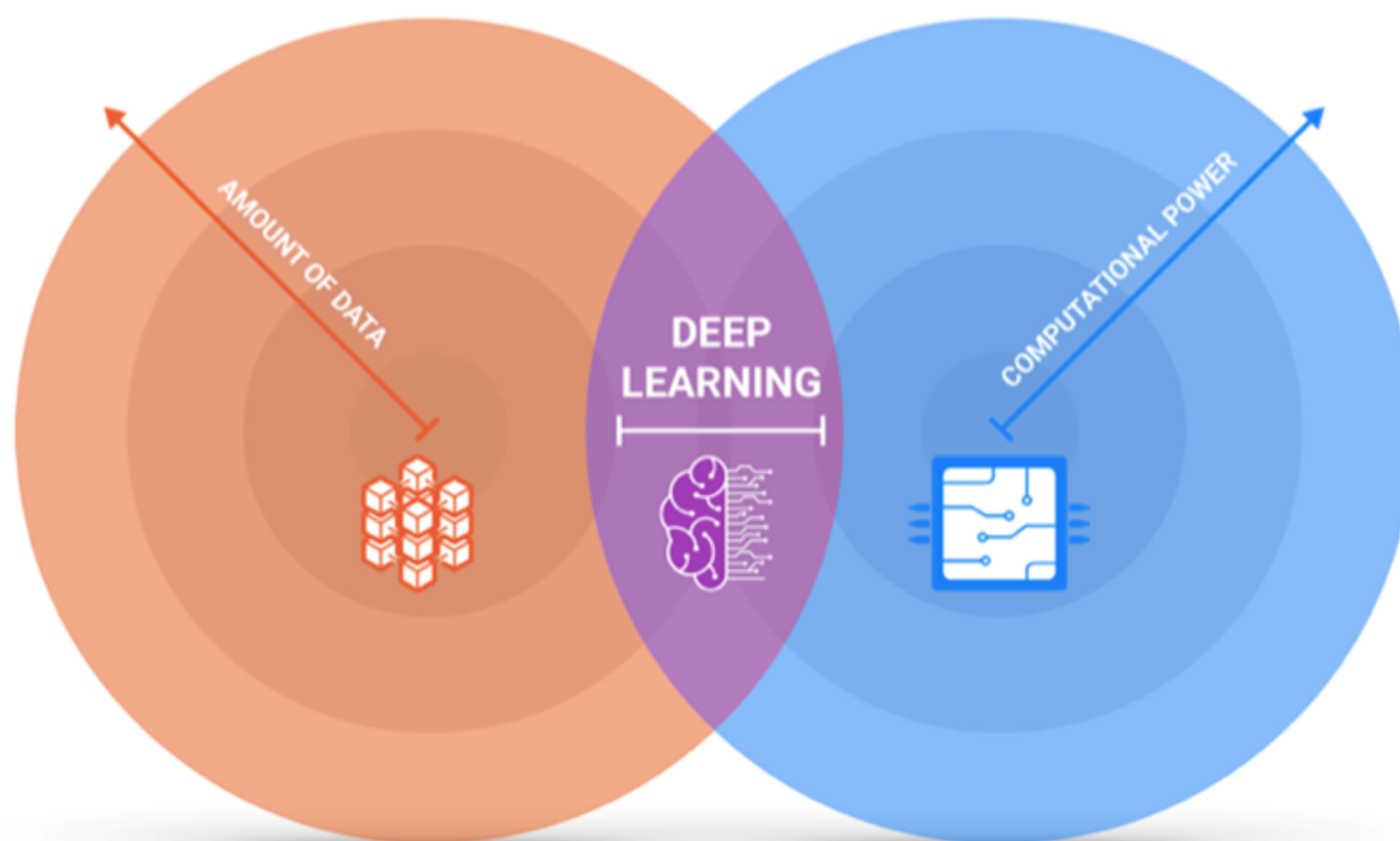
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## This strategy should be driven by:

- Specific business outcomes that clarify what machine learning analytics will accomplish and automate.
- Alignment between tech and business teams, so that both parties understand the benefits of workforce augmentation.
- Accurate data, supported by system maintenance and AI expertise



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## POETRY

### அம்மா!!

ஆயிரம் விடுமுறை  
வந்தாலும் அவள்  
அலுவலகத்திற்கு மட்டும்  
விடுமுறையில்லை  
அம்மா சமயலறை.

வயது வித்தியாசம்  
பார்ப்பதில்லை  
அம்மாவின் கொஞ்சலில்  
மட்டும் இன்னும்  
குழந்தையாக.

வலி நிறைந்தது  
என்பதற்காக  
யாரும் விட்டு  
விடுவதில்லை  
தாய்மை.

நான் முதல் முறை  
பார்த்த பெண்ணின்  
அழகிய முக தரிசனம்  
என் அம்மா.

கடல் நீரை  
கடன் வாங்கி  
என் கண் கொண்டு அழுதாலும்  
நான் சொல்லும் நன்றி  
உனக்கு ஈடாகுமா.

தாய் மடியை காட்டிலும்  
ஒரு சிறந்த தலையணை  
இந்த உலகில் வேறு  
எதுவும் இல்லை.





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வெறும் எழுத்துக்கள்  
ஆயின என் கவிதைகள்  
ஒரு சொல்லின் முன்பு  
அம்மா!

ஒரு உயிர்  
மற்றொரு உயிரை சுமப்பது  
பார்ப்பவர்க்கு பாரமாக இருந்தாலும்  
சுமப்பவளுக்கோ அது வரம் தான்!

உன் அருகில் இருக்கும் போதே  
அள்ளிக்கொள்!  
தொலைந்து போன பின்  
தேடினாலும் கிடைக்காத  
அன்பின் பொக்கிஷம்.  
"அம்மா"

மழையில் நனைந்த என்னை  
முந்தானையில் அனைத்து  
பாசத்தோடு தலை துவட்டும் போது  
அந்த மழையும் பொறாமை  
கொள்ளும் தாயே!

உன் அருகில் இருக்கும் போதே  
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தொலைந்து போன பின்  
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அன்பின் பொக்கிஷம். "அம்மா"



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