

Characterizing Human Emotions from Video Sequence Analysis

Mots clés : Array

- **Directeur de thèse :** nicole VINCENT
- **Co-encadrant(s) :**
- **Unité de recherche :** Laboratoire d'Informatique PARIS DEscartes
- **Ecole doctorale :** École Doctorale Informatique, Télécommunications, Électronique de Paris
- **Domaine scientifique principal:** Sciences et technologies de l'information et de la communication

Résumé du projet de recherche (Langue 1)

Emotion is a complex notion and is conveying important information when dealing with interactions between humans. This information might therefore be also important for monitoring interactions between humans and machines. This PhD proposal contains two tasks, namely one that analyzes a video and a second one that will have to interpret its content in an interdependent way. That means that interpretation might need some extra information that has to be extracted from the images.

The analysis of a video sequence concerns a fixed camera in closed environments. A human under observation may be seated or standing up. Our study will therefore be based on the detection of particular moves e.g. of her head, her arms, her hands or her body. In general the moves analysis of a deformable object needs an appropriate segmentation based on shapes, textures and optical flow.

The analysis of those different parts of a human body should lead to a behavior characterization as for instance worry, happiness, irritation, etc. The video analysis will proceed to an independent characterization of the observed moves at different levels.

For each body part a machine learning phase will be used for labeling the associated detected moves. Based on this labelling, some local decisions could be made by autonomous agents associated with each one of the body parts about the emotional state of the person in an independent way. Then these agents will be entering into a multiparty deliberation dialogue in order to aggregate (by using computational argumentation) their possible conflicting points of view on the characterization of the emotional state of the person.

Informations complémentaires (Langue 1)

Travail en collaboration avec P. Moraitis spécialiste d'IA

Des collaborations seront possibles avec des laboratoires (Concordia au Canada et Bar-Ilan en Israël)