

## Offers

### **Ph.D. and M.Sc internship offers in Applied Artificial Intelligence (AAI) for Corporate Data.**

University of Sherbrooke in partnership with Synchronmedia Lab at École de Technologies Supérieure (ÉTS) is carrying out research on AAI for business assessment. The aim is to research and develop a state-of-the-art Machine Learning models and Data Analytics methodologies targeting corporate data.

Students who are already enrolled in a master or a PhD in their universities can benefit from these internships, given a co-supervision agreement setup. This is a call for applications under interuniversity partnership.

For more additional details, please see the description below and the application procedure.

For further information contact: [darine.ameyed.1@ens.etsmtl.ca](mailto:darine.ameyed.1@ens.etsmtl.ca) and /or [maarouf.ramadan@ushebrrooke.ca](mailto:maarouf.ramadan@ushebrrooke.ca).

## Description of Proposed Research

**Project title:** Small Business Assessment Tool (SBAT)

**Assignable** – A master student or Ph.D. candidate in Computer Sciences or Software Engineering and Information Technologies

**Time-related** – 6 months. (with a possible extension)

### **Research Context**

The training fellow will be affiliated with the Small Business Assessment Tool (SBAT) project of Prof. Maarouf RAMADAN. The main goal of the project is developing an efficient ML-based tools to retrieve knowledge from a big-datasets containing qualitative and quantitative information about companies. With the purpose to assess a given company, to define its typology, and to assess the situation of the company compared to a control group made up of similar companies.

### **Skills and Profile**

We are looking for peoples with:

- A strong background in Machine Learning, with focus on Deep Learning and/or Statistical Machine Learning methodologies (Decision trees, CART and variants; Support Vector Machines; Importance of variables; etc.);

- Skills in statistics for economics (Classification and discrimination methods, Bayesian networks, Markov fields, Pattern detection);
- Experience in programming using Python and R;
- Knowledge on SQL/NoSQL, MongoDB, NumPy, Panda, Scikit\_learn
- Github and Docker knowledge is a big plus ;
- Knowledge in math foundations, logic, data structure, algorithms, and computer science in general;
- Flexibility and ability to work with experts from a broad range of scientific and technology backgrounds;
- A dynamic personality, motivation, curiosity and the ability to overcome new challenges;

### **Application procedure**

The application must be in French or English and include a curriculum vitae, motivation letter and degree certificates. Interested candidates should send these documents by email to Prof. Maarouf RAMADAN and Prof. Darine AMEYED: [maarouf.ramadan@ushebrrooke.ca](mailto:maarouf.ramadan@ushebrrooke.ca) & [darine.ameyed.1@ens.etsmtl.ca](mailto:darine.ameyed.1@ens.etsmtl.ca). After evaluation of their application, selected candidates are invited for an interview.