AI (Cloud- LLM-Transformers-DL-ML-DA-Python) Internal Training

Scope:

This training program provides a thorough understanding of AI, Cloud, LLMs, Transformers, DL, ML, DA, and Python. Participants will learn foundational concepts, advanced techniques, and real-world applications. The course emphasizes practical skills in programming, data processing, and model deployment. It covers modern technologies for web development, cloud integration, and AI-driven solutions. The program prepares participants to excel in data science, AI, and software development roles.

Objective:

1. Equip participants with Python and data analysis skills for diverse applications.
2. Enable proficiency in ML, DL, and LLMs for solving complex problems.
3. Foster expertise in SQL, cloud deployment, and web development.
4. Introduce state-of-the-art AI models like Transformers for practical use.
5. Prepare participants to innovate and contribute effectively to organizational goals.

Week	**Topics**	**Duration**
1	Python Basics & OOP Concepts	1 Week
2	Python Modules: - Web Scraping (request & beautiful soup), - Regular Expressions(re), OS, Collections, String, Math, Random	1 Week
3	Data Analysis & Visualization: - Numpy, Pandas, Matplotlib, Seaborn	1 Week
4	SQL - Commands - Query Writing, Window Functions, Nested Queries, Joins	1 Week
5	Machine Learning with Scikit-learn: - Supervised Learning: Regression, Classification Models - Unsupervised Learning	1 Week
6	Python Libraries for Advanced Tasks: - OpenCV (CV2), Pillow, NLTK	1 Week
7	Deep Learning with Neural Networks: - Artificial Neural Network (ANN) - Convolutional Neural Network (CNN)	1 Week

	▪ Recurrent Neural Network (RNN)	
8	Word Embeddings & Transformers: ▪ Word2Vec, ▪ Transformers (Encode, Decode, Encode-Decode)	1 Week
9	Large Language Models (LLMs): ▪ Deployment, Prompt Engineering	1 Week
10	LangChain & Agents with CrewAI	1 Week
11	Web Development: ▪ HTML, CSS (Front End) ▪ Flask, Streamlit (App Development)	1 Week
12	Cloud Deployment & Development: ▪ Cloud Platforms (AWS, Azure, GCP) ▪ Deployment Pipelines	1 Week