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**Interpretation of Moiré Topograms Using
Neural Nets**

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Moiré techniques can be understood as incoherent optical image processing methods for extracting characteristic surface patterns of three-dimensional objects. In a first step the object is coded using regular patterns like gratings projected onto the objects's surface. The deformation due to the object shape is detected by superposing an undistorted mastergrating. The resulting moiré figures are showing typical patterns. Therefore neural nets should be trainable to respond to certain shape features.

For automatic neural net based evaluation of moiré topograms of human backs two stages can be clearly defined:

- image preprocessing stage, and
- neural network implementation.

In the image processing stage the image (film negative, composite video signal) must be digitized and binarized since all pertinent information about the shape of a human back is contained in the moiré contour lines. To facilitate a neural net evaluation the image must be also scaled to a standard input image size.

For the neural net implementation we will present some considerations that influence possible neural net architectures. The goal is to develop a system that can learn incrementally and classify subjects according to the degree of left-right assymetry of the moiré topogram in different horizontal regions.

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