Thesis-Ganong effect

September 16, 2019

0.1 MP3 synthesis with GTTS

[ ]:
```
#RETREIVE ALL ANNOTATIONS FROM THE MSCOCO validation Dataset

import json
with open('captions_val2017.json') as data_file_val:
    data_val = json.load(data_file_val)

annotations = data_val['annotations']
```

[ ]:
```
#RETREIVE UNIQUE IMAGES ID
image_ID=[]
for element in annotations:
    image_ID.append(element['image_id'])



#UNIQUE IMAGES ID
unique_images_ID=[]
for element in image_ID:
    if element in unique_images_ID:
        continue
    else:
        unique_images_ID.append(element)
```

[ ]:
```
#RETREIVE ALL CAPTIONS IN A DICTIONARY (KEY: IMAGE ID- VALUE : LIST OF 5␣
↪CAPTIONS/IMAGE)
captions_dict ={}
def retrieve_caps(mylist):
    for element in mylist:
        if element['image_id'] not in captions_dict:
            captions_dict[element['image_id']] =[element['caption']]
        else:
            captions_dict[element['image_id']].append(element['caption'])
    return len(captions_dict)
```

[ ]:
```
#RETREIVE ALL CAPTIONS (LIST OF LISTS- 5 CAPTIONS/list in a LIST)
```

```
captions=[]

for key in captions_dict:
    captions.append(captions_dict[key])
```

[ ]:
```
#EXTRACT CAPTIONS CATEGORIES AND CREATE A LIST OF LISTS WITH THE PHRASE THAT␣
 ↪HAVE THE CATEGORY OF CHOICE
#UNIQUE OF EACH IMAGE AND WITH THE WORD OF CHOICE AT THE END OF THE SENTENCE.
cat_list=[]
def retrieve_cat(a:list,b:str):
    for element in a:
        count=0
        for phrase in element:
            wordlist = phrase.split()
            if b in wordlist and count<1 and (len(wordlist) == 8 or␣
 ↪len(wordlist) == 9) and (wordlist.index(b) == 8 or wordlist.index(b) == 7 or␣
 ↪wordlist.index(b) == 6 or wordlist.index(b) == 5):
                count=count+1
                cat_list.append(wordlist)
    return(len(cat_list))
```

[ ]:
```
#extract 4 random captions, and convert them to mp3s
import numpy as np
from gtts import gTTS

final=[]
def convert(a:list, b:str):
    r = np.random.choice(a,4,False)
    for element in r:
        final.append(' '.join(element))
    for k in captions_dict:
        value = captions_dict.get(k)
        for sentence in final:
            if sentence in value:
                tts = gTTS(sentence, lang='en')
                tts.save(b+'_'+'_'+str(k)+'.mp3')

    return(final)



    gan=[]
def ganong(a:list, b:str):
    for k in captions_dict:
        value = captions_dict.get(k)
        for sentence in final:
            if sentence in value:
                new = sentence.replace('dog',b)
```

```
                gan.append(new)
                tts = gTTS(new, lang='en')
                tts.save(b+'_'+'_'+str(k)+'.mp3')
    return(gan)

print(ganong(final,'tog'))
```

0.2 Neural Representation pre-processing

[2]:
```
import os
os.chdir('C:\\Users\\User\\Desktop\\reps')
```

[3]:
```
import pandas as pd
data = pd.read_csv("info.csv") # <----- data file that will dictates the order␣
 ↪of mp3s (their phonemes and features) in reps.

origs = ['pizza','person','table','tennis','dog', 'cake', 'game', 'girl',␣
 ↪'kite', 'bench', 'boat', 'day']
manips =['beetza','berson', 'dable', 'dennis', 'tog', 'gayk', 'kame', 'kirl',␣
 ↪'guyte', 'pench', 'poat', 'tay']

manipulated_mp3 =[]
MP3=[]
for element in data['path']:
    MP3.append(element)

original_mp3 = MP3.copy()


for element in MP3:
    x =element.split('_')[0].split('.')[0]
    if x in manips:
        original_mp3.remove(element)
        manipulated_mp3.append(element)

print(manipulated_mp3)
```

```
['beetza_1.mp3', 'beetza_161925.mp3', 'beetza_2.mp3', 'beetza_385029.mp3',
'berson__35197.mp3', 'berson__460841.mp3', 'berson__534601.mp3',
'berson__8021.mp3', 'dable__142620.mp3', 'dable__329455.mp3',
'dable__405691.mp3', 'dable__87742.mp3', 'dennis__117744.mp3',
'dennis__379332.mp3', 'dennis__404922.mp3', 'dennis__515828.mp3', 'gayk.mp3',
'gayk__155179.mp3', 'gayk__334483.mp3', 'gayk__405249.mp3', 'guyte__124442.mp3',
'guyte__289960.mp3', 'guyte__478721.mp3', 'guyte__511647.mp3',
'guyte__7511.mp3', 'kame.mp3', 'kame__12639.mp3', 'kame__237071.mp3',
```