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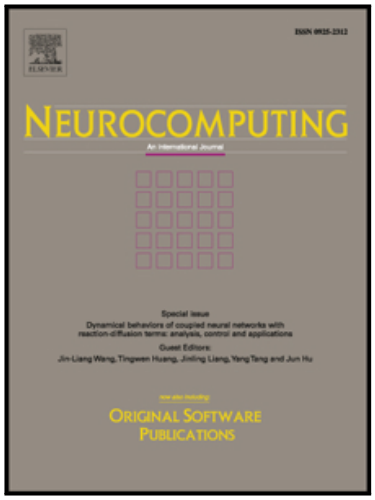

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Emotion Recognition by Assisted Learning with Convolutional Neural Networks

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Abstract

Image emotion is the emotion hidden in or passed by a particular image. In this paper, a novel convolutional neural network is proposed to predict the emotion from an image. The proposed model consists of two parts: a binary positive-or-negative emotion classification network and a deep network for specific emotion recognition. During the network training, an assisted learning strategy is introduced to boost the recognition performance. Experimental results demonstrate that the proposed network is capable of extracting active level features and achieves significant gains in emotion recognition accuracy.

Keywords:
Image Emotion Recognition, Convolutional Neural Network, Assisted Learning, Classification

1. Introduction

A photograph or a painting is not only a picture carrying visual information about details of a special moment, but also an artistic conception that the author was about to express. The most important element to be captured in the image is the emotion, which may be the key connection between the author and the viewer. From utter happiness to wrenching heartbreak, images have the power to make human beings feel a full range of emotions. That is because images

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