+33 (0)1 48 10 09 46
formation@ambient-it.net
140 Avenue Jean Lolive 93500 Pantin - France

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Sign Up

Altair AI Studio Training

3 days (21 hours)

Overview

Altair AI Studio, formerly RapidMiner Studio, is a data science platform that enables users to prepare data and build machine learning models using visual workflows, while minimizing the need for coding.

This Altair AI Studio training course will enable you to master the entire data mining project lifecycle using the CRISP-DM methodology. You will learn how to import data from various sources, clean, transform, and enrich it to build reliable and actionable datasets.

You will be able to develop classification and regression models, as well as explore your data using clustering and dimensionality reduction techniques. You will learn to compare algorithms and interpret their results in order to select the approaches best suited to your business challenges.

The course also covers model evaluation and optimization. You'll learn to use cross-validation, key performance metrics, and hyperparameter optimization to minimize overfitting and improve the quality of your predictions.

Finally, you'll learn how to build reusable analytical workflows, integrate AI Studio with your external data sources and systems, and extend your processing capabilities with Python. You'll also discover how to integrate large language models (LLMs) and generative models into your processes to enrich your analytical use cases.

By the end of this course, you'll be able to build a complete data science workflow with Altair AI Studio, from data preparation to the evaluation and integration of a machine learning model into your business processes.

Like all our training courses, this one will introduce you to **the latest stable version** of the technology and its new features.

Objectives

- Understand the Altair AI Studio environment and the CRISP-DM methodology
- Import, clean, transform, and enrich data from various sources
- Build classification, regression, and clustering models
- Evaluate the performance of machine learning models and optimize their hyperparameters
- Build reusable and automated analytical workflows
- Extend processing capabilities with Python and explore the integration of LLMs and generative models

Target Audience

- Data Analysts
- Data Scientists
- Business Analysts
- Data professionals who want to develop models without writing a lot of code

Prerequisites

- Basic knowledge of data analysis
- Basic understanding of descriptive statistics recommended
- Basic knowledge of SQL for working with relational data sources
- No advanced proficiency in Python or any other programming language is required

Curriculum for our Altair AI Studio: Data Mining and Machine Learning training course

[Day 1 - Morning]

Getting Started with Altair AI Studio and Data Mining Workflows

- Understand the evolution from RapidMiner Studio to Altair AI Studio and its role in the data science ecosystem
- Discover the CRISP-DM methodology and the stages of a data mining project
- Get familiar with the interface, repositories, processes, operators, and settings
- Build and run your first visual data processing workflow
- Import data from files, databases, and other available sources
- Hands-on workshop: Create your first Altair AI Studio process to import, explore, and transform a dataset.

[Day 1 - Afternoon]

Prepare, transform, and explore the data

- Clean the data and handle missing values, duplicates, and outliers
- Transform variables using normalization, discretization, encoding, filtering, and sampling
- Merge, join, and aggregate multiple data sources into a single workflow
- Create new variables and implement feature engineering techniques
- Analyze distributions, correlations, and outliers using visualization and exploration tools
- Hands-on workshop: Prepare a raw dataset, build new variables, and perform exploratory analysis prior to modeling.

[Day 2 - Morning]

Build supervised classification and regression models

- Understand the differences between classification and regression and select an approach based on the business problem
- Build models using Decision Trees, Random Forests, SVMs, and k-NN
- Implement regression models and interpret their predictions
- Organize the training, model deployment, and prediction steps into a workflow
- Measuring performance using accuracy, precision, recall, F1-score, and regression metrics
- Hands-on workshop: Train multiple supervised models, compare their results, and select the model best suited to the use case.

[Day 2 - Afternoon]

Explore data using clustering and dimensionality reduction

- Understand the principles of unsupervised machine learning and its main use cases
- Build clusters using k-Means, k-Medoids, and DBSCAN
- Choose distance and similarity measures suited to the data being analyzed
- Evaluate clusters using the Silhouette Index and the Davies-Bouldin Index
- Reduce dimensionality and select variables using PCA, weighting, and feature selection techniques
- Hands-on workshop: segment a dataset, compare several clustering strategies, and interpret the resulting clusters.

[Day 3 - Morning]

Evaluate and optimize machine learning models

- Implement training/test splits and cross-validation to evaluate models
- Interpret the confusion matrix, ROC curves, AUC, and key performance metrics
- Identify overfitting and underfitting and apply corrective strategies
- Compare multiple algorithms and configurations to select the best model
- Optimize hyperparameters and automate the search for high-performing configurations
- Hands-on workshop: Evaluate multiple models using cross-validation, then optimize the hyperparameters of the best candidate.

[Day 3 - Afternoon]

Scale up and enhance Altair AI Studio workflows

- Structure reusable workflows and organize processes to facilitate their maintenance
- Export results and integrate processing with files, databases, APIs, and external systems
- Extend Altair AI Studio’s capabilities with Python and combine visual and development
- Automate processes and prepare for the integration of analytical workflows into business processes
- Explore the integration of LLMs and generative models in AI Studio: prompting, and new use cases
- Hands-on workshop: Build an end-to-end workflow incorporating data preparation, an ML model, automation, and enrichment via an external component.

Target Audience

This training is intended for both individuals and companies—large and small—seeking to train their teams in new, advanced IT technologies or to acquire specific business knowledge or modern methodologies.

Entry-Level Assessment

The pre-training assessment complies with Qualiopi quality standards. Upon final registration, the learner receives a self-assessment questionnaire that allows us to evaluate their estimated proficiency with various types of technologies, as well as their expectations and personal goals for the upcoming training, within the limits imposed by the selected format. This questionnaire also allows us to anticipate certain connection or internal security issues within the company (intra-company or virtual classroom) that could pose challenges for monitoring and ensuring the smooth operation of the training session.

Teaching Methods

Hands-On Training: 60% Practical, 40% Theoretical. Training materials distributed in digital format to all participants.

Organization

The course alternates between theoretical input from the instructor—supported by examples and reflection sessions—and group work.

Assessment

At the end of the session, a multiple-choice quiz is administered to verify that participants have successfully acquired the skills.

Certification

A certificate will be issued to each trainee who has completed the entire training program.