

Rule-based human abnormal behaviour detection using emotions and stress levels

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Abstract. Automatic human abnormal behaviour detection systems have been widely used in security systems, robotics, for medical and psychological diagnoses and in other areas. Such nonverbal features as facial expressions and respective emotions and stress levels might be the object of interest in these systems. In this work we provide a partial solution for the problem of human abnormal behaviour detection using video. We briefly overviewed automatic emotions recognition methods. A complex method based on the Active Shape Model and a neural network learned using special mimic features allows classifying emotions and stress levels with high accuracy. Measured human behaviour is then fed to a suggested rule-based decision making model. The qualitative estimation of the effectiveness of this approach is given.

Keywords: video analysis, abnormal behaviour, emotions recognition, rule-based systems

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