



Mastery In Large Language Model Duration: 40 Hours (5 Days)

Overview

The Mastery in Large Language Model course is a comprehensive training program designed to equip learners with the knowledge and skills required to master large language models (LLMs) and their applications. The course begins with foundational concepts in machine learning (ML) and natural language processing (NLP), guiding students through various ML paradigms and the evolution of NLP techniques.As participants progress, they delve into more advanced topics, including deep learning, Neural networks, and the revolutionary Transformer architecture, which underpins many state-of-the-art LLMs. The course offers hands-on experience through practical lessons on implementing Transformer models and working with popular variants like GPT and BERT.By incorporating Large language model training, learners gain proficiency in using pre-trained models, fine-tuning them for specific tasks, and exploring the Hugging Face ecosystem for further development. With real-world scenarios, use cases, and a capstone project focused on building an AI chatbot using transformers, this large language model course promises to be an invaluable resource for anyone looking to harness the power of LLMs in industry and research.

Audience Profile

The "Mastery In Large Language Model" course is designed for professionals looking to specialize in advanced NLP and AI-driven language processing.

- Data Scientists
- Machine Learning Engineers
- NLP Engineers
- AI Researchers
- Software Developers interested in AI and machine learning
- Data Analysts seeking to upgrade to AI specialties
- IT Professionals aiming to transition into AI roles
- Product Managers overseeing AI-driven products
- Academics and Students in computer science and AI fields
- Technical Team Leads managing AI projects
- AI Consultants
- Tech-savvy Entrepreneurs looking to implement AI solutions

Course Syllabus

Introduction:

• Start your LLM journey today

What You'll Learn:

- Basics of NLP
- Implement Transformer from scratch
- Working of LLM



Apply LLM to real-world problems



Note:

- Some experience with programming is suggested.
- The hands-on labs will provide practical experience with setting up
- Hands-on Approach
- This course can be customised based on the audience's prior knowledge and
- specific areas of interest.

MODULE 1: - Introduction to Machine Learning and Natural Language

- Processing
- Introduction to Machine Learning
- Supervised, Unsupervised, and Reinforcement Learning
- Introduction to Natural Language Processing
- Different Libraries
- Statistical Era
- Machine Learning Era

MODULE 2: - NLP Concepts

- Text Preprocessing Techniques
- Text Tokenization
- Text Vectorisation
- Text Summarization
- Named Entity Recognition
- Sentiment Analysis

MODULE 3: - Deep Learning and Neural Networks

- Introduction to Deep Learning
- Understanding Neural Networks
- Activation Functions
- Backpropagation

MODULE 4: - Transformers

- Transformers History
- Transfer Learning
- Understanding the Transformer Architecture
- Encoder
- Decoder

MODULE 5: - Implementing a Basic Transformer Model

- Setting Up the Environment
- Data Preparation
- Implementing a Transformer from Scratch
- Training the Model

MODULE 6: - Popular Transformers Models





- BERT
- T5

MODULE 7: - Large Language Models

- What is Language Model
- Understanding Large Language Models
- Training vs Fine-tuning Large Models

MODULE 8: - Hands-on with Large Language Models

- Using Pre Trained Large Language Models
- Fine-tuning Large Language Models

MODULE 9: - Building blocks using Transformers

- Building Blocks
- Tokenizers
- Word Embeddings

MODULE 10: - Hugging Face

- Hugging Face Models
- Hugging Face Datasets
- Hugging Face Documents
- Hugging FaceEcoSystem

MODULE 11: - Real world Scenarios with Transformers

- Use Cases of Transformer Modell
- Industry Applications of Large Language Models
- Writing Product Review

MODULE 12: Capstone Project and Q&A

- Capstone Project: Building an AI Chatbot using Transformers
- Project Presentation
- Q&A Session