



Optimizing Large Language Models (LLMs)

Learn to Optimize and Fine-Tune LLMs for Real-World Applications

Course Mode:

- Online (Live & Recorded Sessions)
- Offline (Classroom Sessions)

Why Learn LLM Optimization?

Large Language Models (LLMs) like GPT are transforming industries, but their performance depends heavily on proper optimization. This course teaches you how to fine-tune, optimize, and scale LLMs for real-world applications while ensuring efficiency and accuracy.

Who Should Take This Course?

- AI engineers and researchers working with LLMs
- Data scientists aiming to specialize in NLP
- Developers integrating LLMs into applications
- Anyone interested in learning how to optimize LLMs for efficiency

Course Overview

Module 1: Fundamentals of Large Language Models

- Understanding Transformers and Self-Attention
- Pretraining vs. Fine-Tuning in LLMs
- Popular LLM Architectures (GPT, BERT, T5, LLaMA)
- Basics of Tokenization and Vocabulary Management

Module 2: Fine-Tuning Large Language Models

- Supervised Fine-Tuning with Custom Datasets
- Instruction Tuning and Task-Specific Optimization
- Leveraging LoRA and PEFT for Efficient Fine-Tuning
- Hyperparameter Tuning for NLP Models

Module 3: Scaling and Optimizing LLMs

- Model Quantization and Compression Techniques

- Distributed Training for Large Models
- Reducing Memory Footprint and Inference Latency
- Optimizing LLMs for Low-Resource Environments

Module 4: Advanced Topics in LLM Optimization

- Prompt Engineering and Few-Shot Learning
- Retrieval-Augmented Generation (RAG)
- Evaluation Metrics for LLM Performance
- Ensuring Ethical and Bias-Free AI Models

Module 5: Real-World Applications of LLMs

- Building AI-Powered Assistants with LLMs
- Developing LLM APIs for Business Applications
- Creating Summarization and Question-Answering Systems
- Deploying Optimized LLMs in Production Environments

Course Highlights

- Hands-on Learning: Work with real-world NLP applications
- Industry-Ready Skills: Optimize LLMs for production
- Mentorship: Guidance from LLM optimization experts
- Certification: Earn a certificate upon successful completion
- Community Support: Join our exclusive NLP forums

How to Enroll?

1. Visit our website: www.ecologic.co.in
2. Select the course and fill out the enrollment form
3. Receive confirmation and start your journey with LLM optimization!

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