Séminaires ISIR

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Vendredi 27 Septembre 2013 à 10h30

Campus Jussieu, 4 place Jussieu, Paris
Salle de réunion 304

Title : The MEI Robot: Towards Using Motherese to Develop Multimodal Emotional Intelligence

Abstract : We introduce the first steps in a developmental robot called MEI (multimodal emotional intelligence), a robot that can understand and express emotions in voice, gesture and gait using a controller trained only on voice. Whereas it is known that humans can perceive affect in voice, movement, and even music, it is not clear how humans develop this skill. Is it innate? If not, how does this emotional intelligence develop in infants? The MEI robot develops these skills through vocal input and perceptual mapping of vocal features to other modalities. We base MEI's development on the idea that motherese is used as a way to associate dynamic vocal contours to facial emotion from an early age. MEI uses these dynamic contours as a scaffold to both understand and express multimodal emotions using a unified model called SIRE (Speed, Intensity, irRegularity and Extent). Experiments with MEI show that this voice-trained model can recognize happiness and sadness in human gait and drive the expression of a robot's emotions in speaking, gesturing and walking. As a discussion, we will present our current scheme for grounding these emotions in low-level robot needs, such as energy levels and temperature.

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