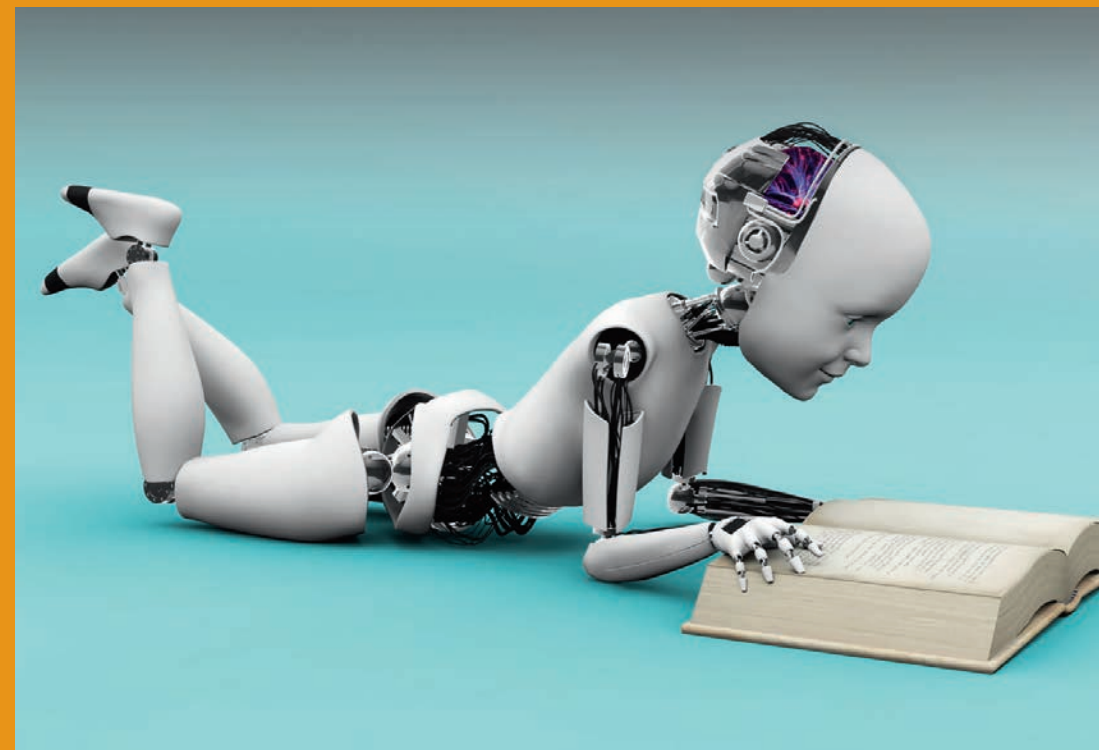# Practical introduction to Machine Learning & Deep Learning

5 Days Course :
Monday 3rd of September – Friday 7th of September 2018

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UNIVERSITÉ DE NEUCHÂTEL

FACULTÉ DES SCIENCES
ÉCONOMIQUES

**Institut du management
de l'Information**

Rue A.-L. Breguet 2
CH - 2000 Neuchâtel

www.unine.ch

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Practical introduction
to Machine Learning & Deep Learning

Summary

This 5 days course aims to provide basic understanding of the most used machine learning and deep learning algorithms. It is an intensive course that, without going into too much mathematical details, provides the necessary foundations to start testing, working with and evaluating those algorithms. Knowing how to manipulate these algorithms and their potential forms an important building block in the digital literacy required to prepare and live in Society 4.0.

The topics covered are: regression (linear, logistic), classification (K-NN), dimensionality reduction (PCA), support vector machines, clustering (K-means), decision trees, Bayesian learning, neural networks, deep neural networks (CNN, RNN and LSTM), data cleaning, models' evaluation and features selection.

Objectives

By the end of the course, participants should be able to:

- Categorize the different algorithms and their use cases
- Efficiently select algorithms' features and evaluate algorithms' performance
- Explain and use linear and logistic regression methods
- Explain and use classification and clustering algorithms
- Explain and use dimensionality reduction, decision trees and Bayesian learning
- Explain and use artificial neural networks and deep learning methods

Target audience

This course would benefit:

- Big data and business intelligence technicians
- Business analysts
- Big data and business intelligence project managers
- Students from universities and schools of applied sciences at master level or higher

The course is nevertheless open to other profiles of professionals and academics interested in discovering machine learning and deep learning and how they can be applied in their domain.

Academic supervisor

Prof. Paul Cotofrei
Associate Professor
Information Management Institute
University of Neuchâtel
paul.cotofrei@unine.ch
032 718 13 78

Admission conditions

Given the density of the course no introduction to programming nor to mathematics can be provided. Participants are expected to:

- Bring their personal computers during the course with full administrative rights.
- Be familiar with the basic use of R and Python.
- Have basic familiarity with linear algebra and statistics.

Specific details on the requirements can be found on the webpage of the training.

A two hours R and Python course can be provided on Friday afternoon before the beginning of the course on Monday. Mention your interest to follow this course while registering.

Certification

Upon successful completion of the course, the participants will be awarded with a **Certificate of Completion** issued by the Faculty of Economics and Business of the University of Neuchâtel.

Dates and place

Next session: Monday 3rd of September – Friday 7th of September 2018
Avenue du 1er-Mars 26, 2000 Neuchâtel, Switzerland

We ask the participants to organize their arrivals in order to be in class on Monday at 9:00 AM and to be able to leave after 5:00 PM on Friday.

Registration

To register to the course, please fill in the online registration form available on the webpage of the training

Fees

The registration fee for the training is CHF 1000. - (including lunch and coffee/tea breaks)

Informations

Course coordinator
Eliane Maalouf
PhD candidate – Teaching Assistant
Information Management Institute
University of Neuchâtel
eliane.maalouf@unine.ch
032 718 13 29

Webpage of the training
www.unine.ch/unine/MLDLtraining