Une image contenant texte

Description générée automatiquement

ASSIGNMENT 2A

OCR – Optical Character Recognition

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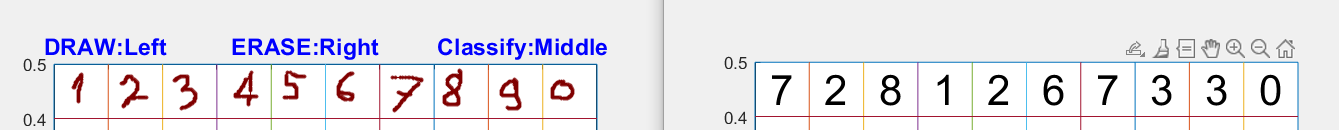
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***1. Data set***

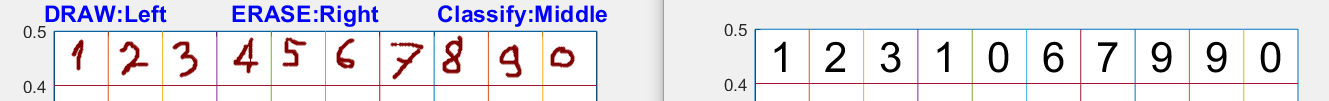
How does the data set influence the performance of the classification system?

We have built 2 networks one trained with 50 digits and another with 500.

For the network with 50 digits, we have this result:



For the network with 500 digits, we have this result:



As we can see when we increase the number of data the networks get better.

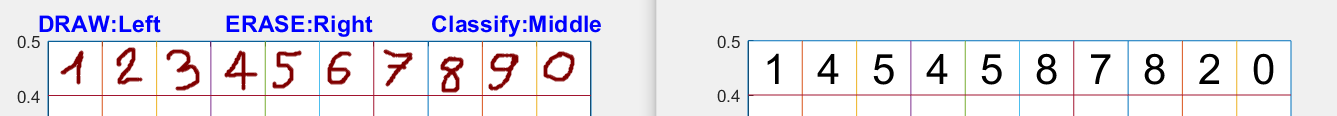
***2. Neural network architecture***

We have tested all the architecture introduce in the assessment. We have good result with filter + classifier and classifier only but the result obtain with a classifier with two layers is low above 30%.

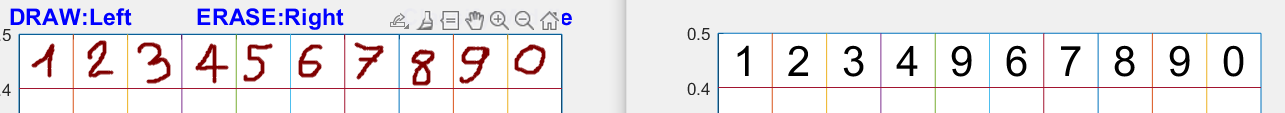
*Which is the best activation function: hardlim, linear or logsig?*

The best activation function is logsig as we can see ir. We use only a classifier for these questions:

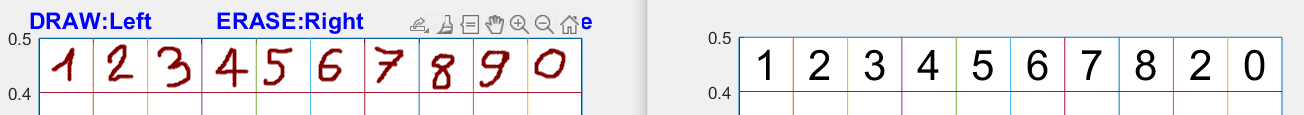
Hardlim:



Linear :



Logsig :



***3. Results***

At the end our classification system can achieve the main objectives, the percentage of well classified digits depends on which transfer function we use. The best precision is reached with the logsig transfer function, and we have more than 80%. The system can classify imperfect digits but with a precision decreased. If you want to test the code by your own, you just must lunch “GUI” on matlab and follow the instruction.