Call for Papers

Elsevier Journal on Image and Vision Computing

Special Issue on 3D facial behaviour analysis and understanding.

Facial expression is one of the most cogent, naturally pre-eminent means for human beings to communicate emotions, to clarify and stress what is said, to signal comprehension, disagreement, and intentions and in brief regulate interactions with the environment and other persons in the vicinity. These facts constituted automatic facial behaviour analysis and understanding, including facial expression and action unit recognition, an extensively researched area. In the past twenty years many methods and systems were proposed for automatic facial expression and action unit recognition from 2D facial intensity images and video. Unfortunately, these systems are highly sensitive to the recording conditions such as illumination, facial pose and others changes in facial appearance like make up etc. Furthermore, even small changes in facial pose can reduce the effectiveness of the systems. It is now widely accepted that in order to address the challenge of performance, different capture modalities (such as 3D) must be employed. Meanwhile, advances in structured light scanning, stereo photogrammetry and photometric stereo have made high-end acquisition of 3D facial structure and motion a feasible task. This special issue solicits papers on the new challenges that the use of the 3D modality introduces for automatic facial behaviour analysis and understanding. Authors are invited to submit papers about previously unpublished quality research on (but not limited to) the topics of interest below:

- Understanding of 3D facial behaviour:
  - ✓ Recognition of 3D facial expressions from static data
  - ✓ Recognition of 3D facial action units from static data
  - ✓ Dynamic modelling and recognition of 3D facial expressions and action units
  - ✓ Analysis of 3D facial behaviour (e.g., emotion intensity estimation etc.)
- 3D facial behaviour data acquisition.
  - ✓ New devices for unobtrusive recording of 3D facial behaviour
  - ✓ New methods for reconstructing 3D dynamic facial behaviour based on 2D intensity information (e.g., multi-view 3D reconstruction)
  - ✓ 3D face alignment and landmark detection methods that facilitate automatic facial behaviour analysis tasks.
  - ✓ 3D face and facial landmark tracking.
- Databases of 3D facial behaviour:
  - ✓ Databases of posed static/dynamic 3D facial action units and expressions.
  - ✓ Databases of spontaneous static/dynamic 3D facial action units and expressions.

Important Dates: Papers should be received by **July 15, 2011**
First reviews will be returned to authors by **September 01, 2011**
Revised manuscripts should be submitted by **October 01, 2011**
Final decisions will be communicate by **November 01, 2011**
Final manuscripts are due by **December 01, 2011**
The special issue will be (tentatively) published in **February 2012**

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