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# Unsupervised Neural Architecture for Saliency Detection

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**Abstract :** We propose a novel neural network architecture for visual saliency detections, which utilizes neuro physiologically plausible mechanisms for extraction of salient regions. The model has been significantly inspired by recent findings from neuro physiology and aimed to simulate the bottom-up processes of human selective attention. Two types of features were analyzed: color and direction of maximum variance. The mechanism we employ for processing those features is PCA, implemented by means of normalized Hebbian learning and the waves of spikes. To evaluate performance of our model we have conducted psychological experiment. Comparison of simulation results with those of experiment indicates good performance of our model.

**Keywords :** neural network models, visual saliency detection, normalized Hebbian learning, Oja's rule, psychological experiment

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