- 1)London: Mostly like the 3<sup>rd</sup> question we are seeing big cities like London in results except we can see England in here which is better than the sparse results.
- 2) Watch: We are seeing words here that are kind of similar to our word and the results are way better than the other method.
- 3) Fast: This word seems kind of cursed!, with none of these methods are getting good results. Except one word others seem irrelevant to that.
- 4) Ride: It seems that we got good results for this verb, I can say it's much better than the sparse method here.
- 5) Bus: Train, station, subway and other words are pretty similar to the word "bus" and in comparison to the sparse model with no doubt it's better.
- 6) Rain: Wet, storm, weather, heat and couple of other words are similar to the word and if we compare this to the other method there is no sign of word Palestinians!
- 7) Palestinians: We are seeing words that are much more similar to this word with this method in comparison to the other, words like Gaza, Hamas are pretty have some similarity to this word.
- 8) Actors: Almost all of these words are making sense and there is no need to say in this category it's much better than sparse method.
- 9) We cannot really see words that are similar to this words in terms of finding a words that can be replaceable with Americans but there are words immigrant and citizen which kind of making sense that are related and some other words like troops or voters in lower level might make sense as well.

It seems that generally our dense method is working better in terms of how two words can be similar in the meaning, but for having a good dense vectors we need to have enough information which is sometimes available to us, but with sparse method we can handle that situation better. If we want to compare two word just by their similarity of how they usually have been putted in the sentence, sparse method would be better.

#### London

1: paris (0.742107827129)

2: chicago (0.676770811474)

3: philadelphia (0.59429769204)

4: england (0.587948398039)

5: newark (0.578417918674)

6: boston (0.571829045744)

7: madrid (0.563767976184)

- 8: seattle (0.55322589154)
- 9: spain (0.544267480338)

# 10: australia (0.540475332018)

## Watch

- 1: listen (0.708745504605)
- 2: watching (0.67283060653)
- 3: listening (0.654591914183)
- 4: catch (0.631520079148)
- 5: shoot (0.623986620107)
- 6: hear (0.620133487303)
- 7: see (0.58901842641)
- 8: shine (0.576032654187)
- 9: talk (0.574271649757)
- 10: grab (0.572660245138)

## Fast

- 1: slowly (0.660674114757)
- 2: slow (0.617694703995)
- 3: cool (0.571164511739)
- 4: quickly (0.562396686508)
- 5: hard (0.56076529527)
- 6: easy (0.543107914483)
- 7: soft (0.528412981116)
- 8: well (0.521711841017)
- 9: dry (0.513584543477)
- 10: cheap (0.512347708252)

Ride

- 1: walk (0.785587833179) 2: drive (0.74205990776) 3: bike (0.71064191446) 4: fly (0.699915822465) 5: riding (0.665073960845) 6: hop (0.660370717452) 7: stretch (0.655786078856) 8: train (0.648018717526) 9: trip (0.630485996194) 10: walking (0.622605258148) Bus 1: train (0.835221387953) 2: subway (0.772120986128) 3: bike (0.699219537476) 4: truck (0.681121597285) 5: flight (0.661125429966) 6: plane (0.63789108464) 7: car (0.605317978992) 8: station (0.59467858531) 9: ride (0.586438179127) 10: highway (0.583846701915) Rain
- 1: wet (0.634567894673)
- 2: storm (0.626744922129)
- 3: wind (0.604996024266)
- 4: heat (0.600654854148)
- 5: sky (0.5997927889)
- 6: sun (0.597646331362)

- 7: cold (0.58750635073)
- 8: stretch (0.582119743942)
- 9: weather (0.578714584124)
- 10: smoke (0.573937142054)

#### **Palestinians**

- 1: iraqis (0.859207734841)
- 2: insurgents (0.796248168747)
- 3: americans (0.736806907066)
- 4: troops (0.730881915777)
- 5: soldiers (0.728662154551)
- 6: palestinian (0.698913320032)
- 7: gaza (0.689611873222)
- 8: prisoners (0.688826542872)
- 9: hamas (0.686785333865)
- 10: detainees (0.686606868423)

### Actors

- 1: dancers (0.824955008057)
- 2: musicians (0.813166367674)
- 3: writers (0.734728974173)
- 4: artists (0.716220686296)
- 5: characters (0.688197444634)
- 6: songs (0.617209951115)
- 7: teenagers (0.61024245315)
- 8: films (0.6063761826)
- 9: performances (0.598180578673)
- 10: stars (0.593607069376)

## **Americans**

1: iraqis (0.837768005076)

- 2: people (0.791937205214)
- 3: palestinians (0.736806907066)
- 4: immigrants (0.692441634818)
- 5: voters (0.682464422242)
- 6: troops (0.678413376879)
- 7: citizens (0.660312026385)
- 8: families (0.647164569608)
- 9: soldiers (0.643760438737)
- 10: prisoners (0.636529317346)