Heres the title and authors + abstract again.

Title: Quantifying the feature properties in a nested self-organizing map.
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Neurally-inspired approaches to object recognition often involve a hierarchy of feature-detecting neurons that become increasingly shape specific and spatially invariant in alternating processing stages (Fukushima 1982). The approach is loosely patterned after the progression of receptive field (RF) properties seen in the primate ventral visual processing stream. A key question in the design of such systems is how the parameters of the feature-extraction hierarchy should be set, that is, (1) which lower-order features should be bound together into higher-order combinations to increase shape selectivity at each stage, (2) what kind and degree of spatial pooling should be carried out at each stage to increase spatial invariance, and (3) what learning scheme is best suited to extracting the binding and pooling parameters from dynamic visual input. Several previous studies have explored trace-based learning rules, in which the spatio temporal contiguity of visual features acts as a cue to the learning of higher-order invariant features (e.g. Foldiak, 1991; Wallis & Rolls, 1997;Wiskott & Sejnowski, 2002). We are developing a hierarchical feature-learning architecture based on a set of nested self-organizing maps (SOMs). The network is biased to learn either a binding or a pooling operation at each stage. We have so far experimented with different flavors of learning rules (spatial, non-spatial, composite and are in process of applying it to natural images and build further stages of the hierarchy.