



## WORK OFFER

Ref. No. CH-2020-000217

---

### Employer Information

**Employer:** Institut for Information and Communication Technology de la HEIG-VD  
Rue de Galilée 15  
Yverdon-les-Bains  
Switzerland

**Website:** <http://www.stephan-robert.ch>

**Location of placement:** Yverdon  
**Nearest airport:** Geneva  
**Working hours per week:** 41.0  
**Working hours per day:** 8.2

**Number of employees:** 640  
**Business or products:** Recherche

---

### Student Required

**General Discipline:** 27-MATHEMATICS AND STATISTICS  
40B-PHYSICS

**Completed years of study:** 4

**Field of Study:** 27.0101-Mathematics, General.  
27.0303-Computational Mathematics.  
40.0810-Theoretical and Mathematical Physics.

**Student status requirements:** required during the whole period of internship

**Language required:** English Good

#### Required Knowledge and Experiences:

Student in Mathematics preferred. Student must be enrolled during internship.  
Student from excellent university with excellent grades. Extremely good knowledge in mathematics and knowledge in programming (Python) and machine learning is required.

#### Other requirements:

---

### Work Offered

Profile entropy computation/analysis

We use historical customer data to build a statistical profile of their behavior. These profiles are more or less robust depending on the amount of data available and / or their homogeneity. The idea here is to be able to measure the robustness of profiles, and thus guide the analysis / scoring of the profile on a model adapted to its size.

Label propagation for labelling or classification The labeling of banking transactions is a critical issue. By their nature, this data is highly unbalanced and the amount of labels available is very small or non-existent. Therefore, ruse is needed, such as "propagation label". The idea is to infer labels from a small amount of existing labels. This subject is very close to the theme of active learning, on which we work intensely already. The "propagation label" can be used to simply increase the number of labels available to train the machine learning algorithms, or directly as a classification tool.

**Number of weeks offered:** 22 - 26

**Working environment:** Research and development

**Within the months:** 01-NOV-2019 - 31-OCT-2020

**Gross pay:** 2000 CHF / Month

**Or within:** -

**Deduction to be expected:** 10%

**Company closed within:** -

**Payment method / time of first / payment:**

**Latest possible start date:**

---

### Accommodation

**Canteen at work:** Yes

**Expected type of accommodation:** to be defined depending on availability

**Estimated cost of lodging:** 700 CHF / Month

**Accommodation will be arranged by:** LC Lausanne

**Estimated cost of living incl. lodging:** 1600 CHF / Month

---

### Additional Information

Students with any NON-EU/EFTA nationality need to provide an official letter from their university, confirming that the traineeship is compulsory (IAESTE Switzerland will apply for visa and work permit). Student need to be enrolled during internship.  
Early offer.

---

### Nomination Information

**Deadline for nomination:** 20-OCT-2019

---

**Date:** 07-OCT-2019      **On behalf of receiving country:** Sabine Lenz