Course title: NLP with Python

This training allows you to acquire theoretical and practical knowledge on automatic language processing (NLP). It addresses the main concepts, from classical statistical techniques to state-of-the-art deep learning models. The training includes a practice in Python to acquire operational skills.

Target audience

Anyone wishing to gain theoretical and practical knowledge in NLP with Python.

Prerequisite:

Knowledge of Python.

Elements of statistics and/or machine learning.

Reference:	Category:	Duration:
Trainevo-092022-IT-11	IT	5 days
Language(s):	**Training organization:**	**Nb of participants (min):**
French / English	**TRAINEVO** TRAINING SERVICES	8

Goal(s)

Become aware of opportunities and use cases related to textual data.

Acquire the fundamental concepts of NLP, including the most advanced techniques.

Be able to implement a business project involving textual data.

Program

Introduction to NLP
- History and evolution of the NLP
- Specificity of textual data
- Pre-processing of textual data
- Traditional NLP tasks (retrieving information, named entities, etc.)

NLP with statistical techniques
- Technique de TF-IDF
- Theme detection and LDA algorithm
- Practice in Python

NLP with machine learning
- Key Machine Learning Algorithms
- Overlearning and regularization of ML algorithms

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- Training ML algorithms on textual data
- Practice in Python

Distributed representations of words
- Limitations of one-hot representations
- Co-occurrence matrices
- CBOW and skip-gram
- Classic templates (Word2Vec, GloVe, fastText
- Practice in Python

NLP with deep leearning.
- Fundamentals of deep learning
- Multilayer Perceptron
- RNN and LSTM models
- Seq-to-Seq Templates
- Practice in Python

Self-supervised and multimodal learning
- Attention Mechanism and Transformers
- Fine tuning (BERT)
- Few-shot learning (GPT-3)
- Multimodal learning
- Practice in Python

NLP Project

Method

The training includes a theoretical course (adapted to the public's achievements) and a practice in Python for each technique covered.

Evaluation

Enterprise use cases.

Submission of a certificate of attendance.

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