Swiss Center for Affective Sciences

Machine perception and robotics for understanding interpersonal synchrony

TALK

Wednesday, Februay 4ᵗʰ 2015

17:00 - 18:30

CISA Conference Room
Campus Biotech
9, chemin des Mines
Geneva

Mohamed Chetouani

(Institut des Systèmes Intelligents et de Robotique, UPMC and CNRS)

Synchrony refers to individuals' temporal coordination during social interactions. The analysis of this phenomenon is complex, requiring the perception and integration of multimodal communicative signals. The evaluation of synchrony has received multidisciplinary attention because of its role in early development, language learning and social connection. The first step in computing synchrony and interpersonal influence is to extract the relevant behavioral features using motion-tracking devices, computer vision methods, signal processing methods, or manual measurements. Then, computational models, mainly rooted in machine learning, are employed to characterize or either predict the level of synchrony.

In this talk, we will discuss recent advances in the field of machine perception for understanding interpersonal synchrony. We will present a relevant formulation of motor imitation problem in terms of unsupervised learning. We will also discuss modeling issues in physiological signals including EEG and hormonal changes linked to behavioral analysis. In addition, we will show how developmental robotics can help in understanding complex phenomena such as inter-personal synchrony. Examples from clinical research, mainly autism, will be discussed ■

Affective Sciences
SWISS NATIONAL CENTER OF COMPETENCE IN RESEARCH

CENTRE INTERFACULTAIRE EN SCIENCES AFFECTIVES

UNIVERSITÉ DE GENÈVE