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CSE – DATA SCIENCE

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING – DATA SCIENCE

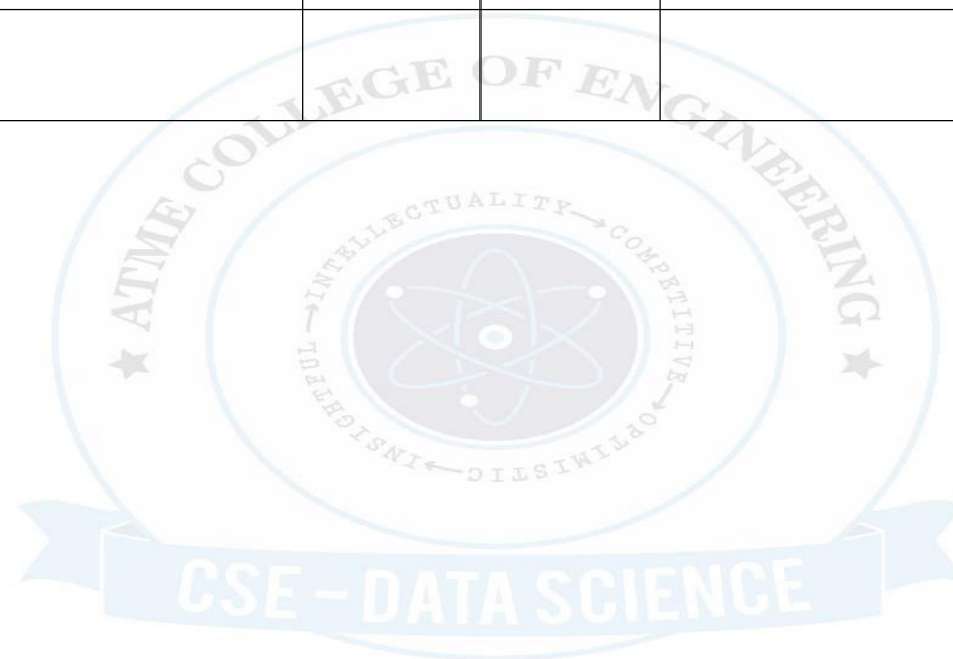**Lesson Plan & Work-done Diary for AY: 2025-26, EVEN Semester**

Course with Code: Genertaive AI (BAIL657C)				Faculty: Mrs. Madhu Nagaraj			Semester & Section:6 'A'	
Class No.	Date planned (DD/MM)	Topics to be covered	TLP Planned	Date of Conduction (DD/MM)	Topics Covered		TLP Execu ted	Remarks if any deviation
1.		Explore pre-trained word vectors. Explore word relationships using vector arithmetic. Perform arithmetic operations and analyze results.	Chalk & Talk PPT				Chalk & Talk PPT	
2.		Use dimensionality reduction (e.g., PCA or t-SNE) to visualize word embedding for Q 1. Select 10 words from a specific domain (e.g., sports, technology) and visualize their embeddings	Chalk & Talk PPT				Chalk & Talk PPT	
3.		Train a custom Word2Vec model on a small dataset. Train embeddings on a domain-specific corpus (e.g., legal, medical) and analyze how embeddings capture domain-specific semantics.	Chalk & Talk PPT				Chalk & Talk PPT	
4.		Use word embeddings to improve prompts for Generative AI model. Retrieve similar words using word embeddings. Use the similar words to enrich a Gen-AI prompt. Use the AI model to generate responses for the original and enriched prompts.	Chalk & Talk PPT				Chalk & Talk PPT	
5.		Use word embeddings to create meaningful sentences for creative tasks. Retrieve similar words for a seed word. Create a sentence or story using these	Chalk & Talk PPT				Chalk & Talk PPT	

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		words as a starting point. Write a program that: Takes a seed word. Generates similar words. Constructs a short paragraph using these words.				
6.		I Lab IA				
7.		Use a pre-trained Hugging Face model to analyze sentiment in text. Assume a real-world application, Load the sentiment analysis pipeline. Analyze the sentiment by giving sentences to input.	Chalk & Talk PPT			Chalk & Talk PPT
8.		Summarize long texts using a pre-trained summarization model using Hugging face model. Load the summarization pipeline. Take a passage as input and obtain the summarized text	Chalk & Talk PPT			Chalk & Talk PPT
9.		Install langchain, cohere (for key), langchain-community. Get the api key(By logging into Cohere and obtaining the cohere key). Load a text document from your google drive .	Chalk & Talk PPT			Chalk & Talk PPT
10.		Take the Institution name as input. Use Pydantic to define the schema for the desired output and create a custom output parser. Invoke the Chain and Fetch Results. Extract the below Institution related details from Wikipedia: The founder of the	Chalk & Talk PPT			Chalk & Talk PPT

		Institution. When it was founded. The current branches in the institution. How many employees are working in it. A brief summary of it.					
11.		Build a chatbot for the Indian Penal Code. We'll start by downloading the official Indian Penal Code document, and then we'll create a chatbot that can interact with it. Users will be able to ask questions about the Indian Penal Code and have a conversation with it.	Chalk & Talk PPT			Chalk & Talk PPT	
12.		II LAB IA					

	Activity	Planned	Actual	Remarks
1	No of Labs	10		
2	Assignments/ Quizzes/ Self-study	-		
3	Tutorials/ Extra classes	-		
4	Internal Assessments	1		
5	ICT based Teaching (% of usage in Curriculum)	100%		
Planning			**Execution**	
Faculty Signature:			Faculty Signature:	
HoD Signature:			HoD Signature:	