AMBIENT-IT

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Sign up

MLFlow training

2 days (14 hours)

Presentation

Our MLFlow training course will introduce you to this open source platform used to manage the Machine Learning (ML) lifecycle, reproducibility, experimentation, deployment and the central model registry.

During this training course, you will be able to store, annotate and manage models in a central repository using the model registry. This registry provides model lineage, model version management and model markup.

Discover MLFlow deployments for state-of-the-art large language models (LLMs) via simple, secure APIs. The Deployment Server is a powerful tool designed to streamline the use and control of different LLM providers.

With MLFlow projects, you can package data science code in a reusable, reproducible, convention-based way. What's more, these projects include an API and command-line tools for chaining projects into workflows.

This course will introduce you to the latest version of MLFlow (at the time of writing MLFlow 2.9.2).

Objectives

- Understanding MLFlow's main components
- Master automatic logging and run-time comparison
- Exploring the model register user interface
- Learn how to register your first MLFlow model
- Enable and customize system metrics logging

Target audience

- Developers
- **Data scientists**
- Engineers

Prerequisites

- Basic programming skills
- Understanding machine learning concepts

MLFlow training program

Introduction

- What is MLFlow?
- MLFlow main components
- Why use MLFlow?
- Who uses MLFlow?
- Use cases
- Scalability

First steps

- Tips on running tutorials
- Registering your first MLFlow model
- 15-minute quick start : Automatic logging
- 15-minute quick start - Compare runs and deploy your model
- Tracking server overview

Features

- Model register user interface
- New features for LLM evaluation
- Documentation review
- Using MLFlow AI Gateway to connect to LLMs hosted by AI2I Labs
- Load trained models with Spark Connect
- Host your own transformer-based models
- Using PaLM 2 as an MLFlow Gateway provider

Authentication

- Overview
- Authorization management
- Creating a new user

- Authentication with MLFlow
- Personalized authentication
- Configuration

Search executions

- MLFlow tags
- Syntax
  - Examples of expressions
  - Identifier
- Programmed search executions
  - Python
  - R.
  - Java

System metrics

- Additional dependencies
- Enable/disable logging of system metrics
  - Using the environment variable
  - Enable system metrics logging for a single run
- System metric types
- Displaying system metrics in the MLFlow user interface
- Customize system metrics logging

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 security difficulties within the company (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 inputs from the trainer supported by examples and

brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire is used to check that skills have been correctly acquired.

Sanction

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