

## Graduate/Master 2

internship offer – 6 months:

### Optimization of 911-call centers call-taking process

#### Research context

In case of an emergency, 911-center call takers need precise and relevant information to ensure proper emergency management and response: this is the *Common Operation Picture* (COP) which is part of the higher-level process named *Situational Awareness*.

Many research works have lately focused on the important problem of optimizing the call-taking process in 911 call centers. In case of emergency, the goal is indeed to be able to take all calls as fast and precisely as possible to ensure smooth care for the victim.

However, in the case of crisis or disaster management, many calls usually relate to the same event: in this case, the goal is not anymore to take all calls but rather to provide the most up-to-date COP possible to the decision-makers.

Hence, our research project addresses the question: ***How to optimize the call-taking process in 911 call-centers to keep an up-to-date COP of the situation?***

This question raises several challenges:

- What criteria and selection methods could be used to prioritize calls related to the same event?
- How to ensure a distributed call-taking process among the call-takers and ensure a real-time update of a shared COP?
- How to evaluate this distributed process in simulated crisis environments?

#### Collaborative context

This project is funded by the French company AnthroPi. AnthroPi is a Digital Services Company that provides simulation services for all types of call-centers. Since its start in 2017, AnthroPi has continued to evolve to meet the needs of call-takers and consequently, callers. The most elaborate level of learning is simulation. Richer and more immersive, our digital simulation of sensitive calls puts the users in the middle of the situation in a high-fidelity environment.

The internship will be co-supervised by Dr. Eva Petidmange and Dr. Aurélie Montarnal from IMT Mines Albi.

#### Objectives of the internship

There are two folds:

- (1) Building realistic crisis scenarios on the AnthroPi platform in the frame of a tight collaboration with crisis management stakeholders (e.g. French SDIS) that will be used during simulations as observation and evaluation fields for the project.
- (2) Use Artificial Intelligence (AI) approaches (machine learning and simulation most probably) to analyze the data gathered during simulations and optimize call-takers' guidelines.

**This internship offer is the first step toward an industrial doctoral thesis starting in September 2023.**

#### Location of the internship

The internship will be held in Dijon, at AnthroPi's headquarters. It may involve a couple of short stays at IMT Mines Albi, in Albi.



# AnthroPi

Dates: March to August 2023.



IMT Mines Albi-Carmaux  
Ecole Mines-Télécom

## Why should you apply?

- You are studying in Master 2 and are willing to evolve between academic and industrial research (internship and then PhD) on timely and important problems such as crisis management.
- You are very proactive and ready to be in direct contact with crisis management stakeholders in France and North America.
- You can speak English fluently.
- You are interested to work in inter-disciplinary research, namely across social sciences and artificial intelligence.
- You know how to code in Python or R.
- You would like to be part of a dynamic and enthusiastic adventure!

## Contact

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