G. Narayanamma Institute of Technology & Science

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Shaikpet, Hyderabad-500104

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
II B. Tech II Sem Mini Project 1, 2024-2025, GNR-22

on

"BOOSTING HEALTHCARE USING MULTIMODAL LLM"

Under the guidance of
Mrs. Nanda Devi.D.R, Assistant Professor

Abstract:

The integration of multimodal data like medical images, clinical text, is essential for accurate clinical decision-making and personalized care. However, existing large language models (LLMs) are predominantly designed for text-based data, limiting their ability to analyze and interpret diverse medical information effectively. The proposed work addresses this gap by utilizing multimodal LLMs(M-LLMs) to unify and process a wide range of data types. The system combines inputs such as MRI scans,clinical notes, leveraging advanced data fusion techniques to extract meaningful insights and improve diagnostic accuracy.

The multimodal approach provides a significant improvement over unimodal models by enhancing diagnostic precision and optimizing clinical workflows. By enabling the simultaneous analysis of diverse data modalities, M-LLMs offer a more comprehensive understanding of patient health, supporting evidence-based clinical decision-making. This highlights the transformative potential of multimodal AI in healthcare, setting the stage for more precise, data-driven medical practices and advancing the field of precision medicine to advance patient outcomes and overall healthcare systems.

S/W Requirements:
- Operating System   : Windows,GPU
- Technology   : Python, PyTorch
- Libraries   : Sci-Kit Learn, NumPy, Pandas, Matplotlib, Hugging Face Transformers(LLaMA (Large Language Model Meta AI)), Pydicom

*Dept R&D: No   Company Name / GNITS (CoE/RC) :AI

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