Bag of words (find sorted order given endpoints: ignore ==)

Selected closest word that wasn’t the same word. For quartiles, selected also first word of different root.

**Predicting the Comparative (Closest Word)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **WORD TYPE** | **WORDS** | **1st** | **2nd** | **3rd** | **4th** | **5th** |
| Positive | 'good', 1.00 | 'great', 0.729 | 'bad', 0.719 | 'terrific', 0.689 | 'decent', 0.684 | 'nice', 0.684 |
| Superlative | 'best', 1.00 | 'finest', 0.638 | 'worst', 0.584 | 'greatest', 0.582 | 'strongest', 0.579 | 'smartest', 0.570 |
| Predicted  Comparative  (Middle) | good:best | 'great': 0.711 | 'terrific: 0.693 | **'better': 0.645** | 'fantastic': 0.642 | 'excellent':0.638 |
|  |  |  |  |  |  |  |
|  | 'bad', 1.00 | 'good', 0.719 | 'terribe', 0.683 | 'horrible', 0.670 | 'Bad', 0.670 | 'lousy', 0.665 |
|  | 'worst', 1.00 | 'Worst', 0.615 | 'weakest', 0.614 | 'scariest', 0.596 | 'ugliest', 0.593 | 'best', 0.583 |
|  | bad:worst | 'terrible': 0.725 | 'horrible': 0.706 | 'dreadful': 0.651 | 'horrendous', 0.642 | 'lousy': 0.621 |
|  |  |  |  |  |  |  |
|  | 'slow', 1.00 | 'Slow', 0.710 | 'slower', 0.703 | 'slowed', 0.683 | 'painfully\_slow', 0.672 | 'slowing', 0.668 |
|  | 'slowest', 1.00 | 'fastest', 0.744 | 'slower', 0.657 | 'weakest', 0.626 | 'slowest\_pace', 0.596 | 'quickest', 0.578 |
|  | slow:slowest | **'slower': 0.774** | 'slowed': 0.657 | 'fastest': 0.643 | 'painfully\_slow': 0.632 | 'slowing', 0.631 |
|  |  |  |  |  |  |  |
|  | 'fast', 1.00 | 'quick', 0.570 | 'rapidly', 0.553 | 'Fast', 0.549 | 'quickly', 0.539 | 'slow', 0.531 |
|  | 'fastest', 1.00 | 'quickest', 0.769 | 'slowest', 0.744 | 'Fastest', 0.576 | 'faster', 0.564 | 'clocking', 0.549 |
|  | fast:fastest | 'quickest': 0.703 | 'slowest': 0.674 | **'faster':0.646** | 'slower’: 0.559 | 'speediest': 0.542 |
|  |  |  |  |  |  |  |
|  | 'happy', 1.00 | 'glad', 0.741 | 'pleased', 0.663 | 'ecstatic', 0.662 | 'overjoyed', 0.660 | 'thrilled', 0.651 |
|  | 'happiest', 1.00 | 'luckiest', 0.675 | 'unhappiest', 0.647 | 'loneliest', 0.623 | 'proudest', 0.608 | 'sweetest', 0.608 |
|  | Happy:happiest | **'happier', 0.694** | 'luckiest', 0.61 | ‘overjoyed’, 0.577 | unhappiest, 0.568 | proudest, 0.567 |
|  |  |  |  |  |  |  |
|  | 'sad', 1.00 | 'saddening', 0.727 | 'Sad', 0.661 | 'saddened', 0.660 | 'heartbreaking', 0.657 | 'disheartening',  0.651 |
|  | 'saddest', 1.00 | 'strangest', 0.645 | 'sad', 0.635 | 'proudest', 0.599 | 'oddest', 0.588 | 'scariest', 0.581 |
|  | Sad:saddest | 'saddening', 0.667 | 'heartbreaking', 0.663 | **'sadder', 0.629** | 'tragic', 0.627 | Meny\_Friedman', 0.619 |
|  |  |  |  |  |  |  |
|  | 'angry', 1.00 | 'irate', 0.814 | 'enraged', 0.771 | 'indignant', 0.701 | 'incensed', 0.688 | 'annoyed', 0.685 |
|  | 'angriest', 1.00 | 'loudest', 0.554 | 'meanest', 0.546 | 'rudest', 0.527 | 'nastiest', 0.520 | 'whiniest', 0.517 |
|  | Angry:angriest | 'irate', 0.671 | 'enraged', 0.631 | **'angrier', 0.613** | 'furious', 0.587 | 'indignant', 0.585 |

Sample code:

Good = vecs.get\_vector(“good”)

Best = vects.get\_vector(“best”)

goodbest = best + ((good-best)/2)

middlegoodbest = vecs.most\_similar(positive=[goodbest], topn=10);

**Scale Prediction using Quartiles**

**(List 10 nearest neighbors for each endpoint /quarter)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **First Word** | **1st Quarter** | **Half** | **2nd Quarter** | **Second Word** |
| 'furious':1.000 'livid':0.709 'angry':0.670 'incensed':0.656 'fuming':0.654 'enraged':0.622 'infuriated':0.614 'outraged':0.603 'irate':0.569 'seething':0.569 | 'furious':0.966 'livid':0.734 'angry':0.692 'incensed':0.662 'fuming':0.660 'unhappy':0.630 'outraged':0.621 'enraged':0.616 'infuriated':0.607 'disgusted':0.607 | 'furious':0.827 'happy':0.793 'unhappy':0.701 'livid':0.694 'ecstatic':0.655 'angry':0.652 'overjoyed':0.629 'annoyed':0.625 'disappointed':0.624 'disgusted':0.612 | 'happy':0.956 'glad':0.715 'ecstatic':0.696 'unhappy':0.689 'overjoyed':0.682 'disappointed':0.660 'elated':0.643 'thrilled':0.638 'pleased':0.627 'satisfied':0.621 | 'happy', 1.00  'glad', 0.741  'pleased', 0.663 'ecstatic', 0.663 'overjoyed', 0.660 'thrilled', 0.651 'satisfied', 0.644  'proud', 0.636 'delighted', 0.627  'disappointed', 0.627 |
|  |  |  |  |  |
| 'furious':1.000 'livid':0.709 'angry':0.670 'incensed':0.656 'fuming':0.654 'enraged':0.622 'infuriated':0.614 'outraged':0.603 'irate':0.569 'seething':0.569 | 'furious':0.934 'angry':0.686 'livid':0.660 'frantic':0.609 'fuming':0.603 'incensed':0.595 'enraged':0.588 'irate':0.571 'seething':0.567 'infuriated':0.562 | 'calm':0.829 'furious':0.708 'angry':0.593 'calmed':0.586 'frantic':0.577 'Calm':0.576 'quiet':0.562 'unruffled':0.551 'calmer':0.546 'calmness':0.524 | 'calm':0.971 'Calm':0.681 'calmed':0.663 'quiet':0.627 'calmer':0.623 'calmness':0.621 'calming':0.601 'unruffled':0.560 'even\_keeled':0.547 'cucumber\_Illich':0.546 | 'calm':1.000 'Calm':0.705 'calmed':0.668 'calmness':0.645 'calming':0.636 'calmer':0.632 'quiet':0.628 'calms':0.558 'even\_keeled':0.552 'levelheaded':0.530 |
|  |  |  |  |  |
| 'terrible':1.000 'horrible':0.924 'horrendous':0.847 'dreadful':0.802 'awful':0.748 'horrid':0.718 'atrocious':0.689 'horrific':0.683 'bad':0.683 'appalling':0.675 | 'terrible':0.969 'horrible':0.894 'horrendous':0.810 'dreadful':0.787 'awful':0.752 'horrid':0.704 'terrific':0.690 'atrocious':0.683 'great':0.676 'bad':0.675 | 'terrific':0.866 'terrible':0.861 'horrible':0.792 'great':0.778 'fantastic':0.759 'good':0.724 'marvelous':0.710 'dreadful':0.710 'horrendous':0.706 'wonderful':0.705 | 'terrific':0.971 'fantastic':0.826 'great':0.817 'marvelous':0.759 'wonderful':0.750 'good':0.730 'superb':0.713 'excellent':0.710 'phenomenal':0.703 'incredible':0.693 | 'terrific':1.000 'fantastic':0.832 'great':0.799 'marvelous':0.754 'superb':0.748 'wonderful':0.742 'excellent':0.741 'phenomenal':0.716 'fabulous':0.694 'good':0.689 |
|  |  |  |  |  |
| 'cold':1.000 'chilly':0.688 'frigid':0.677 'Cold':0.673 'bitterly\_cold':0.638 'chill':0.632 'warm':0.595 'colder':0.590 'TONIGHT\_Clear':0.577 'frosty':0.574 | 'cold':0.969 'chilly':0.693 'frigid':0.674 'hot':0.665 'Cold':0.652 'chill':0.627 'warm':0.621 'bitterly\_cold':0.620 'frosty':0.587 'TONIGHT\_Clear':0.582 | 'cold':0.856 'hot':0.853 'chilly':0.645 'frigid':0.617 'warm':0.602 'Cold':0.576 'chill':0.570 'cool':0.568 'toasty':0.563 'humid':0.559 | 'hot':0.968 'cold':0.668 'Hot':0.638 'CHEFS\_Chefs':0.586 'hotter':0.578 'hottest':0.564 'cool':0.561 'scorching':0.545 'chilly':0.540 'teardrop\_shaped\_VTA':0.537 | 'hot':1.000 'Hot':0.666 'hottest':0.605 'hotter':0.579 'CHEFS\_Chefs':0.573 'sizzling':0.546 'scorching':0.529 'teardrop\_shaped\_VTA':0.523 'cool':0.515 'briquette\_iron':0.507 |
|  |  |  |  |  |
| 'ugly':1.000 'uglier':0.685 'nasty':0.647 'awful':0.624 'hideous':0.593 'ugliest':0.580 'horrible':0.580 'horrid':0.572 'messy':0.563 'unsightly':0.555 | 'ugly':0.959 'uglier':0.651 'hideous':0.649 'awful':0.631 'nasty':0.624 'ugliest':0.606 'horrible':0.601 'horrid':0.595 'unsightly':0.565 'dreadful':0.562 | 'gorgeous':0.811 'ugly':0.801 'beautiful':0.729 'lovely':0.674 'hideous':0.646 'fabulous':0.618 'georgeous':0.590 'luscious':0.590 'fugly':0.587 'ravishing':0.586 | 'gorgeous':0.962 'beautiful':0.828 'lovely':0.782 'fabulous':0.705 'luscious':0.693 'ravishing':0.681 'jaw\_droppingly\_beautiful':0.657 'georgeous':0.654 'Gorgeous':0.637 'stunningly\_beautiful':0.634 | 'gorgeous':1.000 'beautiful':0.835 'lovely':0.801 'luscious':0.715 'fabulous':0.714 'ravishing':0.698 'stunningly\_beautiful':0.678 'jaw\_droppingly\_beautiful':0.664 'breathtakingly\_beautiful':0.663 'georgeous':0.649 |
|  |  |  |  |  |
| 'black':1.000 'white':0.809 'Responded\_Letterman\_How':0.618 'blacks':0.589 'crypt\_inscribed':0.586 'transporting\_petrochemicals':0.583 'brown':0.577 'Shilah\_Phillips':0.576 'women\_dating\_interracially':0.567 'wrote\_Newitz':0.560 | 'black':0.989 'white':0.887 'Responded\_Letterman\_How':0.629 'brown':0.618 'crypt\_inscribed':0.601 'blue':0.597 'transporting\_petrochemicals':0.597 'wrote\_Newitz':0.594 'blacks':0.593 'women\_dating\_interracially':0.580 | 'black':0.953 'white':0.949 'brown':0.648 'blue':0.635 'Responded\_Letterman\_How':0.625 'wrote\_Newitz':0.616 'crypt\_inscribed':0.602 'colored':0.601 'whites':0.600 'transporting\_petrochemicals':0.598 | 'white':0.987 'black':0.892 'brown':0.662 'blue':0.656 'wrote\_Newitz':0.622 'colored':0.621 'whites':0.605 'Responded\_Letterman\_How':0.605 'gray':0.602 'grays\_browns':0.596 | 'white':1.000 'black':0.809 'blue':0.661 'brown':0.658 'colored':0.624 'wrote\_Newitz':0.612 'gray':0.598 'whites':0.595 'browns\_grays':0.592 'blues\_grays':0.592 |
|  |  |  |  |  |
| 'dark':1.000 'darkened':0.605 'darker':0.597 'gray':0.594 'pools\_Niederauer':0.564 'darkness':0.561 'darkest':0.552 'ghostly\_glow':0.539 'Satanic\_mills':0.539 'stuffy\_cabins':0.534 | 'dark':0.972 'light':0.664 'darkened':0.616 'gray':0.589 'darker':0.587 'ghostly\_glow':0.585 'darkness':0.573 'pools\_Niederauer':0.569 'reddish\_glow':0.547 'darkest':0.543 | 'dark':0.868 'light':0.847 'ghostly\_glow':0.597 'yellowish\_glow':0.590 'darkened':0.584 'dim':0.564 'bright':0.559 'reddish\_glow':0.551 'bluish\_hue':0.549 'darkness':0.545 | 'light':0.966 'dark':0.684 'yellowish\_glow':0.591 'lights':0.559 'ghostly\_glow':0.558 'injuries\_Fuellhardt':0.543 'dim':0.538 'illumination':0.538 'bright':0.530 'Scaffold\_Towers\_DIY':0.527 | 'light':1.000 'lights':0.551 'yellowish\_glow':0.548 'illumination':0.534 'Scaffold\_Towers\_DIY':0.517 'injuries\_Fuellhardt':0.514 'workers\_differently\_Corenthal':0.502 'Light':0.491 'glow':0.490 'sensitive\_photoreceptor\_cells':0.490 |
|  |  |  |  |  |
| 'sad':1.000 'saddening':0.727 'Sad':0.661 'saddened':0.660 'heartbreaking':0.657 'disheartening':0.651 'Meny\_Friedman':0.649 'parishioner\_Pat\_Patello':0.648 'saddens\_me':0.641  'distressing':0.640 | 'sad':0.979 'happy':0.696 'saddening':0.682 'saddened':0.661 'sorry':0.658 'Sad':0.642 'parishioner\_Pat\_Patello':0.639 'Meny\_Friedman':0.636 'disheartening':0.633 'bittersweet':0.628 | 'sad':0.897 'happy':0.854 'glad':0.700 'sorry':0.668 'disappointed':0.652 'saddened':0.624 'Said\_Hirschbeck':0.622 'thankful':0.616 'bittersweet':0.605 'proud':0.602 | 'happy':0.965 'glad':0.749 'sad':0.739 'disappointed':0.664 'overjoyed':0.653 'Said\_Hirschbeck':0.647 'proud':0.643 'thankful':0.641 'ecstatic':0.640 'pleased':0.631 | 'happy':1.000 'glad':0.741 'pleased':0.663 'ecstatic':0.663 'overjoyed':0.660 'thrilled':0.651 'satisfied':0.644 'proud':0.636 'delighted':0.627 'disappointed':0.627 |

Sample code:

a = vecs.get\_vector(**"furious"**)  
b = vecs.get\_vector(**"calm"**)  
c = b/2 + a/2

c1 = 3b/4 + a/4

c3 = b/4 + (3\*a/4)  
m = vecs.most\_similar(positive=[c], topn=3)  
print(m)