

Training program

Python for Data Analysis

3 days, 21 heures

Targeted audience

- Python Developers

Prerequisites

- Proficiency in Python programming

Educational goals

- Know how to use the main data processing and analysis tools for Python
- Learn how to extract data from a file and manipulate it
- Implement a simple learning model

Description / Content

Python Positioning

- Needs of data scientists: calculations, image analysis, machine learning, database interfacing
- Contributions of Python: a wide variety of tools, expertise in the field of scientific computing
- Overview of tools: pandas, agate, bokeh, scikit-learn, pybrain, tensorflow, keras, mxnet, caffe

Calculations and Graphs

- NumPy: Foundation of array computing
- SciPy: Scientific Tools for Python, scientific layer
- Array manipulation, mathematical functions
- Graphical representation with basemap and matplotlib
- Implementation of SciPy/NumPy: image manipulation, edge detection

Relational Data Manipulation

- Pandas: data table manipulation
- Tables with Pandas: indexing, operations, relational algebra
- Storage in files: CSV, h5py, netCDF
- Comparison and performance of Pandas / NumPy

Machine Learning and Deep Learning

- Introduction to TensorFlow, scikit-learn, keras, mxnet, caffe
- TensorFlow: operating principle, supported platforms, distribution, standard APIs provided, learning models
- scikit-learn project: classification, regression, validation of predictive models
- Demonstrations with models provided by scikit-learn
- Positioning and comparison with Keras, mxnet, caffe

Teaching methods

The teaching means and teaching methods used are mainly:

- Documentation and course support
- Practical application exercises
- Answers to exercises for practical courses





- Case studies or presentation of real cases for seminars

Educational resources and supports

- Course materials
- Presentations
- Practical cases

Evaluation and monitoring methods

At the end of each training/seminar, OXiane Institut provides participants with a training evaluation questionnaire which is then analyzed by our teaching teams.

A payroll sheet per half-day of attendance is provided at the end of the training as well as a certificate of completion of training if the trainee attended the entire session.

Accessibility for people with disabilities

Do you have a specific accessibility need? Contact Ms Nina Renaldo, disability representative, at the following address formation@oxiane.com to study your request and its feasibility as best as possible.