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Sign up

LLamaIndex training

2 days (14 hours)

Presentation

Our LlamaIndex training course will enable you to transform your enterprise data into production-ready applications powered by large-scale language models (LLMs). This innovative framework will help you build powerful and adaptable applications.

During this course, you'll discover LlamaIndex's rich environment and the full range of features it offers to meet your needs.

With large language models (LLMs), you can create robust applications by combining models with various data sources.

At the end of this course, you'll learn how to manage and index your data efficiently, secure your applications and optimize the performance of your queries.

As with all our training courses, this one will be presented with the latest LlamaIndex resources.

Objectives

- Create and deploy LLM-based applications
- Manage and index data efficiently
- Ensuring data confidentiality and security
- Optimize query and application performance
- Developing chatbots and personalized data agents

Target audience

- Data Scientist
- Big Data Engineer
- Machine Learning Engineer
- Lead Developer
- Developers

Prerequisites

- Application design basics
- Master the Python language

Software requirements

- API access to OpenAI with GPT-4 (chargeable)
- A Google account for access to Google Colab (free) - optional if local notebook
- A LlamaIndex.com account and an API key (free)
- A Pinecone.io account for vector DB (free)
- An exa.ai account for the LLM search engine (free)
- An app.tavily.com account for the LLM search engine (free)

LLamaIndex TRAINING PROGRAM

INTRODUCTION TO LLAMAINDEX AND LARGE-SCALE LANGUAGE MODELS

- Introducing LlamaIndex and its role in data management
- Understanding the basics of large-scale language models (LLM)
- Differences between LlamaIndex and other platforms like LangChain
- Importance and use of OpenAI API keys

BASIC CONFIGURATION AND INSTALLATION

- LlamaIndex installation process
- Initial configuration and securing the environment
- Obtaining and using an OpenAI API key
- LlamaIndex user interface overview

DATA MANAGEMENT AND INDEXING

- Introduction to data management with LlamaIndex
- Data loading and index creation
- Adding and managing metadata for documents and nodes
- Techniques for adjusting embeddings in a vector index

LLAMAINDEX WORKFLOW

- Overview of LlamaIndex workflow for indexing and data management
- Document processing and pipeline construction
- Step-by-step demonstration of workflow, from data collection to index queries

RAG CREATION

- Introduction to RETRIEVAL-AUGMENTED GENERATION (RAG)
- How LlamaIndex improves answer generation via external documents
- Practical examples of using RAG for advanced applications

CONFIDENTIALITY AND DATA SECURITY

- Data confidentiality issues with LLMs
- Identifying and managing security challenges in LLM applications
- Best practices for securing data in LlamaIndex

ADVANCED USE OF LLAMAINDEX

- Natural language database querying
- Creation and management of chatbots via interfaces such as Streamlit and Chainlit
- Using data agents and creating agents on multiple indexes
- Techniques for refining query prompts to improve user experience

OPTIMIZATION AND APPLICATION DEVELOPMENT

- Strategies for query optimization and performance enhancement
- Transition between OpenAI and HuggingFace embedding models
- Development of specific applications using LlamaIndex
- Case studies and practical examples of LlamaIndex integration in projects

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or learning difficulties.

in-company security (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.

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