

Spatio-Temporal Data Analysis for Vision-Based Affect Recognition

Evangelos Sariyanidi, Hatice Gunes

Multimedia & Vision Group

School of Electronic Engineering and Computer Science

Queen Mary University of London

{e.sariyanidi,hatice}@eecs.qmul.ac.uk

Automatic analysis of affective behaviour is one of the numerous application domains that benefits from the developments in the mathematical theory of space-time modeling. Past research in automatic affect recognition has focused on analysing behaviour from visual data, i.e. identifying affective state from 2D images. To simplify the problem somewhat, the main focus has been on the analysis of posed and highly exaggerated facial behaviour by ignoring the real-world imaging conditions and complex affective states. Rather recently, there has been efforts addressing the identification of affective states displayed through naturalistic and subtle facial behaviour. To this end, computer vision researchers focus on details of facial activity that may occur on spatially dependent and independent locations. On the other hand, a vast number of psychological studies suggest that the temporal variation in facial cues is highly informative and their short/long term analysis is quite beneficial for various application contexts. Motivated by this fact, computer vision researchers focus on analysing the spatial and temporal variations of facial activity either independently or concurrently, with the aim of improved automatic affect recognition. We provide a brief summary of recent developments in spatio-temporal data analysis for automatic affect recognition.