Publication date : 05/23/2024

Course : Certifying course: Integrating artificial intelligence models and services

Skills block of the RNCP 37827BC02 title

Practical course - 24d - 168h00 - Ref. ZIS

Price : 10980 € E.T.

This course is the second skills block in the state-approved RNCP Level 6 (Bac +3) "Artificial Intelligence Developer" qualification. It covers a full range of skills, from technical watch to the continuous delivery chain. You'll master the organization of intelligence, the identification and parameterization of AI services, API development, integration into applications, model monitoring with specific metrics, automated test programming and the implementation of a continuous delivery chain.

Teaching objectives

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

- Organize and conduct a technical and regulatory watch
- Identify pre-existing AI services based on the expression of need for AI functionalities
- Setting up an artificial intelligence service
- Develop an API exposing an artificial intelligence model
- Integrate the API of an artificial intelligence model or service into an application
- Monitor an artificial intelligence model using current and project-specific metrics
- Program automated tests of an artificial intelligence model
- Creating a continuous delivery chain for an artificial intelligence model

Intended audience

Anyone wishing to integrate artificial intelligence models and services.

PARTICIPANTS

Anyone wishing to integrate artificial intelligence models and services.

PREREQUISITES

Hold a level 5 diploma (Bac +2), with knowledge of object programming and SQL. If this is not the case, hold a level 4 diploma (BAC) and 3 years' experience in application development, subject to validation of the VAP file by the certifier.

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.

Prerequisites

Hold a level 5 diploma (Bac +2), with knowledge of object programming and SQL. If this is not the case, hold a level 4 diploma (BAC) and 3 years' experience in application development, subject to validation of the VAP file by the certifier.

Certification

Le bloc de compétences est validé à travers un cas pratique et une mise en situation. Pour le cas pratique, l'évaluation doit se faire à partir de l'expression d'un besoin réel ou fictif de fonctionnalités d'intelligence artificielle. Ce besoin peut résulter d'une commande client comme d'une sollicitation interne d'un collaborateur data scientist par exemple. Le cas pratique évalué a pour but l'installation et la configuration du service d'IA préconisé. Évaluation basée sur la correction d'un rapport professionnel et d'un oral individuel. Pour la mise en situation, l'évaluation doit se faire dans un contexte réel ou fictif de réalisation d'un service d'intelligence artificielle à partir d'un modèle fourni. Le projet évalué a pour but la mise en service (packaging, monitorage, test…) du modèle fourni, et son intégration dans une application existante. Évaluation basée sur la correction d'un rapport professionnel et d'un oral individuel intégrant une démonstration du projet.

Course contents

This course consists of the following modules :

Implement effective competitive intelligence

Ref. VCU - 2 days ★ 4 / 5

Managing a Benchmarking project

Ref. BEN - 2 days

Machine learning: Methods and solutions

Ref. MLB - 4 days ★ 4 / 5

Continuous integration: Best practices for implementation

Ref. DIN - 3 days ★ 4 / 5

Deep Learning and Neural Networks: The Basics

Ref. DRN - 3 days ★ 4 / 5

Certification Integrating artificial intelligence models and services

Ref. ZSD - 0.5 day

Course schedule

1 Implement effective competitive intelligence

- Identify the different types of monitoring.
- Design a research plan.
- Mastering field and documentary tools for gathering information.
- Implement monitoring and analysis tools.
- Use information to optimize competitive positioning.

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.

2 Managing a Benchmarking project

- Identify the different types of benchmarking.
- Draw up project specifications.
- Identify sources of information and partners.
- Analyze the data collected.
- Communicating best practices to teams.

3 Descriptive statistics, introduction

- Understand the benefits of descriptive statistics.
- Understand how to process raw data.
- Understand basic statistical tools and how to calculate them.
- Pose a statistical problem and find the appropriate method.

4 Machine learning methods and solutions

- Understand the different learning models.
- Model a practical problem in abstract form.
- Identify relevant learning methods to solve a problem.
- Apply and evaluate the methods identified on a problem.
- Link different learning techniques.

5 Continuous integration, best practices

- Understand the components and principles of continuous integration.
- Operate a version control manager.
- Understand the mechanics of software construction and the associated Build tools.
- Configure a project on a continuous integration server.
- Decipher the main metrics of code analysis tools.
- Understand the role of artifact repositories and configuration management.

6 Machine Learning with Python from POC to production

- Set up the various preprocessing stages with Python.
- Choose the right model for a given problem.
- Apply and evaluate models on real data.
- Make a model available in the cloud and enable it to be queried via the API.

7 Deep Learning and neural networks: the basics

- Understand the concepts of Machine Learning and the evolution towards Deep Learning (deep neural networks).
- Master the theoretical and practical foundations of neural network architecture and convergence.
- Know the different fundamental architectures and master their fundamental implementations.
- Master neural network implementation methodologies, and the strengths and limitations of these tools.
- Know the basic building blocks of Deep Learning: simple, convolutional and recursive neural networks.
- Learn about more advanced models: auto-encoders, gans, reinforcement learning.

8 Deep Learning with PyTorch

- Manipulate images and text with PyTorch.
- Set up neural network training from scratch or using transfer learning.
- Use PyTorch modules to load data.
- Knowledge of distributed training.
- Knowledge of new meta-architectures such as transformers.

Dates and locations

REMOTE CLASS
2026 : 2 Apr., 15 June, 28 Sep., 14 Dec.

PARIS LA DÉFENSE
2026 : 2 Apr., 15 June, 28 Sep., 14 Dec.