NLP and Word Embeddings

deeplearning.ai

Using word embeddings

Named entity recognition example

Sally   Johnson   is   an   orange   farmer

Robert   Lin   is   an   apple   farmer
                           a   durian   cultivator.
→ 1B words – 100B words
→ 100K words ← transfer learning
                           BRNN

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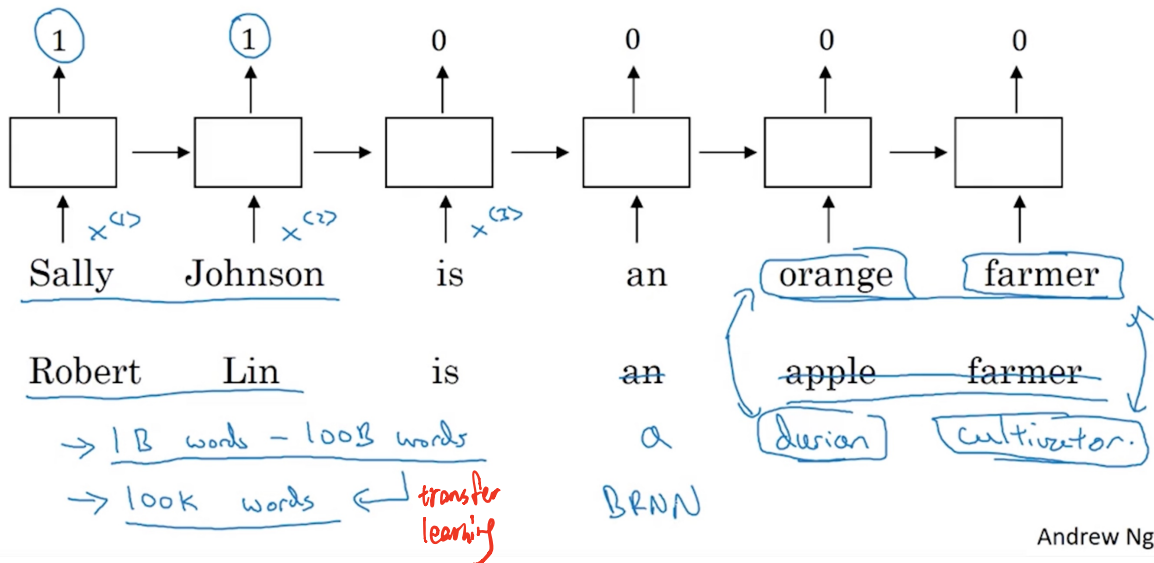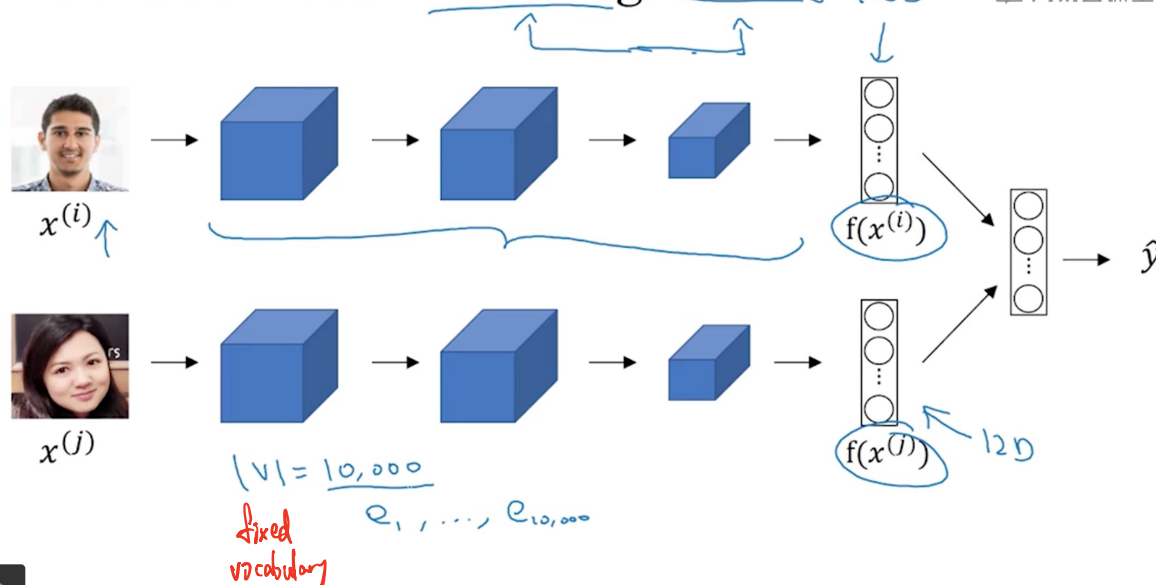
Transfer learning and word embeddings

Ⓐ
1. Learn word embeddings from large text corpus. (1-100B words)

   (Or download pre-trained embedding online.)

Ⓑ
2. Transfer embedding to new task with smaller training set.
   (say, 100k words) $\rightarrow 10,000$ $\rightarrow 300$

3. Optional: Continue to finetune the word embeddings with new data.

▶

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Relation to face encoding (embedding) 128D

$x^{(i)}$

$f(x^{(i)})$

$\hat{y}$

$x^{(j)}$

$f(x^{(j)})$ 12D

$|V| = 10,000$

$e_1, \ldots, e_{10,000}$

fixed vocabulary

[Taigman et. al., 2014. DeepFace: Closing the gap to human level performance]

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