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Sign up

SynapseML training

2 days (14 hours)

Presentation

SynapseML lets you implement over 45 Machine Learning services directly from their system. What's more, the program uses exponential back-offs to avoid unreliable network connections and failed responses.

SynapseML, formerly MMLSpark, is Microsoft's new, simplified Machine Learning library for creating scalable machine learning pipelines. The library contains numerous frameworks and algorithms, and offers unified, scalable APIs.

With SynapseML, you can build scalable intelligent systems for a wide range of use cases, such as :

- Anomaly detection
- Facial recognition
- Guardian boosting
- Orchestrating microservices
- Voice analysis
- Text analysis
- The translation

With our SynapseML training, you'll be able to create powerful, highly scalable predictive and analytical models from a variety of Spark data sources.

Like all our training courses, this one will introduce you to the latest stable version (SynapseML v0.9.4).

Objectives

- Creating Machine Learning pipelines
- Building responsible AI systems with SynapseML

- Master the essential features of SynapseML
- Managing the SynapseML ecosystem

Target audience

- Developers
- Researchers
- Architects
- System administrators

PREREQUISITES

Knowledge of Apache Spark

SynapseML training program

Introduction

- What is SynapseML?
- Key features
- Machine Learning: the basics
- Microsoft Spark ecosystem
- Apache Spark and SparkML

SynapseML features

- Simple APIs for pre-built intelligent services
- Creating large-scale pipelines
- ML Frameworks
  - Azure Cognitive Services
  - Forest insulation
  - OpenCV
  - LightGBM
  - Open Neural Network Exchange (ONNX)
  - Vowpal Wabbit
- Composing tools for different ecosystems
- Glue code

SparkML Ecosystem

- SynapseML with Spark
- HTTP project
- Integrating Web services into SparkML models
- Using Spark clusters

Unique SynapseML API

- SynapseML framework
- Microsoft's new algorithms
- API languages
  - Python
  - R
  - Scala
  - Java
- Simplifying the distributed machine learning experience
- Model evaluation on single-node and multi-node clusters
- Elastic resizing

Responsible AI explainable tools

- Shapley (SHAP)
- LIME
- Explain the predictions of vision, text and table models
- Interpreting a visual classifier

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.

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.