# MASTER'S THESIS INTERNSHIP OFFER

## DESCRIPTION

- **Title :** Learning Analytics for Moodle logs analysis
- **Hosting organization:** Université de Poitiers
- **Lab:** XLIM
- **Research Team:** DAMIALAB
- **Scientific pole:** ASALI
- **Starting date (month/date):** 6 mars 2023

- **Short description of the internship offer (up to 5 sentences):**

Data analysis, deep learning, learning analytics, machine learning

- **Objectives (up to 5 sentences):**

Within the framework of the NCU Elans project, we aim to analyze the learning traces of students when using the Moodle platform of the University of Poitiers. This research work will be done as a preamble to a longer-term thesis work. In the context of the internship, the objective is to characterize the Moodle traces and to realize a first study on the correlation of the logs between them and with the other indicators resulting from the information system of the University of Poitiers.

- **Description of the internship offer:**

Within the framework of the NCU Elans project (https://elans.univ-poitiers.fr/), one of the axes concerns the reinforced accompaniment of students and the way in which the digital tools at their disposal can allow this accompaniment. At the heart of this approach, the use of tools based on machine learning and data mining should make it possible to determine learner profiles based on learning traces from educational platforms, particularly at the University of Poitiers. This work in the field of learning analytics will be based on Moodle traces and student success indicators to determine learner profiles automatically.

This internship work will be divided into two main steps:

1) Group and measure qualification, with:

- Definition and determination of learner profiles.
- Identification (and characterization) of the characteristics to be considered in the logs to propose recommendations.

2) Modeling

Proposal of a machine learning model to identify the "categories" according to the input data.

### Description of the research team:

The scientific objectives are complex due to their diverse nature and the vast subjects they underlie: AI for massive data, ecosystem development, reinforcement learning, Active Learning. One of the particularities is to position AI at the interfaces, and thus to confront these model-based or data-based approaches to very diverse scientific contexts (mechanics, photonics, education ...). This approach is possible thanks to the complementarity of the scientific expertise of the researchers in the fields of signal processing, statistics and data analysis, and machine learning, both in experimental and numerical applications. The work and results are valorized by numerous partnerships according to different mechanisms (CIFRE grants, post-doctorates, partnership research agreements, etc.) of knowledge transfer.

## SKILLS

### Expected skills of the applicant:

| |
|---|
| Computer Programming, Data analysis Machine Learning |

## PHD THESIS OPPORTUNITIES

### PhD thesis opportunity after the Master course:

☒ Yes ☐ No

## CONTACT & APPLICATION

### Surname and first name and mail of the internship supervisor(s):

François Lecellier (francois.lecellier@univ-poitiers.fr), Philippe Carré (philippe.carre@univ-poitiers.fr)

### The application shall be sent to the email: Cliquez ou appuyez ici pour entrer du texte.

### Closing date for applications: Cliquez ou appuyez ici pour entrer une date.