Multimodal Affect and Aesthetic Experience

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ABSTRACT

The term "aesthetic experience" corresponds to the inner state of a person exposed to form and content of artistic objects. Exploring certain aesthetic values of artistic objects, as well as interpreting the aesthetic experience of people when exposed to art can contribute towards understanding (a) art and (b) people's affective reactions to artwork. Focusing on different types of artistic content, such as movies, music, urban art and other artwork, the goal of this workshop is to enhance the interdisciplinary collaboration between affective computing and aesthetics researchers.

CCS CONCEPTS

• Computing methodologies~Artificial intelligence

KEYWORDS

Affective computing, Aesthetic experience, Multimodal modeling, Signal processing, Machine Learning, Emotions

1 Introduction

Aesthetic experience corresponds to the personal experience when engaged with art and differs from the everyday experience which deals with the interpretation of natural objects, events, environments and people [3,13]. The exploration of aesthetic emotions, i.e. the emotions experienced during an aesthetic experience, can provide the means for better understanding why humans choose to make and engage with art and the features of artistic objects that affect our experience.

Within attempts to understand art, both past and recent research efforts had focused on exploring accounts given by writers, artists and philosophers as well as on exploring debates about empathy in aesthetic experience [1,11,12]. Similarly, recent work has explored the interaction of the human with the urban environment [5,6,20]. Depending on its shape and structure, the urban environment can serve as a significant factor for promoting human content, but also contributing to its decline. Measuring multimodal affective reactions would provide the means for better understanding emotions elicited from objects or moments of aesthetic value [14].

In the meantime, measuring and processing multimodal affective reactions includes addressing several challenges, such as how to synchronously capture signals of various natures (physiological and behavioral), of different spatial and temporal dimensions. Dealing with these challenges would enable robust affect modelling utilizing multimodal signals and would provide the means for better interpretation of the cognitive structure of affective states [10,17,18] and affective reactions during aesthetic experience [9,16,19].

The goal of this workshop is to connect researchers and advance the state of the art in the affective computing and aesthetics research areas. In this sense, this workshop builds on existing work, also, from its organisers [2,4,5,7,8,15].

The following topics are addressed:

- Multimodal data collection in response to artistic objects
- Emotions and aesthetic experience
- Qualitative and quantitative evaluation of the experience and absorption of aesthetic values
- Analysis of physiological and behavioral signals captured during aesthetic experience
- Assessment of affective states in response to movies, music, and other artwork

- Content analysis of artistic objects (movies, music, paintings, games, etc.)
- Intrapersonal and interpersonal correlation of multimodal responses during aesthetic experience
- Neuroaesthetics for studying the underlaying brain mechanisms and sensory, reward, emotional neural processes related to aesthetics
- Human-habitat interaction and its relation to human content and well-being

2 Expected contributions and impact

In the affective computing research field, contributions from this workshop will help advancing the state-of-the-art with respect to the multimodal exploration of the inner state of a person involved in art, analysis of multimodal reactions to artistic content, intrapersonal and interpersonal synchrony of multimodal responses. From the artistic studies point of view, this workshop will contribute towards understanding the adequacy of the intuitions of critics, filmmakers and subjective judgements with the emotions elicited, as well as examining whether the judgment of an aesthetic value of an object is distinguishable from the aesthetic experience and the associated aesthetic emotions.

Industries such as media and advertisement companies are keen to explore new methods for analyzing, comprehending and predicting spectators' reactions to films, clips or music pieces, thus they would be interested in the findings presented in this workshop. Finally, other related fields can benefit from the research efforts presented in this workshop, such as HCI, social computing, gaming, etc.

3 Keynote and mini presentations

The keynote will be delivered by Dr. Mohammad Soleymani, research assistant professor with the USC Institute for Creative Technologies. The keynote is entitled "Machine understanding of emotion and sentiment". Mini presentations will also be delivered covering the topics of the workshops, including: "affective computing and the built environment" and "affective computing, aesthetic and persuasive experiences".

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