

LLMs: Transformers, GPT/BERT & Hugging Face

Learn to build Transformer models and apply GPT, BERT and Hugging Face tools to fine-tune and deploy large language models.

5 Days

40 HOURS

12

MODULES

44

TOPICS

1

HANDS-ON ACTIVITIES

COURSE 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.

WHO THIS COURSE IS FOR

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

PREREQUISITES

Before You Start

- Some experience with programming is suggested.

LEARNING OBJECTIVES

What You'll Learn:

- Basics of NLP
- Implement Transformer from scratch
- Working of LLM
- Apply LLM to real-world problems

TRAINING APPROACH

The hands-on labs will provide practical experience with setting up a hands-on approach. This course can be customised based on the audience's prior knowledge and specific areas of interest.

COURSE SYLLABUS

12 Modules, 44 Topics

01

Introduction to Machine Learning and Natural Language Processing

TOPICS

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

02

NLP Concepts

TOPICS

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

03

Deep Learning and Neural Networks

TOPICS

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

04

Transformers

TOPICS

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

05

Implementing a Basic Transformer Model

TOPICS

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

06

Popular Transformers Models

TOPICS

GPT · BERT · T5

07

Large Language Models

TOPICS

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

08

Hands-on with Large Language Models

TOPICS

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

09

Building Blocks Using Transformers

TOPICS

Building Blocks · Tokenizers · Word Embeddings

10

Hugging Face

TOPICS

Hugging Face Models · Hugging Face Datasets · Hugging Face Documents · Hugging Face EcoSystem

11

Real World Scenarios with Transformers

TOPICS

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

12

Capstone Project and Q&A

TOPICS

Project Presentation

CAPSTONE PROJECT

- Capstone Project: Building an AI Chatbot using Transformers

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training

Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

Visit koenig-solutions.com

✉ info@koenig-solutions.com