



deeplearning.ai

After you train a sequence model, one of the ways you can informally get a sense of what is learned is to have sample novel sequence.

Recurrent Neural Networks

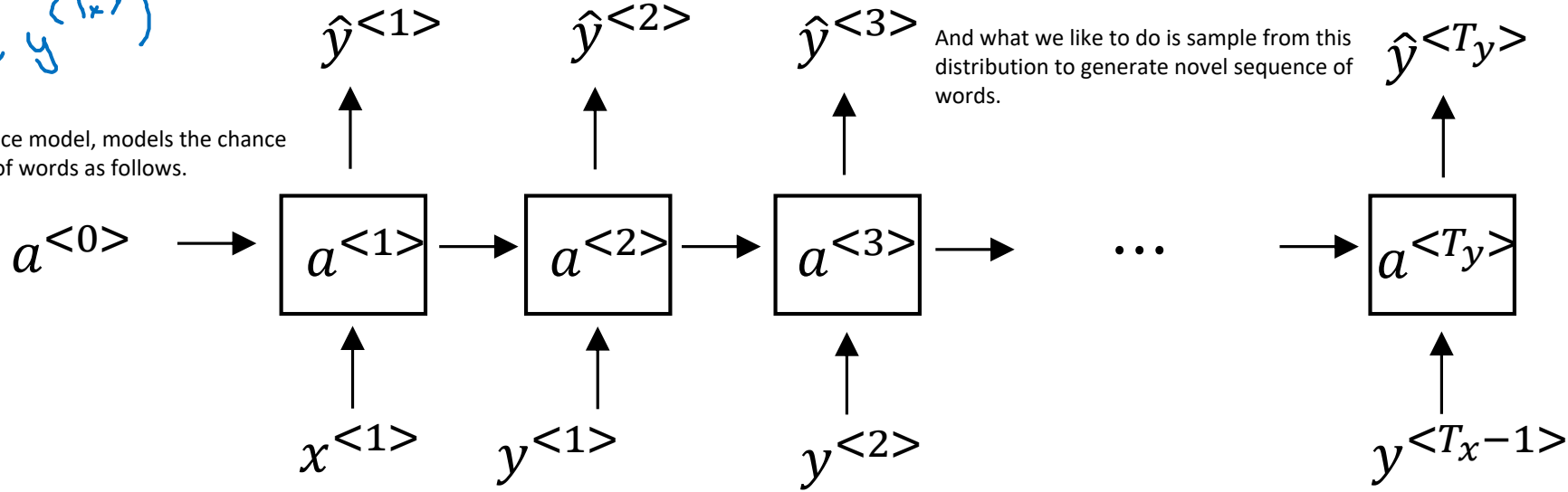
Sampling novel sequences

Sampling a sequence from a trained RNN

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

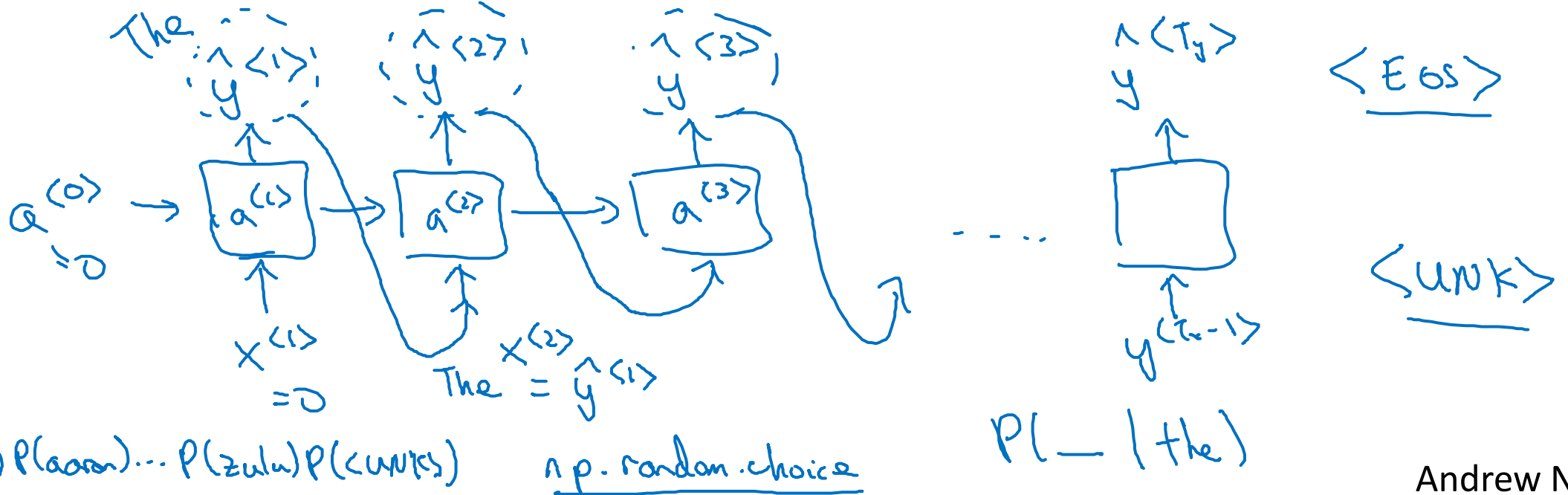
So remember that a sequence model, models the chance of any particular sequence of words as follows.

Training:



And what we like to do is sample from this distribution to generate novel sequence of words.

Sampling:



Character-level language model

not as good as word level language models at capturing long range dependencies between how the earlier parts of the sentence also affect the later part of the sentence.

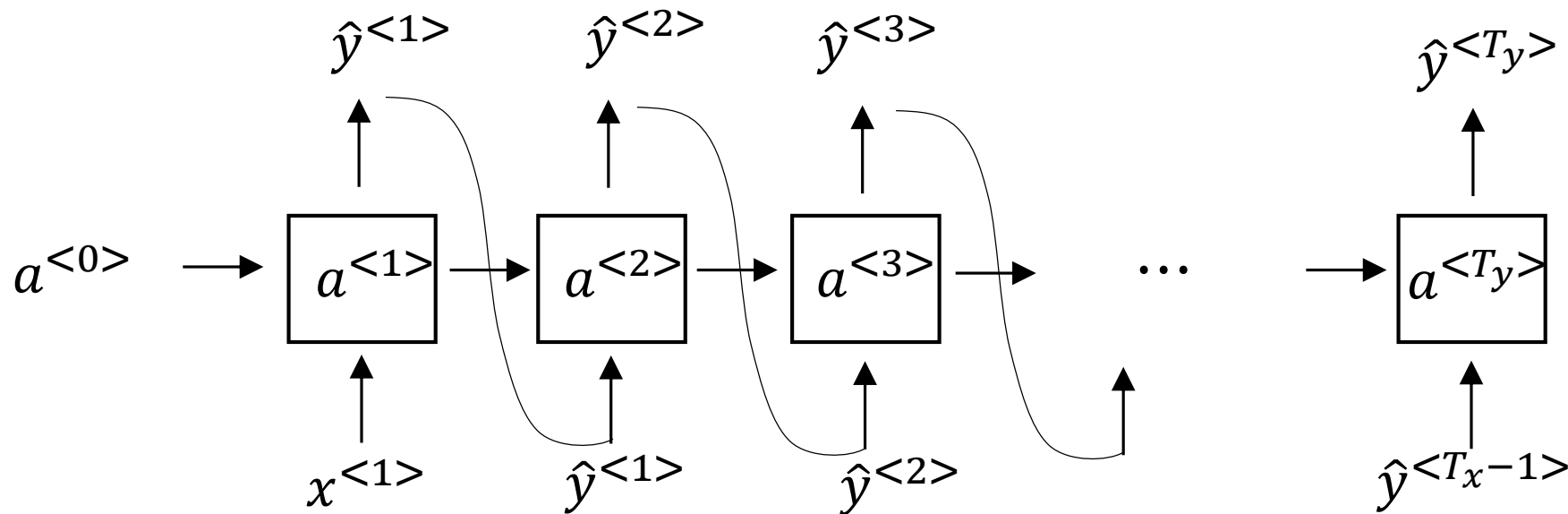
→ Vocabulary = [a, aaron, ..., zulu, <UNK>] ←

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

$\underline{y^{(1)}}$ $\underline{y^{(2)}}$ $\underline{y^{(3)}}$ $y^{(u)}$

Cat
↑ ↑ ↑ ↑
average

Man



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.