TRAINING PROGRAM

Applied Machine Lean

Master the fundamentals of applied Machine Learning

ABOUT THIS COURSE

This applied machine learning training will make you acquire the fundamental foundation of the data scientist in machine learning and will allow you to become operational on your data science use cases.

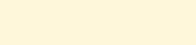
At the end of this training, trainees will be able to create, train and evaluate their own predictive models. Mastery of the main machine learning algorithms will make trainees versatile in most data science use cases.

All the theoretical concepts studied will be accompanied by a "red line" use-case, which will be implemented by the trainees throughout the training.

COURSE OBJECTIVES

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

- Understand machine learning and its uses
- Master and know how to use a full range of algorithms
- Continuously improve results with "features engineering"
- Implement end-to-end machine learning applications
- Rigorously evaluate their predictive models



AUDIENCE

Developer, business analyst, data analyst, data engineer, quantitative analyst, statistician

PREREQUISITE

Basic notions in data manipulation with python, or at least with another programming language, in statistics and in probabilities. Laptop and Anaconda software installed.



COURSE INSTRUCTOR

Thibaud Vienne Expert in Machine Learning

Professor in machine learning at the master 203 Paris-Dauphine and at the engineering school ESIEE Paris



TRAINING PROGRAM

Applied Machine Learning

DAY 1 PROGRAM

Step 1: Introduction to machine learning

The different types of learning Examples of use cases. The tools of the data scientist. Presentation of the "red line" use case

Step 2: Linear and logistic regression

Linear regression Logistic regression Hands'on: application of a « red line » use case

Polynomial regression and regularisation Hands'on: application of a « red line » use case

Step 3: Machine learning in practice

Rigorously evaluate your model Hands'on: application of a << red line >> use case

Improve the result with features engineering and features selection

Hands'on: application of a « red line » use case

DAY 2 PROGRAM

Step 4: More advanced algorithms: tree techniques

Decision trees **Hands'on**: application of a << red line >> use case

Step 5: Practical workshop - It's up to you

Implementation of a spam detector with test-mining techniques Implementing and evaluating your own model Skills practiced: *logistic regression, evaluation, text-mining*

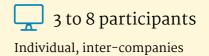
COURSE FEES

Course 4 days – 28h lentgh

Intra 1.950 €/pers Inter On demand (possibility of adapting over three days)

MODALITIES

60% theory including quiz interactive 40% practical work



FOLLOW-UP AND EVALUATION

Quizzes and mini-exercises

Practical work (see steps 5 and 8 of the program)

Training Evaluation Questionnaire



Intra-company training: the exercises and data can be adapted to the specific business requirements of the participants

TRAINING PROGRAM

Applied Machine Learning

DAY 3 PROGRAM

Step 6: Introduction to Neural Networks with Keras

Introduction to feedforward neural networks Hands'on: application of a << red line >> use case

Step 7: Optimisation of neural networks

Optimisation and parameterisation of neural networks Hands'on: application of a « red line » use case

DAY 4 PROGRAM

Step 8: Practical workshop - It's up to you

Implementation from A to Z of a regression use-case

Implementing and evaluating your own model

Skills practiced: *linear regression, features engineering, decision trees, random drills, neural networks*

Step 9: Tools and organisation of the data scientist

Big Data: Processing of (very) large data
Cloud: The new tools available to data scientists
eXplainable AI: The end of black box models?
Organisation: The different data science professions

Step 10: Conclusion

Conclusion and summary of the training To go further CONTACT US

"Understanding the applications of Deep Learning, the structure of a neural network and mastering the necessary algorithms allowed us to better structure our Deep Learning project."

Team Manager