



deeplearning.ai

# NLP and Word Embeddings

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Embedding matrix

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Multiply the embedding matrix  $E$  with the 1-hot vector of  $i$ th word  $O_i$  to get the embedding for  $i$ th word.

$$\begin{matrix} \downarrow & \downarrow \\ E & O_{6257} \\ (300, 10K) & (10K, 1) \end{matrix}$$

$$= \begin{bmatrix} \text{orange row} \\ \vdots \\ \text{orange column} \end{bmatrix} = e_{6257}$$

(300, 1)

→ Embedding

$$\boxed{E \cdot O_i = e_i} \\ \boxed{= \text{embedding for word } i}$$

In practice, use specialized function to look up an embedding.