Backpropagation and Its Application to Handwritten Signature Verification

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Abstract: A pool of handwritten signatures is used to train a neural net(cid:173) work for the task of deciding whether or not a given signature is a forgery. The network is a feedforward net, with a binary image as input. There is a hidden layer, with a single unit output layer. The weights are adjusted according to the backpropagation algorithm. The signatures are entered into a C software program through the use of a Datacopy Electronic Digitizing Camera. The binary signa(cid:173) tures are normalized and centered. The performance is examined as a function of the training set and network structure. The best scores are on the order of 2% true signature rejection with 2-4% false signature acceptance.