Neural Network Recognizer for Hand-Written Zip Code Digits

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Abstract: This paper describes the construction of a system that recognizes hand-printed digits, using a combination of classical techniques and neural-net methods. The system has been trained and tested on real-world data, derived from zip codes seen on actual U.S. Mail. The system rejects a small percentage of the examples as unclassifiable, and achieves a very low error rate on the remaining examples. The system compares favorably with other state-of-the art recognizers. While some of the methods are specific to this task, it is hoped that many of the techniques will be applicable to a wide range of recognition tasks.