NLP and Word Embeddings

Sentiment classification

deeplearning.ai

Sentiment classification problem

x $\longrightarrow$ y

The dessert is excellent.   ★★★★☆

Service was quite slow.   ★★☆☆☆

Good for a quick meal, but nothing
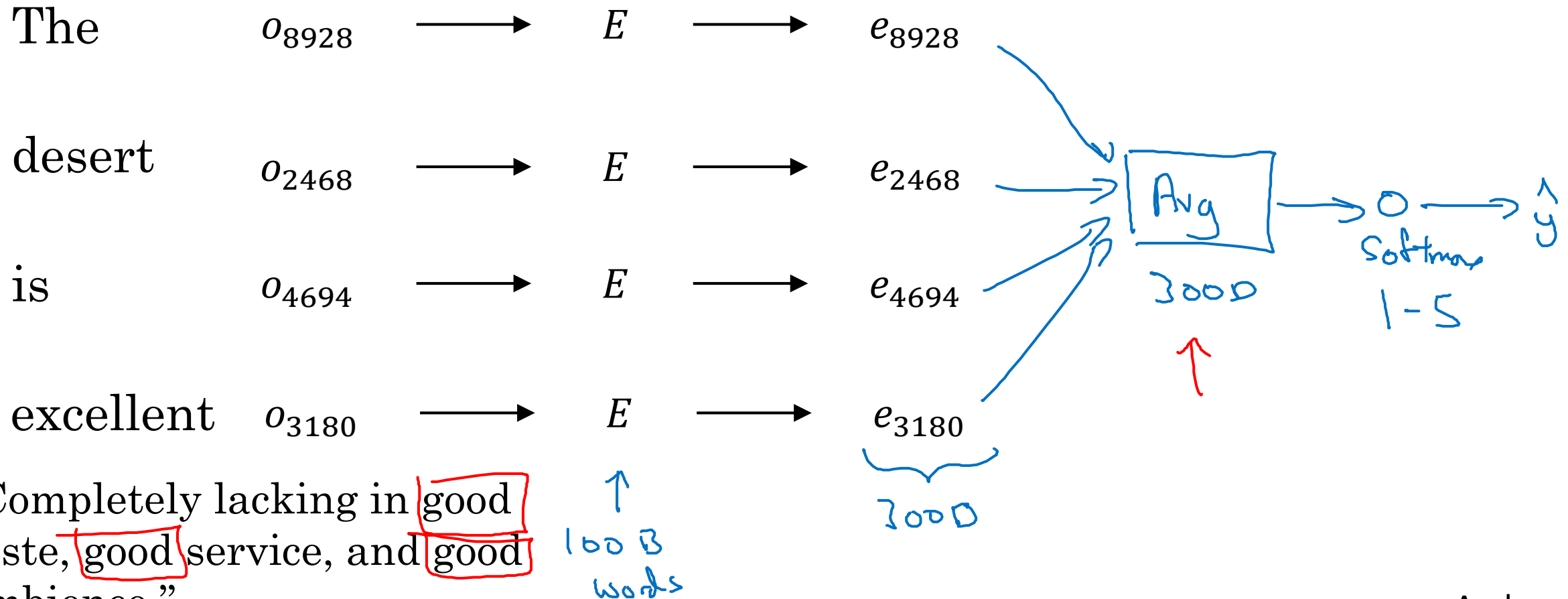special.   ★★★☆☆

Completely lacking in good taste,
good service, and good ambience.   ★☆☆☆☆

10,000 → 100,000 words

Andrew Ng

Simple sentiment classification model

The   dessert   is   excellent   ★★★★☆

8928   2468   4694   3180

The o_{8928} $\longrightarrow$ E $\longrightarrow$ e_{8928}

desert o_{2468} $\longrightarrow$ E $\longrightarrow$ e_{2468}

is o_{4694} $\longrightarrow$ E $\longrightarrow$ e_{4694}

excellent o_{3180} $\longrightarrow$ E $\longrightarrow$ e_{3180}

Avg   300D $\rightarrow$ O $\rightarrow \hat{y}$ Softmax   1-5

300D

"Completely lacking in good taste, good service, and good ambience."

100 B words

Andrew Ng

RNN for sentiment classification

$\hat{y}$

softmax

$a^{<0>} \rightarrow a^{<1>} \rightarrow a^{<2>} \rightarrow a^{<3>} \rightarrow a^{<4>} \rightarrow \ldots \rightarrow a^{<10>}$

e_{1852} e_{4966} e_{4427} e_{3882} e_{330}

E E E E E

Completely   lacking   in   good   ....   ambience

absent

of

many-to-one

"not good"

Andrew Ng