



How can we capture similarities between two words?









Bedrooms: 3

Area: 1850 sqr ft

Bathrooms: 2.5

Bedrooms: 3

Area: 1700 sqr ft

Bathrooms: 2

Bedrooms: 10

Area: 7500 sqr ft

Bathrooms: 2









Dhoni

Cummins

Australia

Person: 1

Healthy/fit: 0.9

Location: o

Has two eyes: 1

Has government: o

Person: 1

Healthy/fit: 0.87

Location: o

Has two eyes: 1

Has government: o

Person: o

Healthy/fit: 0.7

Location: 1

Has two eyes: o

Has government: 1









Dhoni

Cummins

Australia

	ashes	Australia	Bat	Cummins	cover	Dhoni	World cup	 Zimbabwe
Person	0	0.02	0.1	0.95	0.03	0.96	0.67	 0.04
Country	0	0.97	0	0	0	0	0	 1
Healthy & Fit	0	0	0.3	0.87	0	0.9	0	 0
Event	1	0.1	0	0	0.4	0	1	 0
gear	0	0	1	0	0	0	0	 0



	ashes	Australia	Bat	Cummins	cover	Dhoni	World cup	 Zimbabwe
Person	0	0.02	0.1	0.95	0.03	0.96	0.67	 0.04
Country	0	0.97	0	0	0	0	0	 1
Healthy & Fit	0	0	0.3	0.87	0	0.9	0	 0
Event	1	0.1	0	0	0.4	0	1	 0
gear	0	0	1	0	0	0	0	 0

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0.95
0
1
0
0

0.96
0
1
0
0

0.96	
0	
1	
0	
0	

Dhoni Australia

0.97	
0.97	
0	
0.1	
0	

ı	0.04	
	1	
	0	
	0	
	0	

Zimbabwe





Issue with word2vec

Fixed embeddings

He didn't receive fair treatment

fair →

Fun fair in new York city this summer





Issue with word2vec

Fixed embeddings

He didn't receive fair treatment

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fair → 1
0.9
0.2
1
0.7

Fun fair in new York city this summer



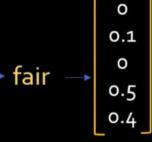


BERT can generate contextualized embeddings

He didn't receive fair treatment

fair → 0.9 0.2 1 0.7

Fun fair in new York city this summer







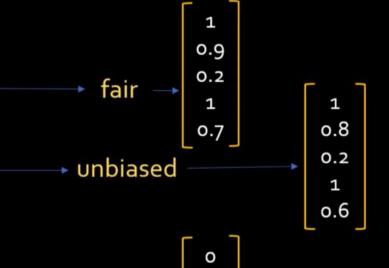
BERT can generate contextualized embeddings

He didn't receive fair treatment

Tom deserves unbiased judgement

Fun fair in new York city this summer

Carnival was packed with fun activities









BERT can generate embeddings for entire sentence

Amazing movie, I couldn't blink an eye for initial 45 minutes. It was that intense and interesting at the same time

1 0.9 0.2 1 0.7



