AIBT106 - Machine learning and data analytics

From the Advanced Master AIBT

(Artificial Intelligence and Business Transformation)

Key elements

Period: **Early December**

Estimated duration: **35 hours**

For whom:
recent graduates, jobseekers and experienced employees

Location:
ISAE-SUPAERO, Toulouse

Language: **English**

Highlights

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

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.

Prerequisites

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

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.

Information and registration

info.exed@isae-supaero.fr

AIBT106 – Machine learning and data analytics

From the Advanced Master AIBT

(Artificial Intelligence and Business Transformation)

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 %)