

Handwriting Recognition

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BSc with Honours Computing Science



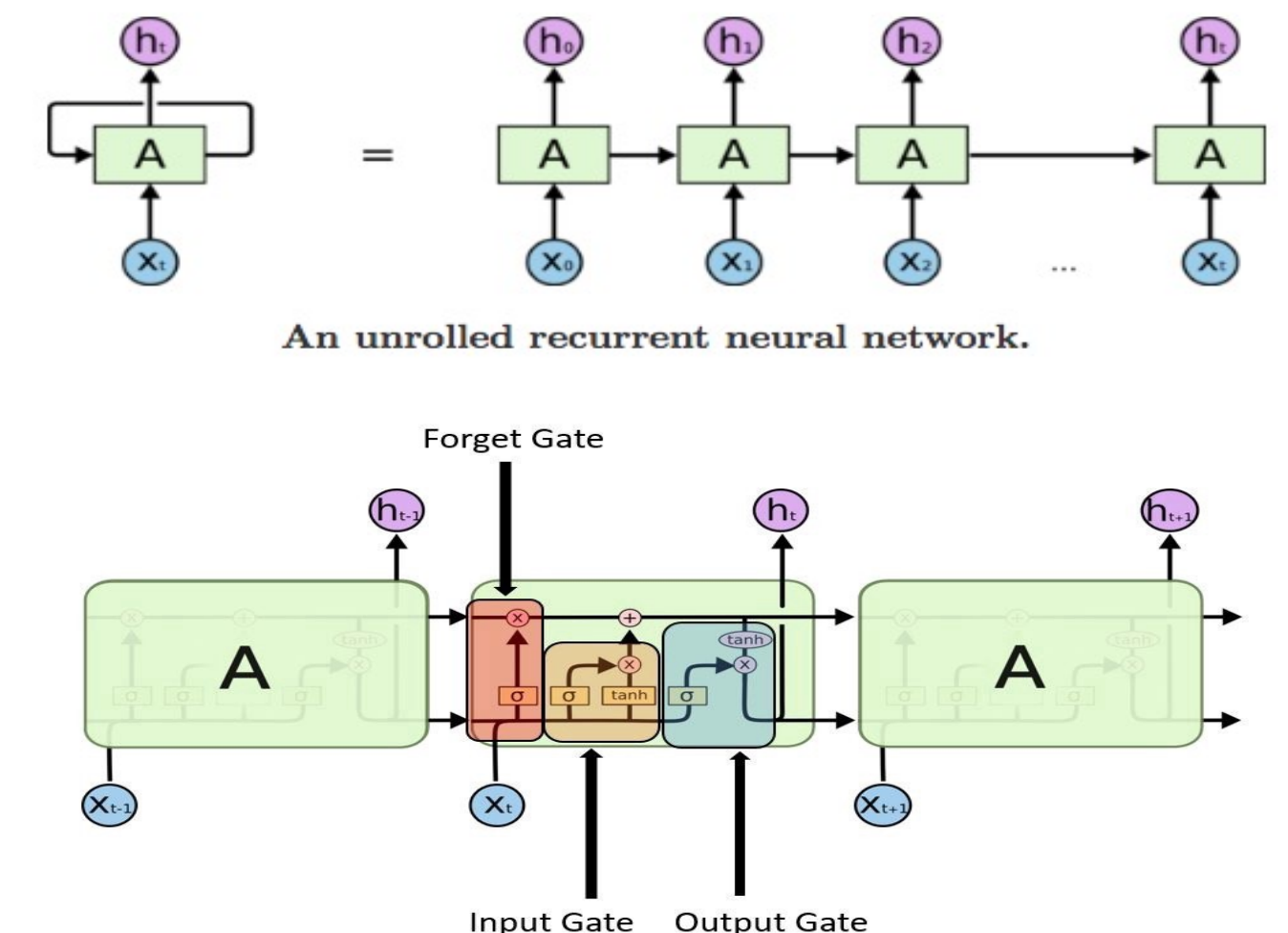
Problem Definition

- The HWR have low accuracy which can cause by image noise (E.g. Blur image, stains, tears).
- Also computer won't recognize when there are two number in one image.

{ 1 → 1, 7 → 7, 6 → 6, 2 → 2, 5 → 5 }

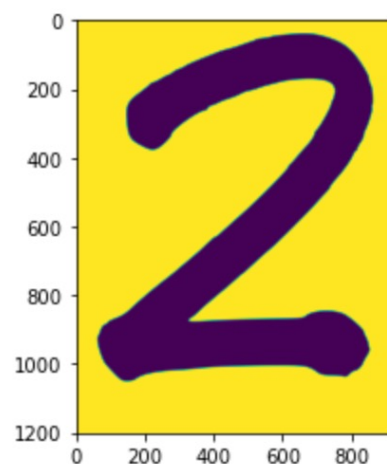
Method: RNN+LSTM

- RNN can model sequence of data so that each sample can be assumed to be dependent on previous ones
- Recurrent neural networks are even used with convolutional layers to extend the effective pixel neighbourhood.

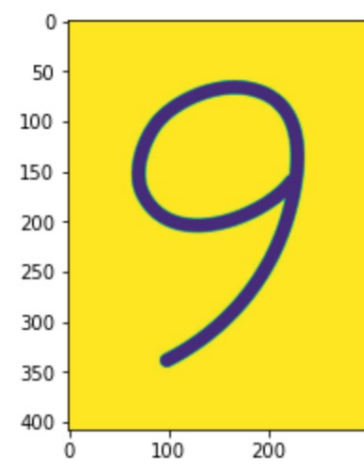


Results

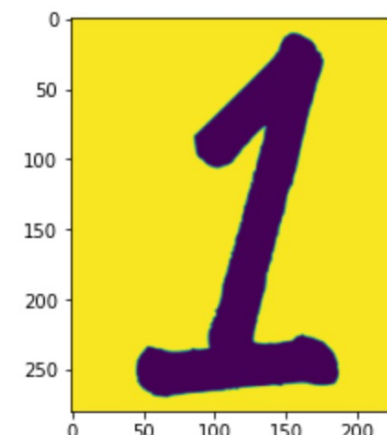
Predict Class: 2



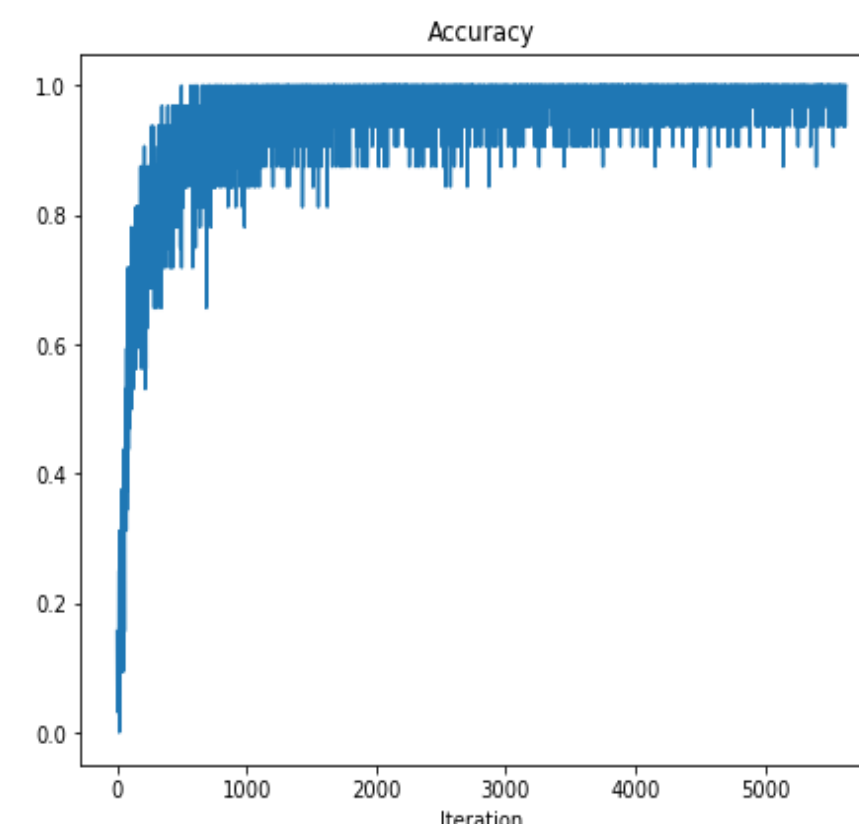
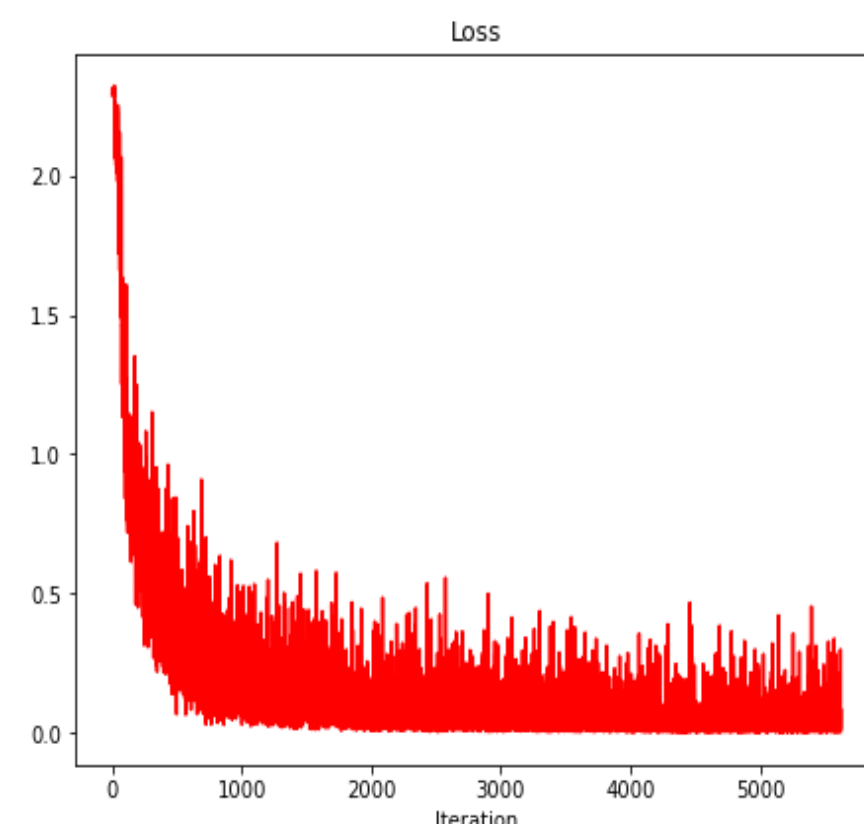
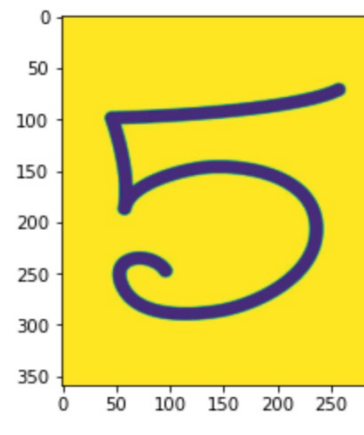
Predict Class: 9



Predict Class: 3



Predict Class: 0



Average accuracy
98.15%

Future Work

- Try data augmentation
- Solve noisy background
- Tackle overlapped digits

