Chapter 9
Recognizing and Analyzing Emotional Expressions in Movements

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9.1 Introduction

Many modern information technologies are incorporated into human life, including the Internet, robotics, games, video streaming and recording, and so on. One purpose of these information technologies is to improve human-computer interaction. For instance, replacement of people by automated systems is impossible without overcoming the barrier of man-machine relationships (Orlova and Rozaliev 2011). The inability of machines to recognize and show emotions is an impediment to progress in automating robotic activities. The development of telecommunication technologies changes interpersonal communication. Very soon people will use virtual communications, which will be more effective and easy to learn but do not currently express emotions in a natural manner. At the same time emotions, play a vital role in human life. Emotions influence on cognitive processes (Bernhardt 2010) and decision making (Petrovsky 2009). So, it is important to recognize and identify human emotions and use them in human-computer systems as well as in machines that are replacing human activities.

We developed a new approach to the identification of human emotions that is based on description and analysis of body movements and the recognition of gestures and postures specific to different emotional states. We present the methodology, models and the automated system herein.

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