Artificial intelligence e-learning chain - machine learning, deep learning

Practical course - 1d - 7h00 - Ref. 8ML
Price : 290 CHF E.T.

Want to unravel the mysteries of artificial intelligence? Discover machine learning, the technological revolution that is taking artificial intelligence to new heights! Machine learning is much more than lines of code. It's the art of giving machines the ability to learn from data, recognize complex patterns and make autonomous decisions. Our specialized channel will introduce you to the fundamental concepts of Machine Learning and enable you to apply the principles in real-life situations.

Teaching objectives

At the end of the training, the participant will be able to:

- Understanding the benefits of machine learning.
- Learn about the different approaches to machine learning.
- Identify the main task types for machine learning and how to put them into practice.
- Understand the fundamental concepts of data science and machine learning.
- Learn about Azure Machine Learning Studio's model training and deployment features.
- Developing models with Jupyter notebooks.
- Automate model development processes with AutoML functionality.
- Define the basic concepts of neural networks.
- Understand the structure of artificial neurons.
- Identify Deep Learning neural networks.
- Identify different multilayer perceptron neural networks.
- Understand the use of neural networks.
- Know different architectures and the notion of backpropagation algorithms.
- Install and identify the use of TensorFlow.
- Learn about examples of neural networks based on TensorFlow's integrated version of Keras.
- Use the Spark framework to analyze and process data.
- Using Spark to enrich data and perform Machine Learning.

PARTICIPANTS

Anyone interested in Deep Learning and neural networks: Data Scientists, Data Analysts, Data Stewards, Data Engineers.

PREREQUISITES

Basic knowledge of artificial intelligence, good level in Python or R.

TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more.
Participants also complete a placement test before and after the course to measure the skills they've developed.

Intended audience

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Prerequisites

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Practical details

Digital activities

IT structure: recorded courses, expert videos and best practice sharing.

Mentoring

L'option tutorat propose un accompagnement personnalisé par un formateur référent ORSYS, expert du domaine. Adapté aux besoins, aux capacités et au rythme de chaque apprenant, ce tutorat combine un suivi asynchrone (corrections personnalisées d'exercices, échanges illimités par message...) et des échanges synchrones individuels. Bénéfice : une meilleure compréhension, le développement des compétences et un engagement durable dans la formation.

Pedagogy and practice

A wealth of content produced by trainers following a rigorous pedagogical approach. During each course, operational cases are commented on by experts to help learners put into practice what they have just learned. To help learners anchor their memory, each content item is broken down into short sequences of 3 to 10 minutes. This enables each learner to learn dynamically and independently.

Course schedule

1 Machine Learning, concepts and challenges

- What is Machine Learning?
- Supervised learning.
- Other forms of learning.
- Deep and shallow learning.
- The current challenges of Machine Learning.

2 Azure Machine Learning Studio, developing your models

- Introducing data science and machine learning.
- Introduction to Azure Machine Learning Studio.
- Introducing Microsoft Azure Machine Learning.

3 Understanding artificial neural networks

- Artificial neurons.
- Perceptron.
- Neural networks.
- Deep Learning.

4 Neural networks with TensorFlow

- Neural networks.
- Backpropagation algorithm.
- Introduction to TensorFlow 2.
- Neural networks with TensorFlow 2.

TEACHING AIDS AND TECHNICAL RESOURCES

- The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
- At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
- A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@orsys.fr to review your request and its feasibility.

5 Spark, a distributed framework for Big Data and Machine Learning

- The Spark framework and how it works.
- Spark for data enrichment.
- Spark for machine learning.