Course : AI Python for image processing

Transform, extract and analyze images with libraries: Pilow, Matplotlib, OpenCV, Scikit, ...

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

★★★★☆ **4,6 / 5**

This Python artificial intelligence course will enable you to perform machine learning data analysis. You'll learn how to transform an image and extract information from it. We'll introduce you to the image processing libraries most commonly used in deep learning projects.

Teaching objectives

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

- ✅ Deepen your knowledge of the Python language
- ✅ Performing Machine Learning data analysis in Python
- ✅ Discover Python image processing libraries
- ✅ Transforming an image
- ✅ Extract information from an image

Intended audience

Python developers wishing to familiarize themselves with the main automated learning and image processing tools.

Prerequisites

Python language skills and knowledge of NumPy and SciPy.

Course schedule

1   Image processing

- The Pillow library for transforming images.
- Presentation of image analysis libraries.
- Simple image manipulation with NumPy.
- Introducing Matplotlib for fast display.

Hands-on work
Use Pip or Conda, simple manual image transformations with Numpy.

(2) More advanced image processing

- Filtering, analysis and information retrieval with Scikit-image.
- Presentation and transformations with OpenCV.
- OpenCV: contour and pattern detection.

Hands-on work
Set up libraries, manipulate and analyze images with Scikit-image and OpenCV.

(3) Automated learning

- Setting up Scikit-learn.
- Example of usable data and classification of automated learning processes.
- Choosing and using an estimator.
- Enhanced supervised learning and transformers.

Hands-on work
Multiple supervised learning on datasets with Scikit-learn.

(4) Additional cases of automated learning

- Decomposition - principal component analysis and linear discriminant analysis.
- Unsupervised learning: multiple approaches.
- Various classification algorithms.

Hands-on work
Use of additional learning algorithms from Scikit-learn.

(5) Learning for images

- Image classification with Scikit-learn, review of available algorithms.
- Introducing and installing scikit-image.
- Library for adapting machine learning to digital images
- Scikit-image inputs and outputs.
- Image analysis with Scikit-image: segmentation, detection, measurement.
- Simple image transformations with Scikit-learn: convolutions and other filters.
- Image comparison and stitching with Scikit-image.
- Image enhancement with Scikit-image.

Hands-on work
Image classification, face detection, reconstructions and enhancements with scikit-learn and scikit-image.

Dates and locations

REMOTE CLASS
2026 : 16 Mar., 15 June, 26 Oct.

PARIS LA DÉFENSE
2026 : 15 June, 26 Oct.