



deeplearning.ai

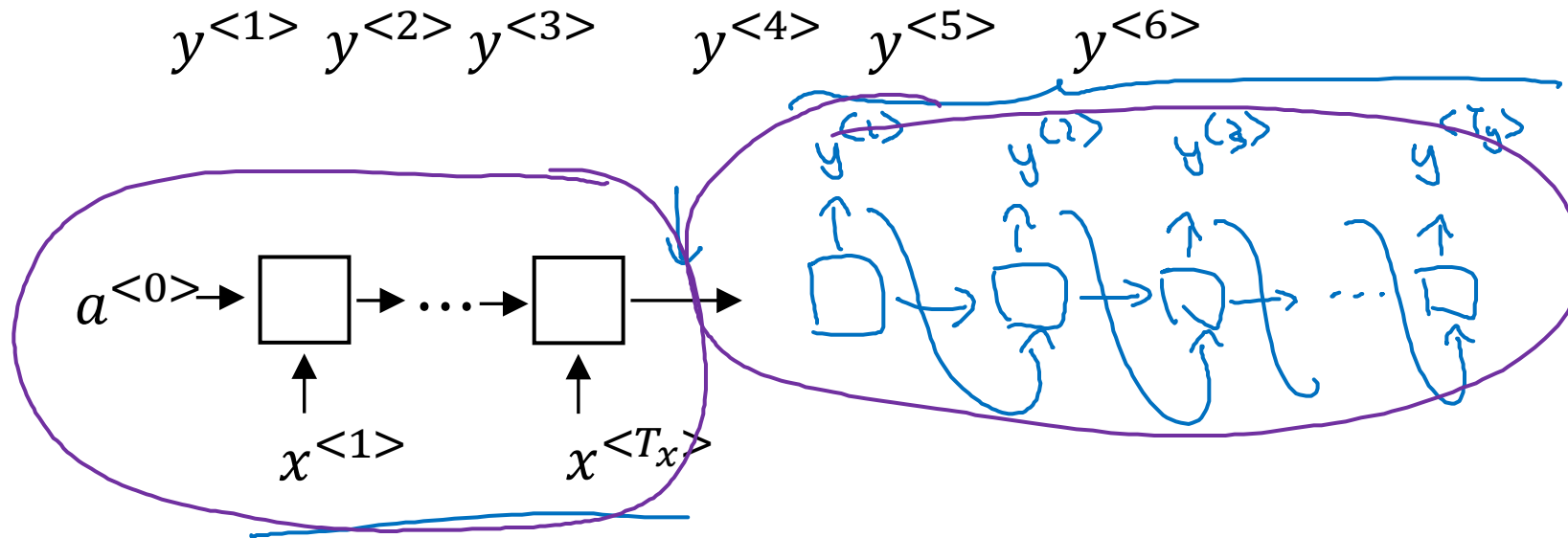
Sequence to sequence models

Basic models

Sequence to sequence model

$x^{<1>} \quad x^{<2>} \quad x^{<3>} \quad x^{<4>} \quad x^{<5>}$
Jane visite l'Afrique en septembre

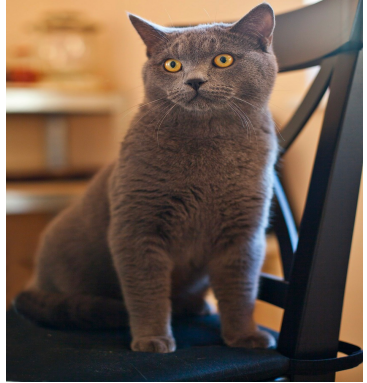
→ Jane is visiting Africa in September.



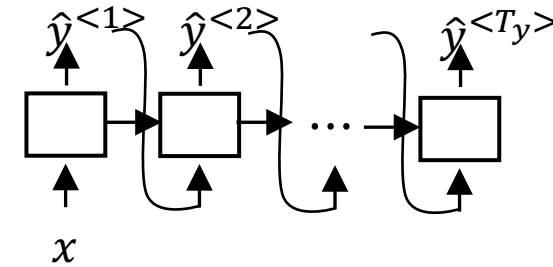
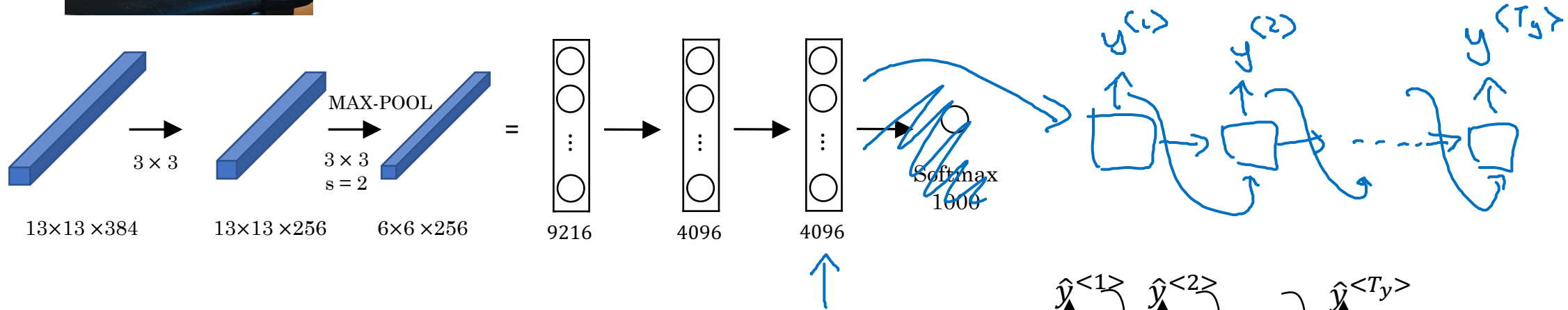
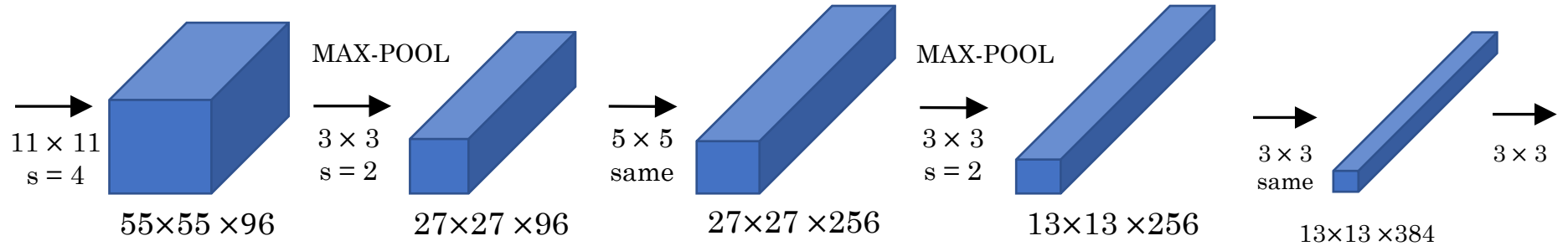
[Sutskever et al., 2014. Sequence to sequence learning with neural networks] ←

[Cho et al., 2014. Learning phrase representations using RNN encoder-decoder for statistical machine translation] ←

Image captioning



$y^{<1>}$ $y^{<2>}$ $y^{<3>}$ $y^{<4>}$ $y^{<5>}$ $y^{<6>}$ }
 A cat sitting on a chair



[Mao et. al., 2014. Deep captioning with multimodal recurrent neural networks]

[Vinyals et. al., 2014. Show and tell: Neural image caption generator]

[Karpathy and Li, 2015. Deep visual-semantic alignments for generating image descriptions]