AffectNet: A Database for Facial Expression, Valence, and Arousal Computing in the Wild

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Summary: AffectNet is the largest database of facial expressions, valence, and arousal in the wild enabling research in automated facial expression recognition in two different emotion models.

Description: AffectNet is a database of facial expressions in the wild, created by collecting and annotating facial images. Affect is a psychological term used to describe the outward expression of emotion and feelings. AffectNet contains more than 1M facial images collected from the Internet by querying three major search engines using 1250 emotion related keywords in six different languages. About half of the retrieved images (~440K) were manually annotated for the presence of seven discrete facial expressions (categorical model) and the intensity of valence and arousal (dimensional model). More information can be found at http://mohammadmahoor.com/affectnet/.

Advantages of this Invention: Existing annotated databases of facial expressions in the wild are small and mostly cover discrete emotions (categorical model). There are very limited annotated facial databases for affective computing in the continuous dimensional model (e.g., valence and arousal). Two baseline deep neural networks are used to classify images in the categorical model and predict the intensity of valence and arousal. Various evaluation metrics show that our deep neural network baselines can perform better than conventional machine learning methods and off-the-shelf facial expression recognition systems.

Potential Areas of Application: Affective computing seeks to develop systems and devices that can recognize, interpret, and simulate human affects through various channels such as face, voice, and biological signals.

Opportunity: To download AffectNet, fill out the request form at http://mohammadmahoor.com/affectnet-request-form/

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