Emotion recognition system based on the facial motor units' analysis

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The article describes the human emotion recognition system embodiment to support verbal communication with service anthropomorphic robots and considers existing emotion recognition approaches. We investigated a new algorithm for P. Ekman's estimation of main emotions based on 20 informative facial image features evaluation. Three independent classifiers calculated each emotion intensity. The algorithm is implemented in Qt medium and tested on two image databases, as well as in real time, showing average recognition rate of about 85 %. The system can be used in neurocomputer interface applications in robotics and psychological diagnosis systems.

Keywords: *service robotics, brain-computer interface, emotional state, mimics, pattern recognition, machine learning.*

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