Affective State Real-Time Monitoring through Electro-Dermal Activity: Towards Daily Stimulus and Arousal Level Analysis in Autistic Children

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Affective assessment through Electro-Dermal Activity (EDA)

Over the past half century, the Electro-Dermal Activity (EDA) has proved to reflect the arousal level in humans and as a result was used in lie detection and emotional stress tracking in different situations [1].

Inadequacy of classical facial, gate and speech analysis for emotional assessment in autistic children

Recently, advances in embedded system design and mobile technology have made manufacturing of light portable EDA sensors a reality [1].

EDA: physiological objective insight into the emotional state, in addition to classical physiological measures (EEG, ECG), and psychological evaluations

Potential interest to: therapists, parents, and caregivers

References:

Monitoring Electro-Dermal Activity: examples and illustrations

EDA measurement of a neuro-normal adult prior, during and after a presentation [4]

3 hours EDA recordings of an autistic adolescent in a shopping center

Comparative 24 hour EDA recordings of an autistic adolescent and his friend

On-going EDA signal analysis:
- Automatic affective state change detection through EDA change detection [5]
- EDA trend and storm analysis via a fractal approach

Where do we go from here?
- Augment the EDA with subject mobility and the audio-visual environment dimensions
- Towards individualized tracking and care of Tunisian autistic children in real life situations [6]:
  - school environment
  - during therapy

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