



deeplearning.ai

# NLP and Word Embeddings

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## Word representation

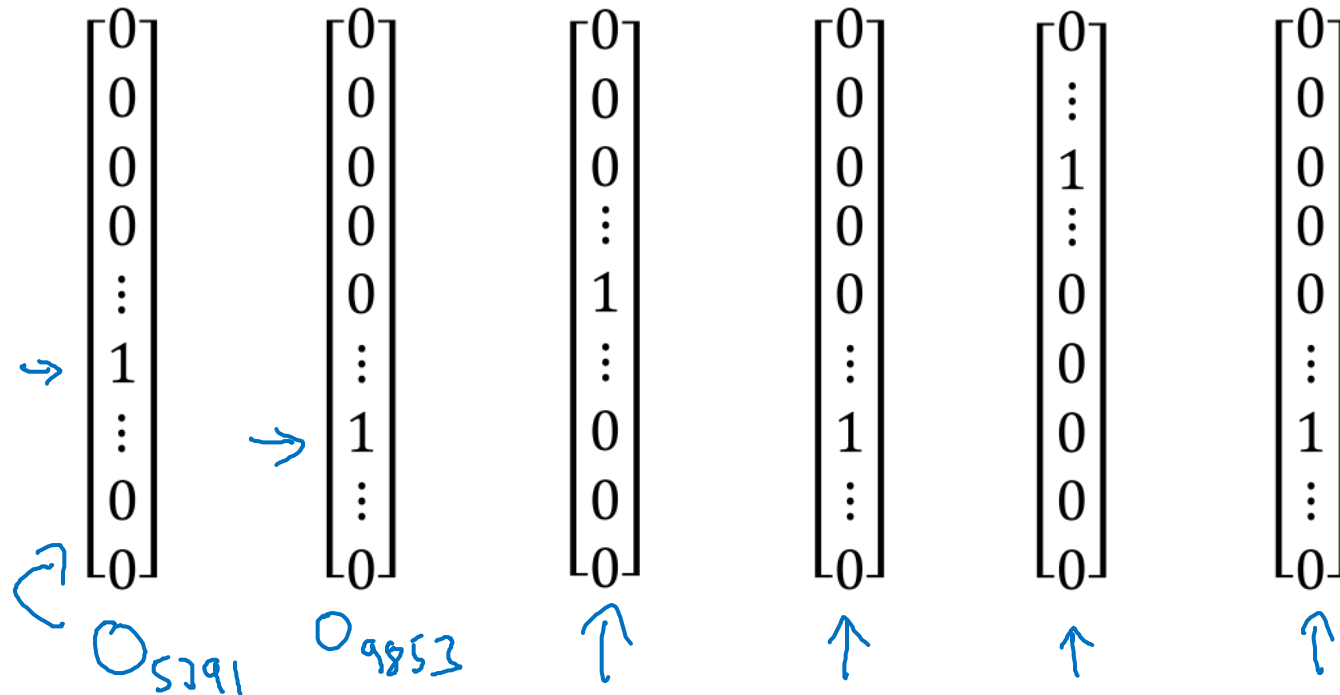
# Word representation

$V = [a, aaron, \dots, zulu, \langle \text{UNK} \rangle]$

$|V| = 10,000$

1-hot representation

Man Woman King Queen Apple Orange  
(5391)(9853)(4914)(7157)(456) (6257)



I want a glass of orange nice  
I want a glass of apple ?

# Featurized representation: word embedding

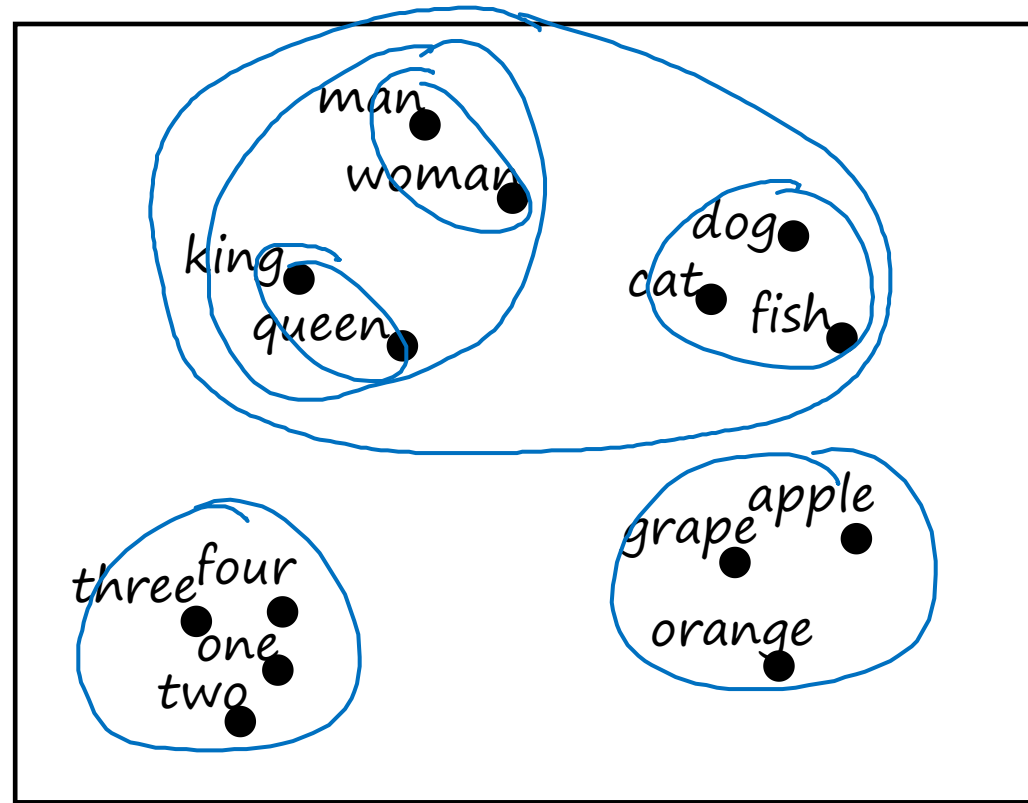
	Man (5391)	Woman (9853)	King (4914)	Queen (7157)	Apple (456)	Orange (6257)
Gender	-1	1	-0.95	0.97	0.00	0.01
Royal	0.01	0.02	<u>0.93</u>	<u>0.95</u>	-0.01	0.00
Age	0.03	0.02	0.7	0.69	0.03	-0.02
Food	0.04	0.01	0.02	0.01	0.95	0.97
...	...	...				
size						
cost						
alive						
verb						

I want a glass of orange juice.  
 I want a glass of apple juice.

e<sub>5391</sub>      e<sub>9853</sub>

Andrew Ng

# Visualizing word embeddings



t-SNE

→ 300 D



2D

