



KONGUNADU COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous)

Tholurpatti Post, Thottiam Taluk, Trichy- 621215, Tamilnadu
(Approved by AICTE, Accredited by NBA (CSE, ECE, EEE & Mech) and NAAC, Affiliated to Anna University and Recognized by UGC with 2(f) & 12(B), An ISO 9001:2015 Certified Institution)



Seminar on
**“APPLICATIONS OF LARGE LANGUAGE
MODELS (LLMs) AND RETRIEVAL
AUGMENTED GENERATION (RAG)”**



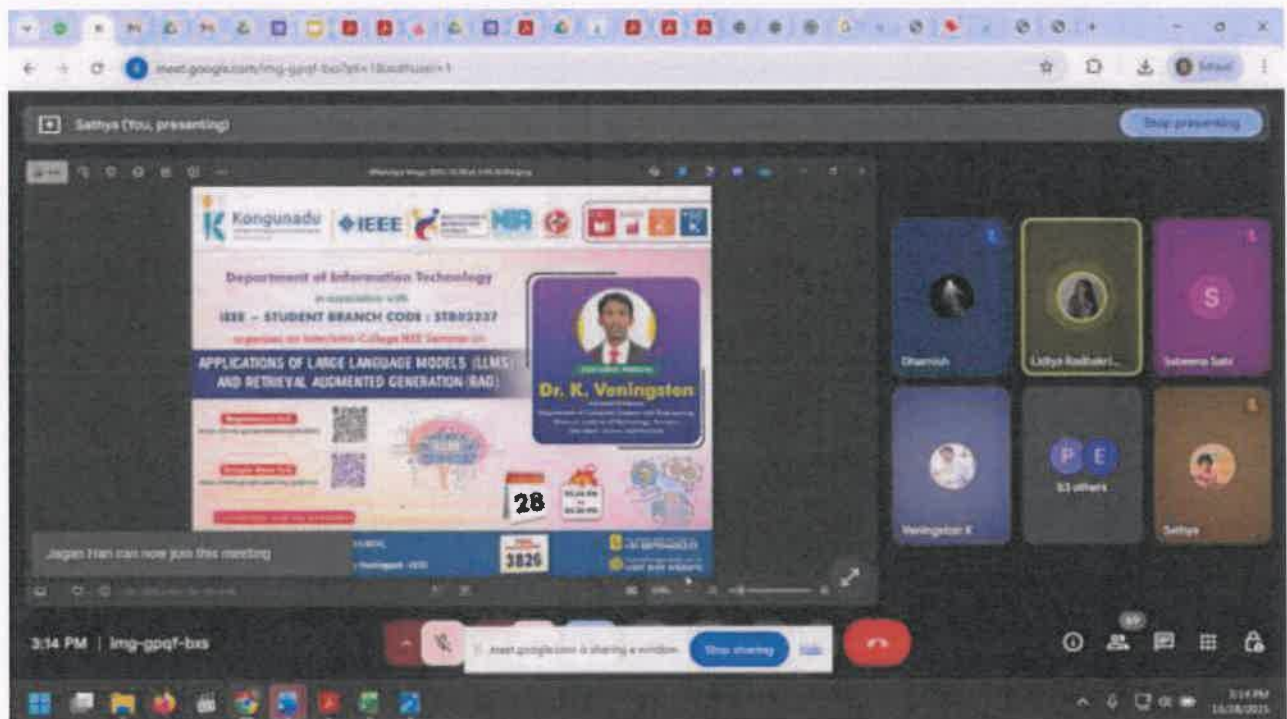
Organized By

KONGUNADU COLLEGE OF ENGINEERING AND TECHNOLOGY
STUDENT BRANCH CODE STB03237

28th October 2025

Kongunadu College of Engineering and Technology in association with IEEE & Kongunadu Innovation Council (KIC) organized a **“Applications of Large Language Models (LLMs) and Retrieval Augmented Generation (RAG)”** at Kongunadu College of Engineering and Technology (Autonomous), Thottiam, Trichy, Tamilnadu, on 28th October 2025.

There are 85 students and faculty members of internal and external participated in this seminar. Dr.PSK.R.Periaswamy Chairman presided over the function. Dr.J.Yogapriya, Dean (R & D), Student Branch Counsellor of Kongunadu IEEE Student Branch, welcomed the participants and resource person. Dr.P.Preethi, Head of the Department / IT, introduced session speaker Dr. K. Venington, Assistant Professor, Department of Computer Science and Engineering, National Institute of Technology Srinagar, Hazratbal, Jammu and Kashmir. He discussed the fundamentals of Language Models (LLMs) and Retrieval Augmented Generation (RAG) and its application. Finally, feedback was collected from the participants and Dr. R. Sathya, AP/IT, Kongunadu College of Engineering & Technology gave the vote of thanks.



Veriington K (Presenting)

Language Models - RNNs

- Predicting next word
 - Understanding relationship between words
- Metaphor:** Reading a book one word at a time.
- Applications
 - Translating languages
 - Writing code
 - ...
- Limitations
 - Slower
 - Less capable

Dr. H. Sathya can now join this meeting

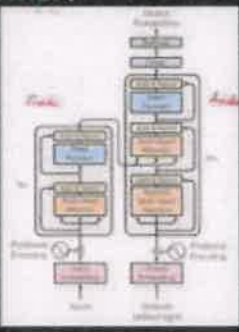
3:33 PM | img-gpqr-fax

Veriington K, Jagan Hari, Karika B, Navitha, 66 others, Sathya

Veriington K (Presenting)

What's inside Transformer?

- High-tech factory with different stations
 - Prepare the text (ingredients for a complicated recipe)
 - Tokenization** (breaking down text into fixed size chunks)
 - Embedding** (turn chunks into numerical representations that the model can understand)
 - Positional encoding** (model does not forget the order of those chunks because sequence matters)
 - Multi-head attention mechanism (heart of the Transformer & cook-up some AI magic)
 - Analyzing the relationships between words in a sentence: figuring out which words are related to each other (model gets **context** this way and understands meaning)
 - Deductive: Piecing Together Clues.



3:39 PM | img-gpqr-fax

Veriington K, Jagan Hari, sangasitha niju, Jeevithaa R.V, 66 others, Sathya

Verington K (Presenting)

Retrieval Augmented Generation (RAG)

- Combining information retrieval with the power of generative power of LLMs.
 - Gives LLMs access to massive knowledge base outside of their own training data.
 - LLMs learned everything. We give it the tools to go find the information it needs on the fly.
 - LLMs can generate things that are **factually incorrect** i.e. **hallucinations**.
 - Instead of just relying on what LLMs were trained on, they can access documents data through a retrieval system (embeddings and vector search).
 - Giving the LLM a fact checker.



4:36 PM | img-gpof-bis

4:38 PM 10/26/2023

Verington K (Presenting)

Conclusion

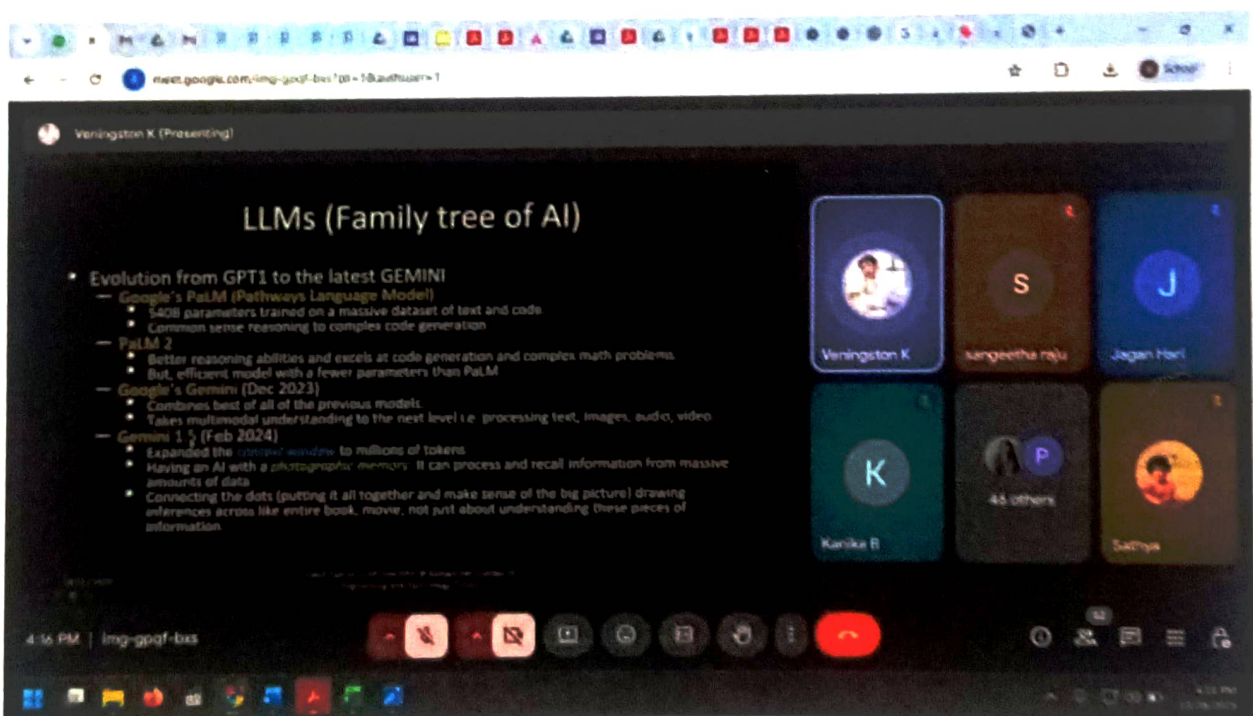
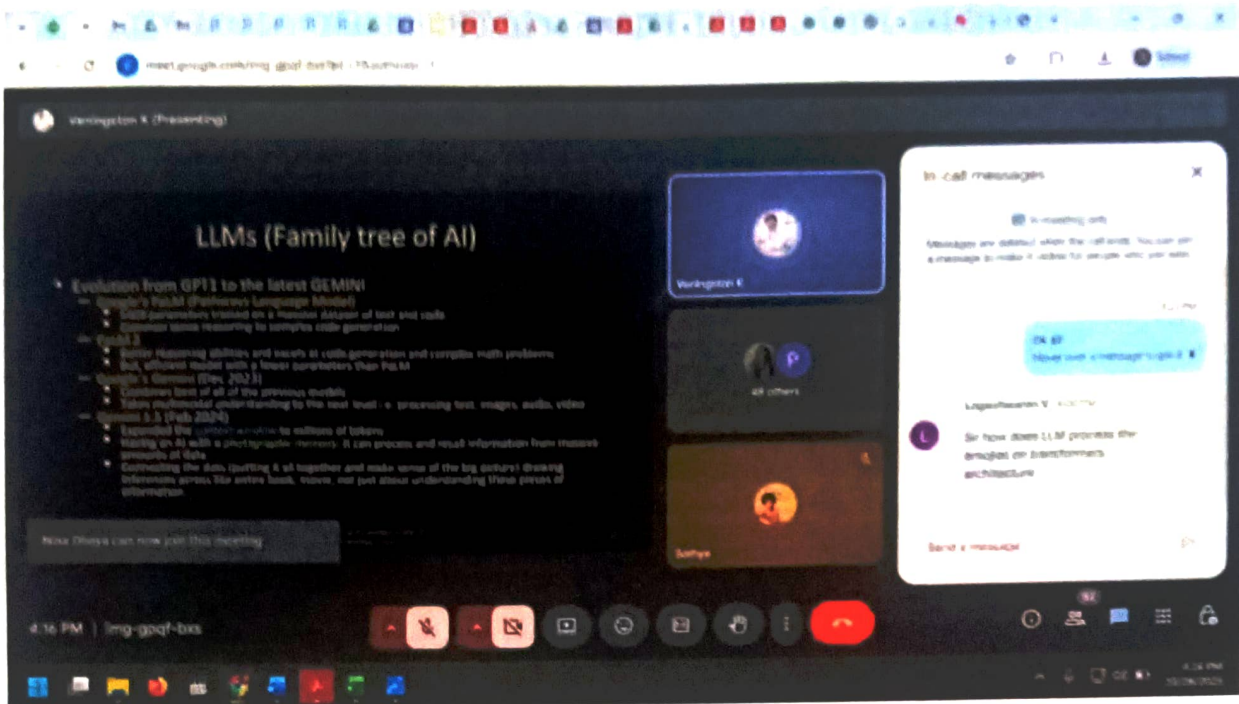
- A golden age for AI development
- Early days of Transformers to sophisticated multimodal LLMs.
- As LLMs grow, the **computing power** and **memory** they need **escalates**.
 - Longer wait time, which is not ideal for real world applications.
- Optimization tricks makes LLMs more practical.
- RAG embraces responsible GenAI.
- Embeddings open up completely a new way to interact with information
 - Embeddings uncover hidden relationships
 - Embeddings and Vector stores have changed how we use data across many fields.
- All about finding the balance performance, cost, complexity
 - Cloud platforms helps us
- There is no perfect solution

Yathika M has left the meeting

the **computing power**, **memory**, and **escalates** we have.

4:43 PM | img-gpof-bis

4:43 PM 10/26/2023



IEEE Co-coordinator
Dr.R.SATHYA, AP/IT
KNCET.

Dean (R&D)
Dean (R & D)
Kongunadu College of
Engineering and Technology
Tholurpatti - Post,
Thottiam Taluk Trichy-621 215

Principal
PRINCIPAL
Kongunadu College of
Engineering and Technology,
Tholurpatti (Po), Thottiam (Tk),
Trichy (Dt). Pin : 621 215