

A Report on Webinar on
“NLP from DL to LLM-Evolution of Language Models”
Organised By Department of Computer Science & Engineering- Artificial Intelligence
in Association with MITS IEEE & IEEE Robotics & Automation Society
Date: 24.10.2024



MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE
(UGC-AUTONOMOUS INSTITUTION)
Madanapalle-517325, Annamayya Dist., Andhra Pradesh

IEEE MITS IEEE WEEK CELEBRATIONS 2024
“Leveraging Technology for Better Tomorrow”

In Association With Department of Artificial Intelligence
Webinar on “NLP from DL to LLM- Evolution of Language models”

Resource Person
Dr. Manu Madhavan, (Asst. Prof)
IIIT, Kottayam

Registration Fee : 50/-
Exciting Prizes will be given for
Winners and Runners

Date: 24th October
Time: 10:00 AM-5:00 PM
Venue: WB - 223

Events:
1. AI Art Fusion
2. Tech Charades

Chief Patron: Dr. N. Vijaya Bhaskar Choudury
Patron: Mrs. Keerthi Nadella
Program Chair: Dr. C. Yuvaraj
Co-ordinators: Dr. K. Chakrabartty (Dept of AI), Dr. Kumar C
Co-ordinator: M. K. Mahammad (Asst. Professor), Mrs. Ayisha Noori (Asst. Professor)

Secretary & Correspondent: Dr. N. Vijaya Bhaskar Choudury
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Submitted by: Mr. K. Mohammad Assistant Professor, Dept. of CSE (AI) and Mrs. Ayisha Noori V K, Assistant Professor, Department of CSE (AI), MITS.

Resource Person Details: Dr. Manu Madhavan, Assistant Professor, IIIT, Kottayam.

Venue: Seminar Hall-C & WB-223

Participants: 45 Students

Time: 10:00 AM to 05:00 PM

Mode of Conduct: Online

Report Received on 04.11.2024.

Department of Artificial Intelligence in Association with Institute of Electrical and Electronics Engineers (IEEE) and IEEE Robotics and Automation Society Organised a Webinar on “NLP from DL to LLM-Evolution of Language models” in MITS-Seminar Hall-C on October 24th 2024 from 11:00 AM to 12:30 PM.

The webinar session started on 24.10.2024 at 11:00 A.M with the participation of the Vice Principal (Academics), MITS IEEE Student Branch Counsellor, IEEE Coordinator (Dept. Of AI) and the resource person Dr. Manu Madhavan, Assistant Professor, IIIT, Kottayam. Faculty members, participants of the institute are attended.

Welcome address delivered by K. Tejasree, N. Swarna, S. Vyshnavi, IEEE student member from the Department of CSE(AI), III AI-C, provided a brief overview of the event proceedings. and welcomed the the IEEE Coordinator (Dept. Of AI), K. Mahammad, MITS IEEE Student Branch Counsellor, Dr. KUMAR C, Vice Principal, Dr. Ramanthan P.

Dr. C. Kumar, MITS IEEE Student Branch Counsellor, extended their welcome and keynote addresses, emphasizing the importance of the Webinar and benefits of IEEE membership and encouraging participants to gain new insights.

Dr. P. Ramanathan, the Vice Principal - Academics, graced the occasion with a felicitation address, adding an impression of significance to the event. His presence and spoken words brought gravitas to the proceedings. Dr. Ramanathan extended his best wishes to all students, advise them to actively participate in the webinar and embrace new knowledge and insights.

The resource person started the session by extending his hearty thanks to the participants, organizing members, HoD, Principal and Management of MITS Madanapalle for giving opportunity to share his knowledge and experience on “NLP from DL to LLM- Evolution of Language models”.

The resource person shared the following topics as the agenda for the webinar

- Traditional NLP Techniques
- Introduction of Word Embedding’s
- Deep Learning in NLP
- Transformers Architecture – The game-changer behind modern NLP models.
- BERT and GPT Models
- Scaling to Large Language Models (LLMs)
- Ethics and Challenges of LLMs.

- The resource person started the session by sharing the basics of NLP and evaluation of language models and explained how NLP was in early stages like, how NLP relied on statistical techniques and rule-based algorithms, such as n-grams and TF-IDF, to analyse and extract meaning from text. Given The introduction of word embedding, particularly Word2Vec and Glove, addressed these limitations by providing dense vector representations of words, capturing their semantic relationships. Explained how this breakthrough paved the way for Deep Learning techniques like RNNs and LSTMs, given insights like how these techniques could handle sequential data better and model language nuances more accurately.
- He demonstrated the A Game-Changer in NLP (Transformers), and given brief introduction of the Transformer architecture, explained the topics like how Transformers replaced the sequential processing limitations of RNNs with a self-attention mechanism, enabling the parallel processing of data and improved contextual understanding. Given explanation on Models like BERT (Bidirectional Encoder Representations from Transformers) and how it adopted this architecture to excel in natural language understanding tasks, including question answering and sentiment analysis.
- Finally, he concluded the session with Large Language Models (LLMs) and Future Implications, and the importance of Neural Language Models. Later some students were asked some questions and got answers from the Resource Person.
- **Q & A Session:**
 1. What are all the major skills required to learn NLP?
 2. In the existing domains like AI, DL, ML and NLP which one is good for Research?
 3. What roles do models like BERT and GPT play in real-world applications?

The webinar session ended by the vote of thanks delivered by K. Shabeena, IEEE student member from the Department of CSE(AI), III AI-C and she concluded the session with a vote of thanks to the management, faculty, committee members, and participants.

Outcome of the Event:

- Student participants gained knowledge on importance of NLP and its basics.
- Students understood the transition from traditional rule-based NLP to deep learning and modern language models.
- Understood how NLP models are applied in industries, such as virtual assistants, search engines, and content generation tools
- Gained insights into the significance of self-attention mechanisms in Transformers and how they enabled the creation of advanced models like BERT and GPT

The same day afternoon session (2:00 p.m. to 5:00 p.m.) following events conducted in different venues i.e., WB-216 and AI-223 Lab in order to conduct **AI Art Fusion** and **Tech Charades**. Total of 45 students participated in these two events and finally winners and runners from both the events got exciting prizes.

The following members are declared as winners and runners for both the events.



Artificial Intelligence

Event Name	Name of the Participant(s)	Rank(I/II/III)	Branch	contact
Tech Charades	A Rupa	I	CAI	9502031849
	Yarramaddu Sowjanya			
	Y G Rishitha K Reethika Reddy	II	CAI	6305200189
AI Art Fusion	B Roopa Sai Vidya	I	CAI	6302034414
	B Sasidhar	II	CAI	9491305703