

## Projet de recherche

**Nom Projet :** STUDY AND CONTEXTUAL ANALYSIS OF EMOTIONS BASED ON MULTIMODAL SIGNALS

**Type du projet :** PHC Polonium

**Début :** Janvier 2018

**Durée :** 2 ans

**Coordinateur du projet :** Bougueroua Lamine

**Coordinateur d'AlliansTIC :** Bougueroua Lamine

### Responsabilité et tâches d'AlliansTIC :

1. Chef de projet
2. Coordination
3. Analyse des sentiments dans le texte

**Partenaires :** Université Kazimierz Wielki (Bydgoszcz, POLOGNE)

**Participants d'AlliansTIC :** 3 personnes (M. BOUGUEROUA LAMINE, MME. MARECHAL CATHERINE, MME. WEGRZYN KATARZYNA)

**Subvention totale :** ~10 K€/an

**Subvention d'AlliansTIC :** ~5 K€/an

**Mots clefs :** **Keywords** - deep neural networks, sentiment analysis, Fuzzy logic, Affective Computing

### Descriptif court :

Affective Computing (AC) attempts to bridge the communication gap between human users and computer with "soulless" and "emotionless" feeling. The inability of today's systems to recognize, express and feel emotions limits their ability to act intelligently and interact naturally with us.

To become more user-friendly and effective, systems need to become sensitive to our emotions. Nonverbal information is very important because it complements the verbal message and provides a better interpretation of the message.

The aim of our project is to design and develop systems that can measure the emotional state of a person based on, for example, gestures (body movements and postures), facial expression, acoustic characteristics and emotions expressed in the text.

In the practical case, body signals and facial expressions recorded in real-time by sensors and cameras can be associated with predefined emotions.

It is interesting to merge the multimodal information retrieved by these devices with information from analysis of emotions and intensity analysis in texts.

The ultimate goal is to evolve the decisions of the systems so that they can react according to recognized emotions, which will allow a better human-machine interaction.

### Livrables :

1. Bilan financier 2018 (Novembre 2018)
2. Bilan financier 2019 (Novembre 2019)
3. Rapport final (Décembre 2019)

### Publication

1. Chapitre de livre :  
Katarzyna Wegrzyn-Wolska, Lamine Bougueroua, Catherine Marechal, Dariusz Mikolajewski, Krzysztof Tyburek, Piotr Prokopowicz and Corinne Ancourt : Survey on AI-based multimodal methods for emotion detection. Accepted to Lecture Notes in Computer Science book series (LNCS), 2019.