AIBT106 - Machine learning and data analytics

From the Advanced Master AIBT

(Artificial Intelligence and Business Transformation)

ISAE SUPAERO
Institut Supérieur de l'Aéronautique et de l'Espace

Highlights

- Mainstream Machine Learning algorithms
- Choosing the right algorithm / application
- Practical usage and feature engineering

Key elements

Dates: **January 9 to 12, 2023**

Duration: **28 hours, 4 days**

For whom:
recent graduates, jobseekers and experienced employees

Location:
I**SAE-SUPAERO, Toulouse**

Course fees: **€2,300**

Language: **English**

Extracting knowledge and value from finite data (whether scarce or abundant) in an automated way is the goal of Machine Learning. It aims at giving computers the ability to learn -i.e. progressively improve performance on a specific task- with data, without being explicitly programmed.

This module offers a hands-on approach, through practical use-cases, at the general landscape of learning algorithms and the main problems they solve.

Learning objectives

After completing this course, participants will be able to:

- Link some field problems to their formal Machine Learning counterparts;
- Know the main bottlenecks and challenges of data-driven approaches;
- Know the main categories of Machine Learning algorithms;
- Know the names and principles of key algorithms in Machine Learning;
- Know the basics of common libraries.

Prerequisites

- General knowledge on computer science.
- Work experience in a professional environment.

Practical information and registration

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Course Content

- The data analytics workflow;
- General overview of Machine Learning;
- Unsupervised Learning;
- Geometrical approaches in Supervised Learning;
- Probabilistic approaches in Supervised Learning;
- Ensemble methods;
- Anomaly detection;
- Bio-inspired ML, Neural Networks and Deep
- Learning;
- Feature engineering and data preprocessing.

Teaching methods

Teaching methods	Yes
Lectures / tutorial	X
Collaborative learning	
Flipped classroom	
Blended learning (online and face to face)	
Learning by doing	X
Project-based	
Simulation	X
Case study	

Assessment

- Hands-on evaluation on a computer (100 %)