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Lecture: Word Embeddings

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Basic Word Representations

Basic word representations could be classified into the following:

- Integers
- One-hot vectors
- Word embeddings

Word	Number	"happy"		
a	1		0	a
able	2	2	0	able
about	3	3	0	about
•••	•••		÷	•••
hand	615	615	0	hand
•••	/	•••	÷	•••
happy	621 ←	→ 621	1	happy
•••			:	•••
zebra	1000	1000	$\begin{bmatrix} 0 \end{bmatrix}$	zebra

To the left, you have an example where you use integers to represent a word. The issue there is that there is no reason why one word corresponds to a bigger number than another. To fix this problem we introduce one hot vectors (diagram on the right). To implement one hot vectors, you have to initialize a vector of **zeros** of dimension V and then put a 1 in the index corresponding to the word you are representing.

The **pros** of one-hot vectors: simple and require no implied ordering.

The **cons** of one-hot vectors: huge and encode no meaning.

Mark as completed

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