Abstract

Facial paralysis is a disease that affects the movement of one side of the face. This cause the disfigurement of face and difficulties in activities like eating, drinking, expressing and conversing. Reliable, quantitative and objective methods of evaluating the facial paralysis will be a precious tool for physicians to treat the patient with present condition. In this paper, a technique is proposed to evaluate the degree of facial paralysis. The proposed technique includes two phases namely training phase and testing phase. In training phase, a patient are requested to do four different facial expressions like closing of eyes, rising of eyebrows, opening of mouth and screwing of nose, and distance between salient points are calculated from each expression separately by using Salient Point Selection Algorithm (SPSA) and degree of facial paralysis is evaluated. During testing phase, the severity of facial paralysis is classified by well known neural network called Feed Forward Back Propagation Neural Network (FFBPN).


Index Terms

Computer Science

Algorithms

Keywords

Facial paralysis, Feed Forward Back Propagation Neural Network (FFBPN), salient point, Salient Point Selection Algorithm (SPSA), Degree Evaluation (DE).