Mantere, Kari; **Parkkinen, Jussi**; **Jaaskelainen, Timo**; **Gupta, Madan M.**
Wilson-Cowan neural-network model in image processing. (English) Zbl 0797.68172
J. Math. Imaging Vis. 2, No. 2-3, 251-259 (1992).

Summary: The neural-network model based on the theory proposed by Wilson and Cowan has been simulated by using digitized real images. Mathematically, the model is based on coupled nonlinear differential equations that describe the functional dynamics of cortical nervous tissue, and the model can operate in different dynamical modes, depending on coupling strengths. The model is shown to store images in reduced form and to recognize edges of an object. Examples of how the network processes input images are shown.

MSC:

68U10	Computing methodologies for image processing
92B20	Neural networks for/in biological studies, artificial life and related topics

Cited in **1** Document

Keywords:

image analysis; neural-network model; digitized real images

Full Text: DOI

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