LLM Basics

Duration: 2 Days Course Code: GK840035

Overview:

This course provides a comprehensive introduction to Large Language Models (LLMs), focusing on what they are, how to build them using PyTorch, and how to use them for inference in language tasks. Participants will learn about the history of LLMs, how LLMs fit into the larger AI/Generative AI landscape, neural-network-based language models, and how to use RNNs, LSTMs, and transformers for natural language processing tasks.

Target Audience:

- AI/ML Enthusiasts interested in learning about NLP (Natural Language Processing) and Large Language Models (LLMs).
- Data Scientists/Engineers interesting in using LLMs for inference and finetuning
- Software Developers wanting basic practical experience with NLP frameworks and LLMs
- Students and Professionals curious about the basics of transformers and how they power AI models

Objectives:

- Working with an engaging, hands-on learning environment, and guided by an expert instructor, students will learn the basics of Large Language Models (LLMs) and how to use them for inference to build AI powered applications.
- Understand the basics of Natural Language Processing
- Implement text preprocessing and tokenization techniques using NLTK
- Explain word embeddings and the evolution of language models
- Use RNNs and LSTMs for handling sequential data
- Describe what transformers are and use key models like BERT and GPT
- Understand the risks and limitations of LLMs
- Use pre-trained models from Hugging Face to implement NLP tasks
- Understand the basics of Retrieval-Augmented Generation (RAG) systems

Prerequisites:

- Proficiency in Python programming
- Familiarity with data analysis using Pandas

Content:

1) Introduction to NLP

- What is NLP?
- NLP Basics: Text Preprocessing and Tokenization
- NLP Basics: Word Embeddings
- Introducing Traditional NLP Libraries
- A brief history of modeling language
- Introducing PyTorch and HuggingFace for Text Preprocessing
- Neural Networks and Text Data
- Building Language Models using RNNs and LSTMs

2) Transformers and LLMs

- Introduction to Transformers
- Using Hugging Face's Transformers for inference
- LLMs and Generative AI
- Current LLM Options
- Fine tuning GPT
- Aligning LLMs with Human Values

Retrieval-Augmented Generation (RAG) Systems

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

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