## عنوان مقاله:

Transparent Watermarking Based on Psychovisual Properties Using Neural Networks

## محل انتشار:

هشتمین کنفرانس ماشین بینایی و پردازش تصویر ایران (سال: 1392)

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## خلاصه مقاله:

The extreme growth of using digital media hascreated a need for techniques that can be used to protect thecopyrights of digital contents. One approach for copyrightprotection is to embed an invisible signal, known as a digitalwatermark, in the image. One of the most important featuresof an effective watermarking scheme is transparency. A goodwatermarking method should be invisible such that humaneye could not distinguish the dissimilarities between thewatermarked image and the original one. On the other hand,a watermarked image should be robust against intentionaland unintentional attacks. There is an inherent tradeoffbetween transparency and robustness. It is desired to keepboth properties as high as possible In this paper we proposethe use of artificial neural networks (ANN) to predict themost suitable areas of an image for embedding. This ANN istrained based on the human visual system (HVS) model.Only blocks which produce least amount of perceivablechanges are selected by this method. This block selectionmethod can aid many of the existing embedding techniques.We have implemented our block selection method in additionto a simple watermarking method. Our results show anoticeable improvement of imperceptibility in .our approachcompared to other methods

## کلمات کلیدی:

watermarking, imperceptibility,psychovisual,HVS, neural network