



LVQ NEURAL NETWORKS APPLIED TO FACE SEGMENTATION

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ABSTRACT—Color-segmentation is quite sensitive to changes in light intensity. Many algorithms do not tolerate variations in color hue which correspond, in fact, to the same object. In this work an image segmentator algorithm based on Learning Vector Quantization (LVQ) networks is proposed and tested on a tracking application. In LVQ networks, neighboring neurons learn to recognize neighboring sections of the input space. Neighboring neurons would correspond to object regions illuminated in a different manner. The segmentator involves a LVQ network that operate directly on the image pixels and a decision function. This algorithm has been applied to spotting and tracking human faces, and have shown more robustness on illumination changes than other standard algorithms.

Key Words: Face segmentation, Neural networks, Gaze control