Publication date : 02/01/2024

Course : MLOps, deploying Machine Learning in production

Practical course - 3d - 21h00 - Ref. MLW
Price : 1650 € E.T.

4,2 / 5

BEST

Devops : pratique de développement logiciel continu pour déployer avec efficacité et fiabilité les nouveautés. Machine Learning : création et maintien des modèles pour améliorer l'avenir. Association des deux : MLOps pour gérer le cycle de vie des projets de data science, s'appuyant sur la conteneurisation.

Teaching objectives

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

- Understand the various stages in the life of the model and data after the POC
- Know how to reduce the dimensions of a model to scale
- Knowing the different production platforms
- Know how to set up model explicability algorithms
- Notions of embeddability
- Knowledge of distributed training of large models

Intended audience

Engineers, developers, researchers, data scientists, data analysts and anyone who wants to put MLOps into practice.

Prerequisites

Good knowledge of the Python language. Knowledge of machine learning / deep learning. Use of Docker.

Course schedule

PARTICIPANTS

Engineers, developers, researchers, data scientists, data analysts and anyone who wants to put MLOps into practice.

PREREQUISITES

Good knowledge of the Python language. Knowledge of machine learning / deep learning. Use of Docker.

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.

1 Life after the PoC (Proof of Concept)

- What is MLOps?
- Cycle de vie de la data.
- An overview of the different production platforms.
- The curse of dimensionality.
- Technical choices for production start-up.
- Presentation of embeddability platforms.
- Continuous integration, deployment and maintenance of models.

Hands-on work
Set up a cloud environment for model deployment. Testing of off-the-shelf APIs. Manage authentication keys and API entry points.

2 Stages in the production of Deep Learning models

- Dimension reduction algorithms (PCA, SVD).
- Pruning. Quantization.
- Low-rank approximation. Binary weight networks.
- Winograd transformation.
- Evaluation of model performance after reduction.
- Explicability of the model with the LIME and SHAP algorithms.
- Presentation of architectures for distributed training of large models.

Tutored hands-on work
Implementation of a Machine Learning model on credit defaults, with explainability. Implementation of pruning on a pre-trained Deep Learning model for object detection.

3 Docker and Kubernetes integration

- Reminders about Docker.
- Put into practice by deploying a model with FastAPI and Docker.
- Introducing Kubernetes.
- Introducing KubeFlow.
- Presentation of the principles of high-volume management and Big Data architectures for model deployment.
- Best production practices.

Hands-on work
Practice deploying a model with Docker.

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.

Dates and locations

REMOTE CLASS
2026 : 1 Apr., 8 June, 14 Sep., 9 Dec.

PARIS LA DÉFENSE
2026 : 1 Apr., 8 June, 14 Sep., 9 Dec.