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Nearest Neighbor Classification Using the Chamfer Distance – Using Python to Classify

Handwritten Digits from the MNIST Data Set

Full data set (10,000 test objects and 60,000 training objects, k=1)

89.41% accuracy in 1 hour, 45 minutes

Accuracy for various parameters:

K	N (Training Set size)	Test Set size	Accuracy
1	1000	100	93%
3	1000	100	93%
5	1000	100	92%
7	1000	100	92%
5	500	10	100%

The full test was run using distance transform preprocessing in Java. The preprocessing was

completed in 9 seconds.