

From

**LOGESWARIN-ET13EC02**  
Associate Professor  
Department of ECE,  
Sri Sairam Engineering College,  
Chennai 600044

To

**THE PRINCIPAL**  
Sri Sairam Engineering College,  
Chennai 600044.

Yes.  
5/11/24

Submitted Through  
**The Head of The Department**  
Department of ECE

Respected Sir,  
Sub: Requesting Permission to conduct Guest Lecture for Final year students- Reg

It is planned to conduct a Guest Lecture for the Final Year students related to the Course code **20CSPC601- ARTIFICIAL INTELLIGENCE**. Ms.Jeyashri.R- AI/ML Engineer,PRODAPT has kindly accepted to take over the session. In this regard permission may kindly be given to conduct a Guest lecture in the topic "Natural Language Processing - Its Application in Industry" on 26.10.2024. (09.11.2024)

Thanking You,

Yours Sincerely,

Logeswarin

Place:Chennai-44  
Date:21.10.2024

Submitted to Principal,

Permission shall be granted to conduct the Guest Lecture.  
22/10/24.



Event ID : SEC202411DEC13

Department of Electronics and Communication Engineering

**GUEST LECTURE ON**

# NATURAL LANGUAGE PROCESSING ITS INDUSTRIAL APPLICATIONS



GUEST LECTURER

Ms. R Jeyashri (2018 - 2022)

AI/ML Engineer, Hexaware Technologies



Google Meet



10:30 am



09/11/2024

Ms. N. Logeswari, Dr. J Thamilselvi  
Ms Subhashini K  
Ms. M Shabana Parveen  
Faculty Coordinators

Dr. J. Thamilselvi  
HOD - ECE

Dr. J Raja  
Principal, Sri Sairam Engineering College

Dr. Sai Prakash Leo Muthu  
Chairman & CEO  
Sairam Institutions



<b>Title of the Event:</b>	<b>NATURAL LANGUAGE PROCESSING - I INDUSTRIAL APPLICATIONS</b>
<b>Date of the Event :</b>	<b>09.11.2024</b>
<b>Name of the resource person with phone number</b>	<b>Ms.JEYASHRI.R 9498371914</b>
<b>Official address of the resource person</b>	<b>Hexaware Technologies Siruseri It Park</b>

## **REPORT ON**

# **NATURAL LANGUAGE PROCESSING - ITS INDUSTRIAL APPLICATIONS**

### **OBJECTIVE:**

The Department of Electronics and Communication Engineering with an academic vision of One Topic -One Lecture from the Curriculum conducts Guest Lectures. This enhances the students to explore out of the box through Guest Speakers being arranged from Industries and other Universities. Topics from their academic curriculum is disseminated on par with the industry needs with practical use cases.

In connection with this A Guest Lecture was planned for the Final year students for the course **20CSPC601-ARTIFICIAL INTELLIGENCE**. Permission was sought from the Head of the Institution through the Head of The Department for conducting the Guest Lecture to be conducted on 9<sup>th</sup> November 2024 between 10.00 am to 11.30 pm

Guest Speaker **Ms.Jeyashri.R,from Hexaware Technologies** kindly accepted to share her knowledge in the above topic of Artificial Intelligence.

One key Application of Artificial Intelligence is the Natural Language Processing and it was taken as the Topic for the Lecture.

The Lecture was arranged in Online mode through Google Meet. The meet was scheduled in Google calender with the following link.

# SEC202411DEC13-GUEST LECTURE -NLP- ITS INDUSTRIAL APPLICATIONS

Saturday, November 9 · 10:00 – 11:30am

Time zone: Asia/Kolkata

Google Meet joining info

Video call link: <https://meet.google.com/kwc-sbrw-ccr>

Or dial: (US) +1 252-820-1087 PIN: 639 434 156#




Event ID : SEC202411DEC13

Department of Electronics and Communication Engineering

**GUEST LECTURE ON**

**NATURAL LANGUAGE PROCESSING**

**ITS INDUSTRIAL APPLICATIONS**



GUEST LECTURER

Ms. R Jeyashri (2018 - 2022)

AI/ML Engineer, Hexaware Technologies

Google Meet

10:30 am




09/11/2024

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Chairman & CEO  
Sairam Institutions

## Presentation of Ms.Jeyashri on NLP -Its Industrial Applications.

Our Head of the Department Dr.J.Thamilselvi, The Creative Innovator of the Department,Dr.S.Sumathi,Talent Enabler Dr.K.Sumathi,Class Coordinators of A and D section Ms.Velvizhi.V.A.,Ms.Remya.V, Subject handling faculty

Ms.K.Subhashini ,Ms.M.Shabana Parveen,Students from A,B,C,D Sections joined the meeting.

The meeting was started with a short prayer, welcome address. Our HOD gave a special address thanking the Guest speaker for readily accepting our invitation.

A small introduction about the Guest Speaker was given by our student S.Ramakrishnan,IV ECE A section.





JEYASHRI R (Presenting)

## NLP – An Introduction

- Sub field of artificial Intelligence.
- Enables computers to understand, interpret, and generate human language.
- Plays a crucial role in making machines more intuitive and capable of interacting with humans in natural way.
- NLP automates tasks such as text classification, chatbots and voice assistants.
- Has 2 components – Natural Language Understanding & Natural Language Generation.
- Tools for NLP - NLTK, Spacy, Hugging Face & Transformers.
- NLP helps organizations to extract actionable insights from large volumes of unstructured text data, helping in data driven decisions.
- Supports multi-lingual communication & understanding.

10:47 AM | SEC202411DEC13-GUEST LECTURE -NLP- ITS...

JEYASHRI R (Presenting)

## Components of NLP

Natural Language Understanding	Natural Language Generation
Understand and interpret human language	Generate human-like text from structured data or prompts
Understanding intent, extracting meaning	Producing contextually appropriate text
Raw text input that needs to be processed (e.g., user queries)	Structured data that the model turns into text
Information or actions based on understanding (e.g., labels, entities, actions)	Human-readable text (e.g., responses, summaries, translations)
Intent recognition, sentiment analysis, NER, question answering, parsing	Text generation, summarization, machine translation, report writing
Chatbots, search engines, voice assistants, document classification	Content creation, chatbots, report generation, machine translation

10:48 AM | SEC202411DEC13-GUEST LECTURE -NLP- ITS...

She focussed mainly on LLM as it is the main application behind the existing Chatbot .

JEYASHRI R (Presenting)

## Large Language Models

- Type of AI model designed to understand, interact, process & generate human language.
- Built using DL techniques, particularly transformers - capable of handling & understanding text data.
- Trained with vast number of parameters (weights) - range from millions to billions.

Name of the LLM	Expansion	Developed By
GPT-3 / GPT-4	Generative Pretrained Transformer	OpenAI
BERT	Bidirectional Encoder Representations from Transformers	Google
T5	Text-to-Text Transfer Transformer	Google
PaLM	Pathways Language Model	Google
LaMDA		Google

10:52 AM | SEC202411DEC13-GUEST LECTURE -NLP- ITS...

JEYASHRI R (Presenting)

## Industrial Applications of NLP

Applications	Description	Examples
Text Analytics	Analyzing text data to extract useful insights. Helps businesses understand customer feedback.	Sentiment Analysis (positive, negative, or neutral), Entity Extraction (names, locations, dates)
Machine Translation	Translates text from one language to another using algorithms and neural networks.	Google Translate, DeepL
Information Retrieval Information	Searching & retrieving relevant information from a large database	Search Engines, Document Search
Conversational AI	Simulate human-like conversations through text or voice.	Chatbots, Virtual Assistants
Speech Recognition	Converts spoken language into written text.	Voice Assistants, Transcription Services
Text Generation	Generating contextually appropriate text based on input data.	GPT Models – Open AI

Stop sharing

64 others

JEYASHRI R (Presenting)

## Spacy Library for NLP Tasks

- Built for industrial-strength applications, as it is optimized for performance, scalability, and speed.
- Designed to process large volumes of text.
- Has pretrained models for several languages, used for tasks like tokenization, POS tagging and named entity recognition (NER).
- Supports word vectors using models like GloVe or fastText to capture semantic relationships between words.
- Integrates with libraries like TensorFlow and PyTorch to enable deep learning models for more complex NLP tasks.
- Text classification - categorizes text into predefined labels or categories. Eg., Sentiment Analysis, Spam Detection.
- Text clustering - unsupervised learning task which groups similar pieces of text into clusters.
- Vocabulary & Grammatical error detection.
- Recommendation phrases in applications

Stop sharing

62 others

JEYASHRI R (Presenting)

## Stemming & Lemmatization – The Difference

Stemming	Lemmatization
process of reducing a word to its root	reducing a word to its root, dictionary form of the word
reduced word is not always valid	reduced word is always valid
less accurate	more accurate
applies simple rules for cutting off suffixes/prefixes without understanding the word's context	requires knowledge of the word's part of speech & look up words in a lexical database
faster & computationally less expensive	slower & computationally more expensive
Do not provide part of speech (POS) and its meaning	Provides part of speech (POS) and its meaning
Example: <ul style="list-style-type: none"><li>"running" → "run"</li><li>"better" → "bet"</li></ul>	Example: <ul style="list-style-type: none"><li>"running" → "run" (as a verb)</li><li>"better" → "good" (as an adjective)</li></ul>

Stop sharing

60 others

Mute all

Add people

Logeswari N (You)  
Meeting host

AAKASH A

ABDUL ARSHATH M M

AGALYA M

AMRITHA VARSHINI M

ANAND BABU B

ANISHA T

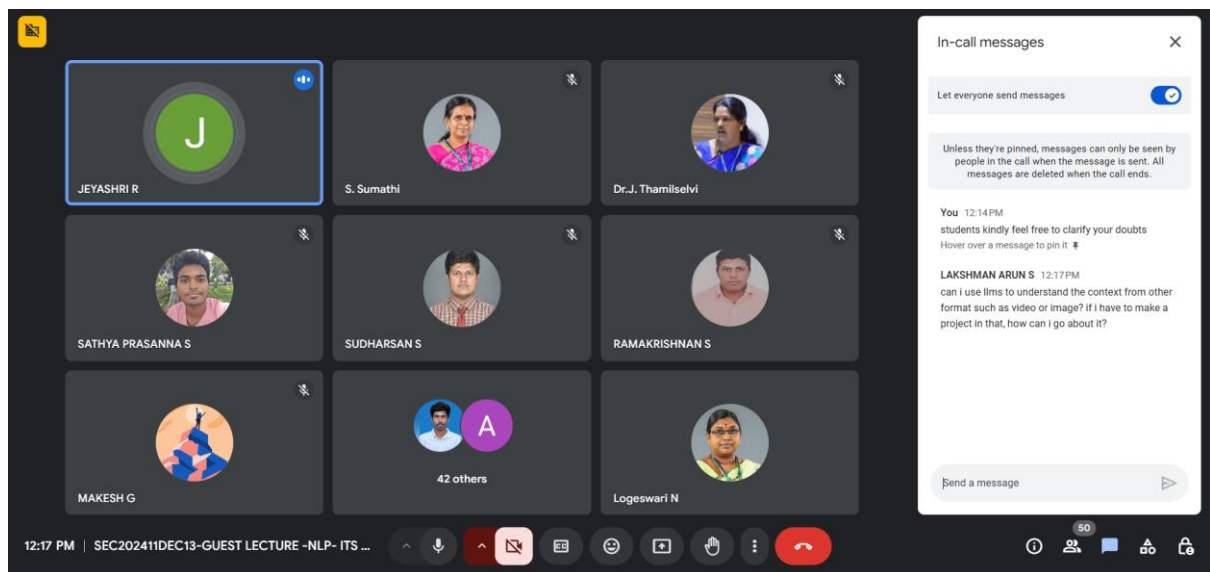
ANITHA R

ANNE CAROLINE S

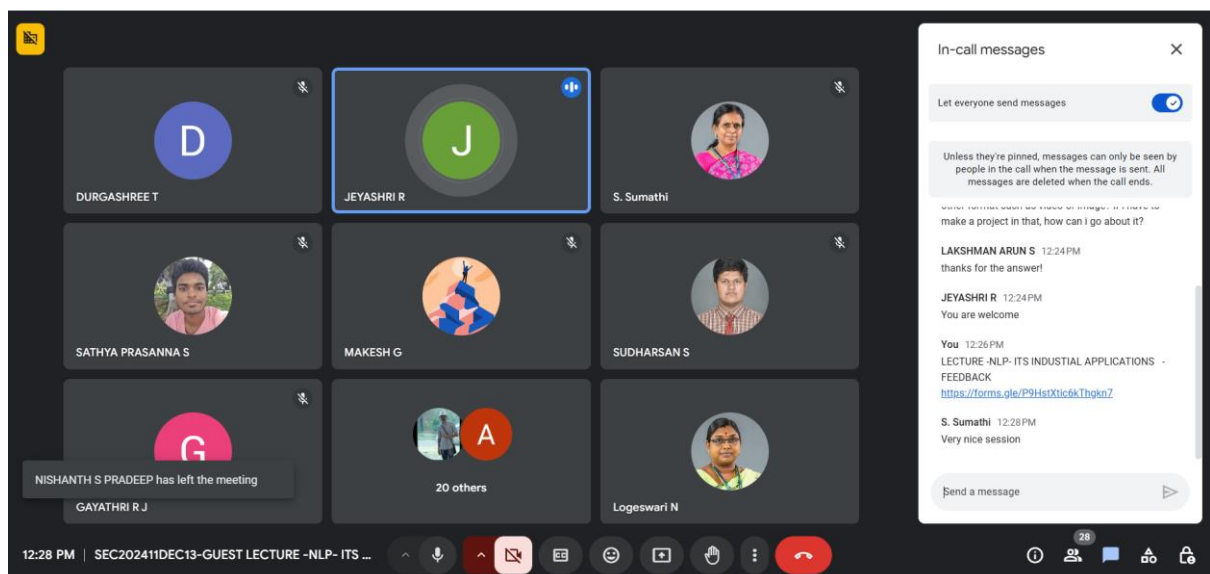




## Query from the Students:

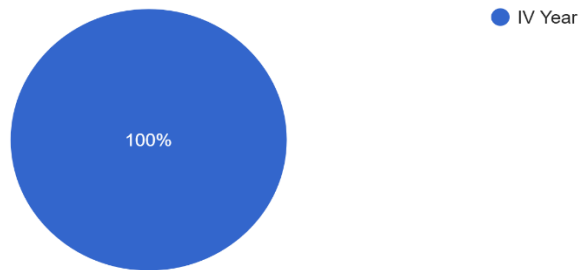


## Feedback Link Posted for the Students:

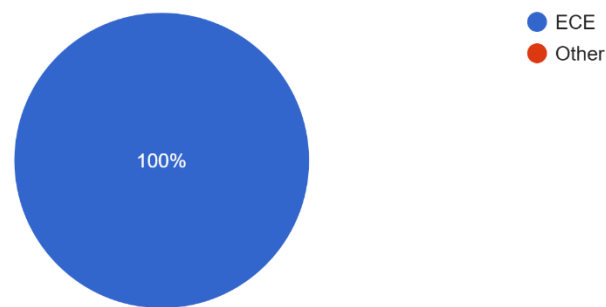


# Feedback received from Students:

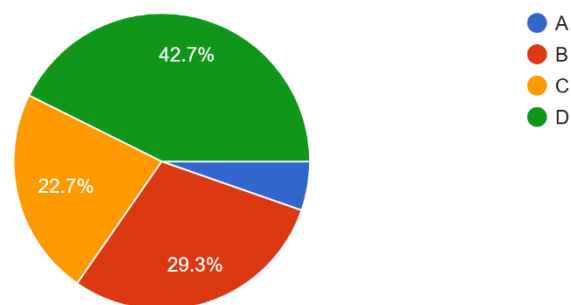
Year  
75 responses



BRANCH  
75 responses

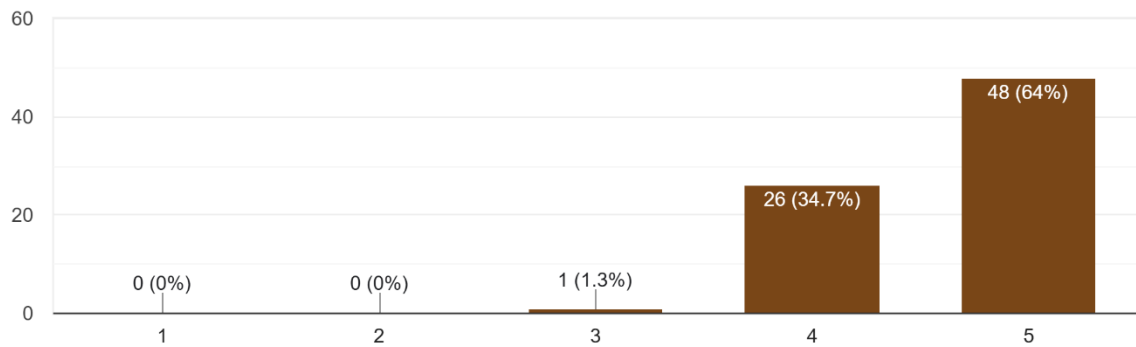


Section  
75 responses



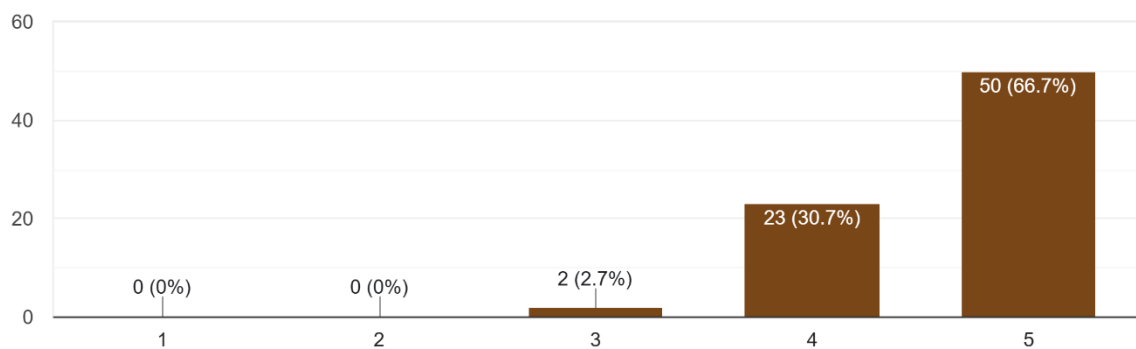
### 1. Organization of the Programme.

75 responses



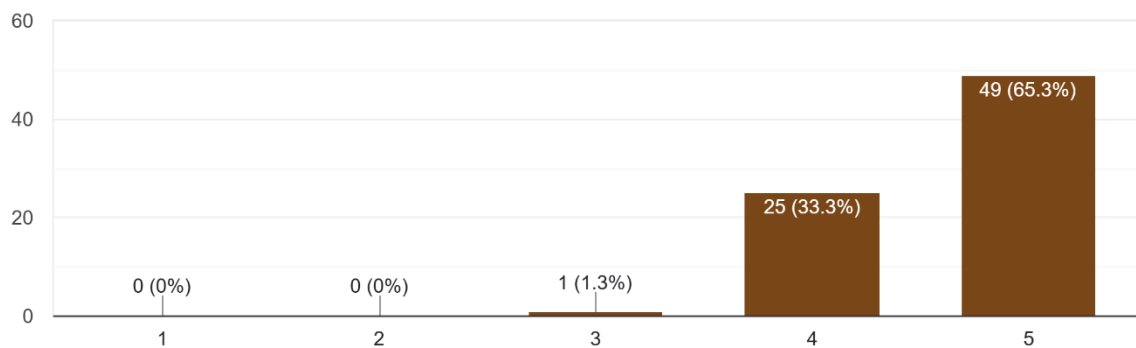
### 2. Knowledge imparted in the topic of current trends

75 responses



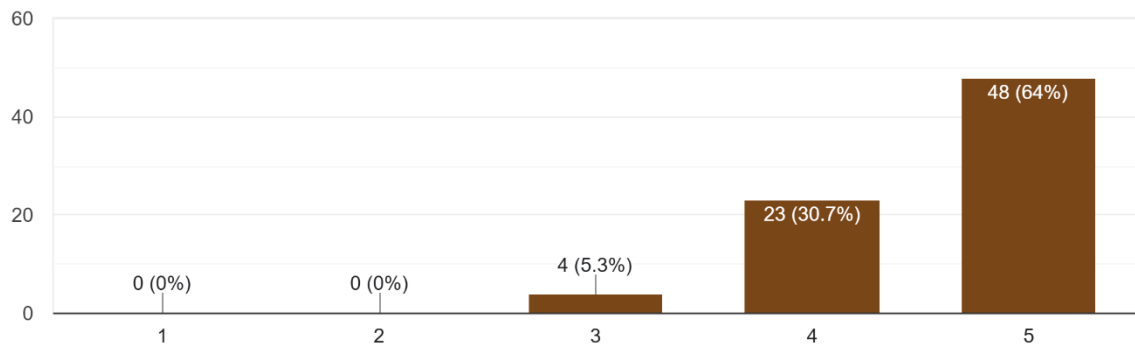
### 3. The resource person(s) well equipped with their subjects.

75 responses



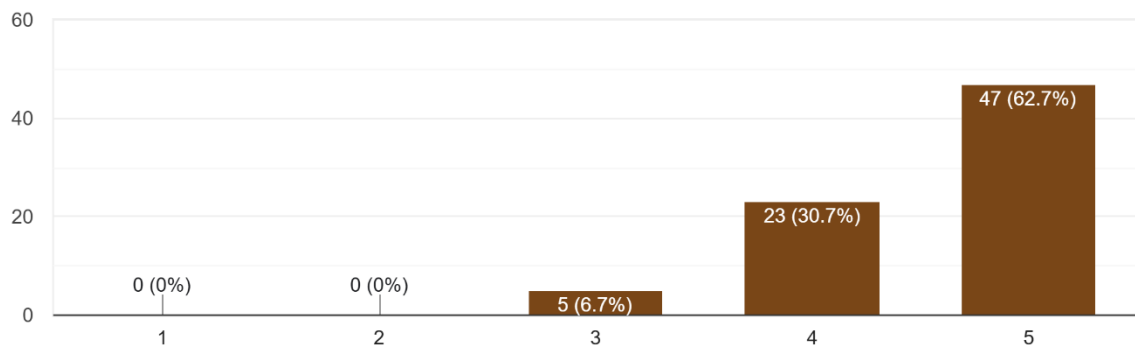
#### 4. Information and/or skills were relevant and useful.

75 responses



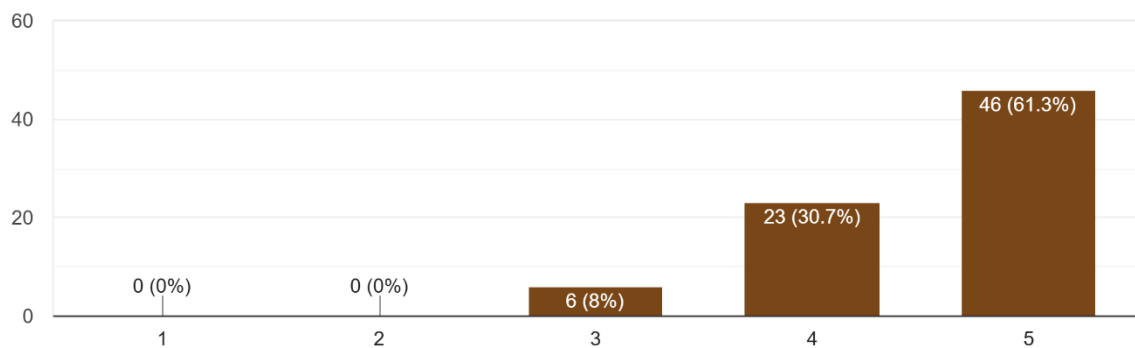
#### 5. Effective Communication Skill of the resource person.

75 responses



#### 6. Confidence and self-learning ability after the Programme.

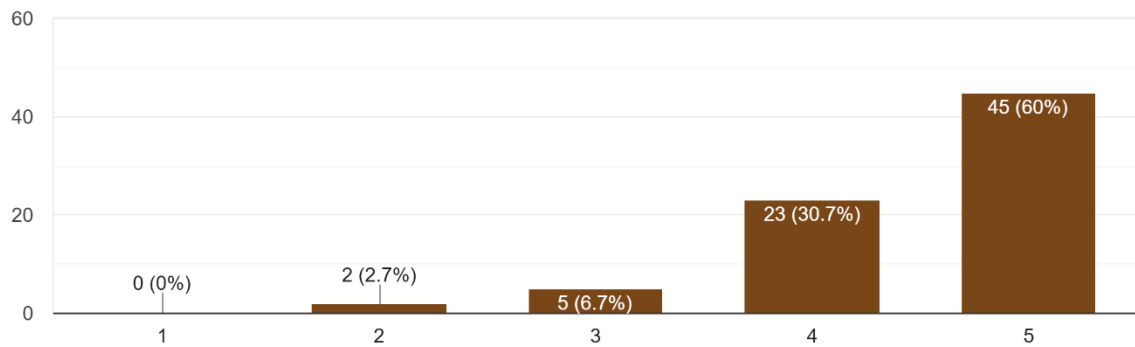
75 responses





### 7. Met the expectations of the participants.

75 responses



### 8. Suggestions for improvement75 responses

Nil

No

-

Good

NA

Nothing

NIL

Good

Nothing

.

It was good experience .

The live interaction will be more helpful

i also have another doubt that i wasnt able to ask in the meet. i believe i can ask it through here. chatgpt, bart are closed source models. is there any competent enough open source llms? and is there any lightweight llm models that i can run locally in limited computational machines such as a raspberry pi?

**This technology is new to me and I am happy that I have gained some knowledge.**

**No suggestions, Everything is good.**

**Could have been better if it's offline**

**.**

**No, it's already good**

**Live interactions will be better**

The Meet was concluded with a Vote of Thanks by Ms.Logeswari.N

I extend my sincere thanks to our Beloved CEO sir for providing a platform for this great initiative of conducting this Guest Lecture. I thank our Principal sir for this opportunity to conduct One Topic One Guest lecture from our curriculum. My Sincere thanks to our HOD Maam for providing continuous support and motivation in all our initiatives. Special thanks to Dr. S.sumathi maam and Dr.K.Sumathi maam for supporting this programme till the end. Thanks to Final Year Coordinator, Class coordinators, Ms. K.subhashini maam and Ms.Shabana parveen maam for extending their support in conducting this Guest Lecture. Thanks to our student S.Ramakrishnan of Final A section for his timely help extended. Thanks to all student members who joined the session. Thanks to the Almighty for blessing this day to be successful. Thank you all.

***THANK YOU***