



deeplearning.ai

# Recurrent Neural Networks

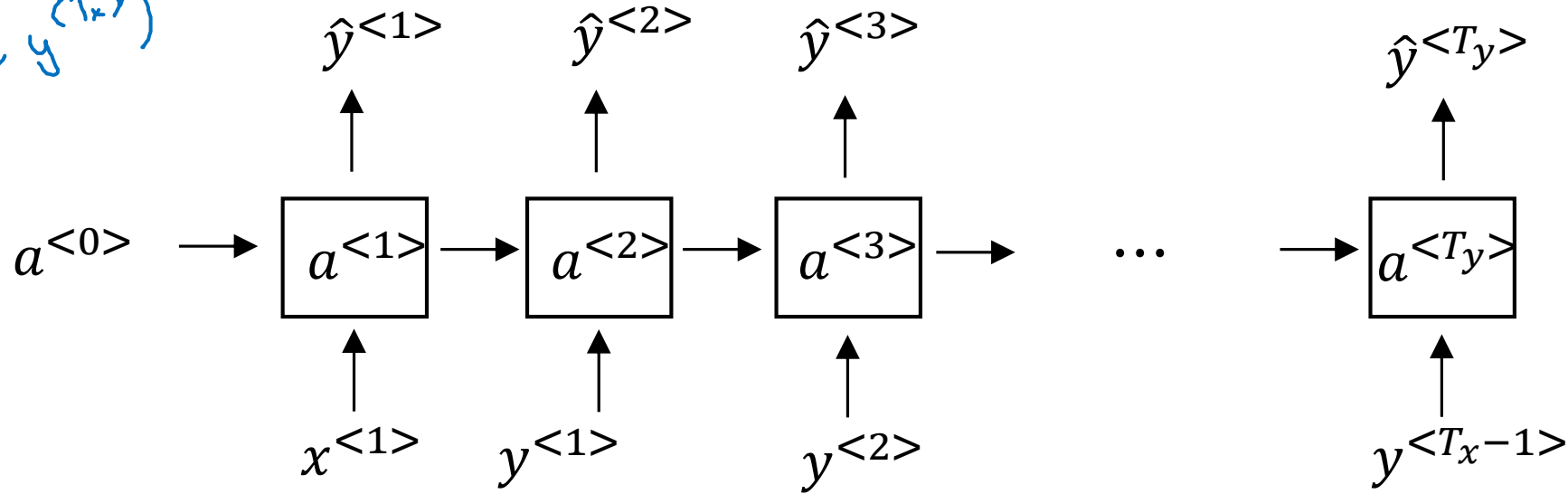
---

Sampling novel  
sequences

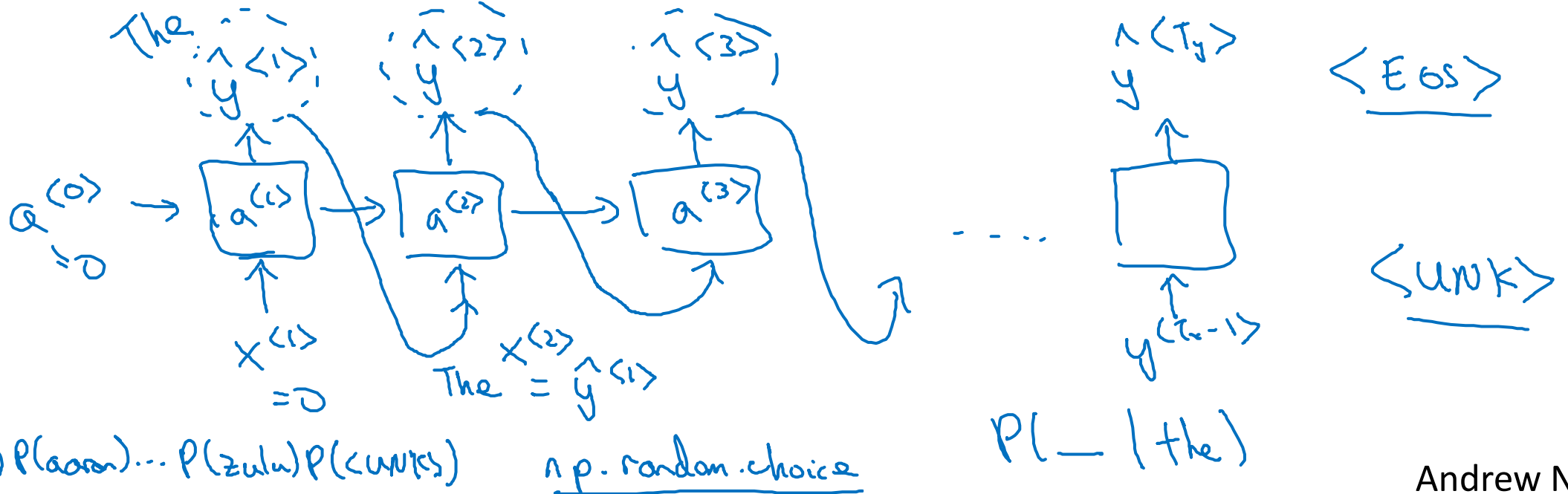
# Sampling a sequence from a trained RNN

$P(y^{(1)}, \dots, y^{(T_y)})$

Training:



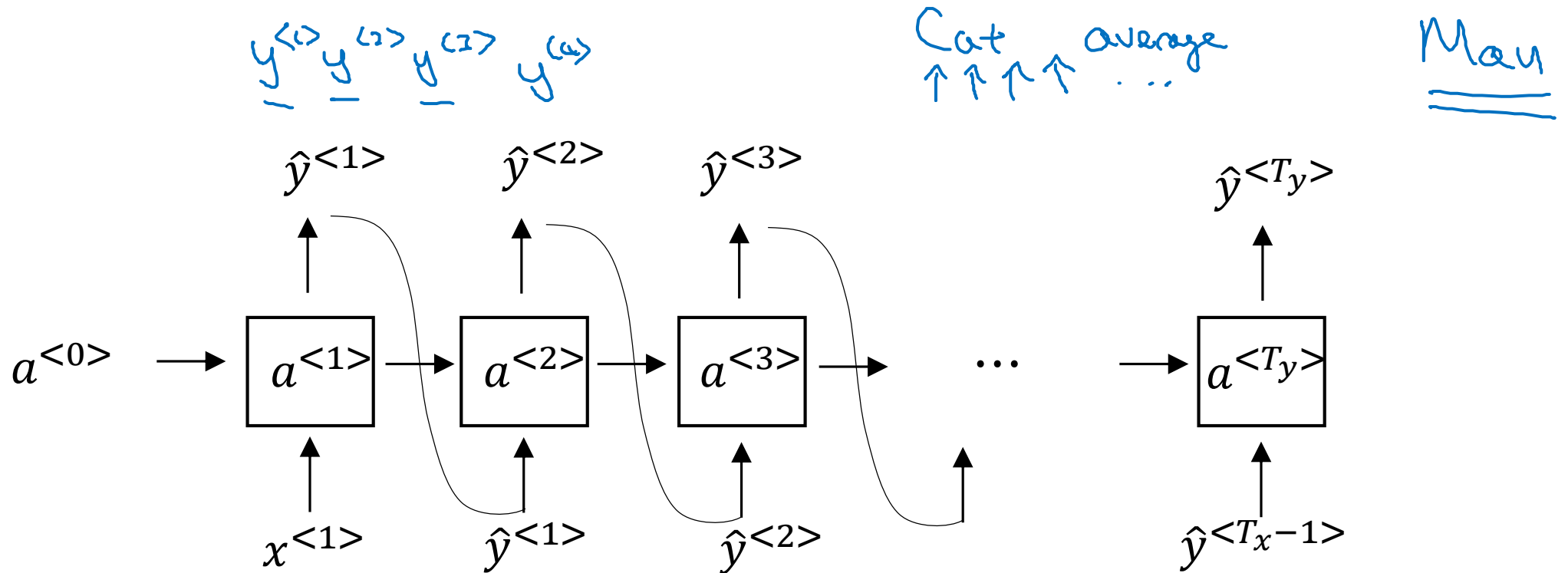
Sampling:



# Character-level language model

→ Vocabulary = [a, aaron, ..., zulu, <UNK>] ←

→ Vocabulary = [a, b, c, ..., z,  $\backslash$ , ., , , ;, 0, ..., 9, A, ..., Z]



# Sequence generation

## News

President enrique peña nieto, announced  
sench's sulk former coming football langston  
paring.

"I was not at all surprised," said hich langston.

"Concussion epidemic", to be examined. ←

The gray football the told some and this has on  
the uefa icon, should money as.

## Shakespeare

The mortal moon hath her eclipse in love.

And subject of this thou art another this fold.

When besser be my love to me see sabl's.

For whose are ruse of mine eyes heaves.