

## FRACTAL NEURAL PROCESSOR

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### Abstract

In this paper, a novel fractal neural processor is presented. The processor puts the fractal image compression / decompression to the speed of VLSI realization. The processor is composed of two modules, compression, and decompression. The two modules operate in full duplex mode. The compression module operates, in two basic modes: image learning and compressed image production. During image learning, the image is presented to the processor for learning and storing the image domains in an associative memory based on classification. During the compressed image production mode, the image is presented to the processor to recall the best match domain blocks and produce the fractal parameter(s). The decompression module starts with an initial state of the image memory, normally zeros, and it keeps evolving the image