EE-622

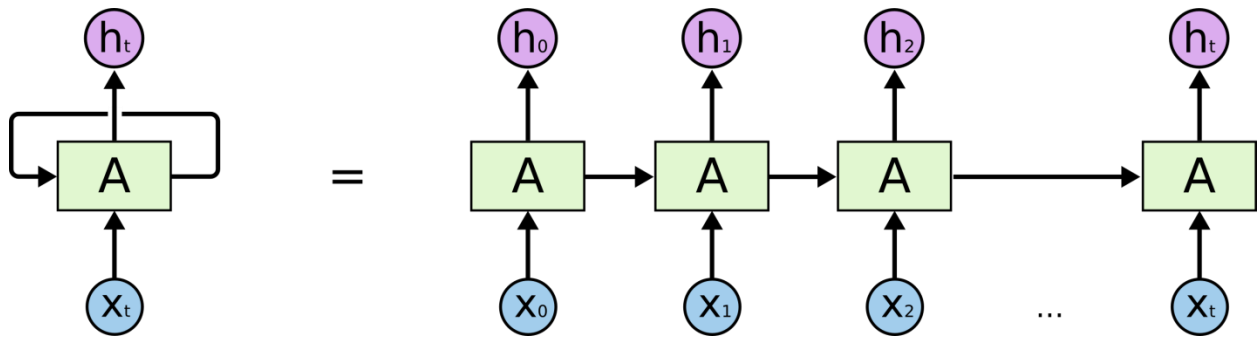## ML Assignment -3

K. Samanth Reddy

130102031

The book A treatis of economics,Human Action by Ludwig Von Mises includes the scale of values ,needs and actions as an exchange.It also deals about entrepreneuriship,profit ,loss etc. LSTM is used to generate samples from this text.

Our aim is to generate text with an LSTM network. Firstly in building the model,I converting the uppercase to lower case letters so that it leads to comparatively less vocabulary to train. I mapped the unique characters to integers and also reverse mapping is also done so that we can predict back. Each training pattern consists of a training input in time steps followed by an output.It is sent to one hot encoding so that we can we can get the probability of next letter being any one of the different characters in the text. Dropout of 0.25 is used to reduce the dependency of particular nodes. I used checkpoints to record weights to file each time an improvement in loss is observed at the end of a epoch.I used best weights from this.Then I have fitted the model for 20 epoches.For generating text , I have loaded the weights from the checkpoint file and compiled for categotrical cross entropy.I have taken a random seed and generated next characters and updated the seed with new character and trimmed out the first character at the end.This is continued till we reach sequence length.Here basically, the approach is to generate the next character with a seed sequence as input and then update the seed sequence with the new character and delete the first character.Drop out is also used to reduce overfitting.we can select a random seed and generate text up to our desired length.

Recurrent Neural Network