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A DRAWING-AID SYSTEM BASED ON A FUZZY SCHEME

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Abstract. *A drawing-aid system to support handicapped students with nerve paralysis is proposed in this paper. The proposed system compensates the students for the influence of involuntary motions of a hand in mouse operations. Different from the conventional method such as a moving average method, the proposed method alleviates the influence of involuntary motions of the hand by using the weight functions. Depending on the conditions of handicapped students, the shape of the weight function is determined automatically by using supervised learning based on a fuzzy scheme. Therefore, the proposed method can alleviate the influence of sudden movement of the hand without preliminary experiments though the conventional methods have difficulty in reducing it. The validity of the proposed algorithm is confirmed through computer simulations.*
Keywords: Drawing-aid systems, Nerve paralysis, Fuzzy systems, Supervised learning, Membership functions, Nonlinear systems