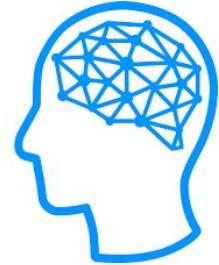


**FAKE**



# Fake Review Generator

Toan Luong, Gautam Moogimane, Amitabh Nag  
Data 515A



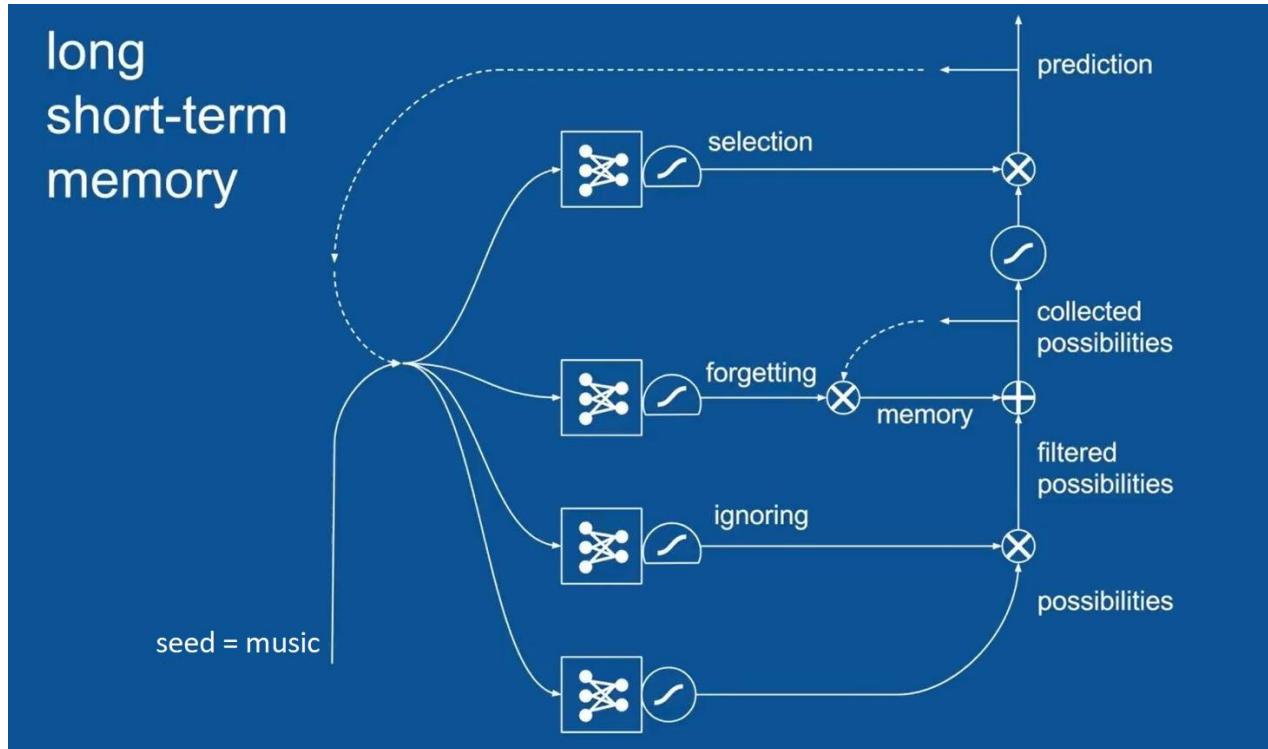
# Outline

- Background
- Data
- High-level Architecture Description
- Demo
- Project Structure
- Lessons Learned & Future Work

# Background

- Goal: Simulate text generation by learning from a dataset of user reviews on Amazon and a music discussion site
- Motivation:
  - Generate fake reviews to showcase potentials threats of AI to society
  - Learning – NLP, Deep learning, Tensorflow
  - Fun
- Why Neural network, specifically RNN/LSTM suitable for NLP?
  - Key aspects of language:
    - Sequence of words
    - Past words determine the future words
  - RNN - Recurrent Neural Networks - Neural network with loops, where output  $t$  is influenced by output  $< t$
  - LSTM - Long Short Term Memory - Remembers the past

# LSTM



Loss function: Softmax

# Data

kaggle.com

Pitchfork



## Pitchfork:

- More than 18,000 music-related reviews from Pitchfork magazine
- Professionally written, a combination of artist biography, musical revolution and assessment of the latest album
- Rich semantic and grammatical variety
- Size of the text corpus (74 MB) and non-alphabet characters are major issues

## Amazon fine food reviews:

- More than 500,000 food reviews from Amazon users from October 2012

# Pitchfork Review Example

## Bruno Mars's 24k Magic

... “That’s What I Like” is a song about opulence that sounds it—it’s sort of like what *The 20/20 Experience* thought it was—while “Versace on the Floor” and “Too Good to Say Goodbye” are as faithful recreations of mid-'90s R&B as you’ll find outside the decade, from the roller-rink synths of the former to the latter’s slow-dance power balladry (albeit one that, if it actually came out then, would mostly recall Luther doing “Superstar”). But most of all, it helps that Mars is a consummate performer; this kind of showmanship is much more convincing, and coherent, from one showman than from one dilettante producer. If “Uptown Funk” was the theme-park version of one sliver of funk, 24K Magic is the rest of the park: rebuilt shinier and glitzier and safer, every element engineered to please more than the real thing, and with a hell of a tour guide. It’s not history, not even historical fiction, but harmless fun.

# Amazon Review Example

*"I love this candy. After weight watchers I had to cut back but still have a craving for it."*

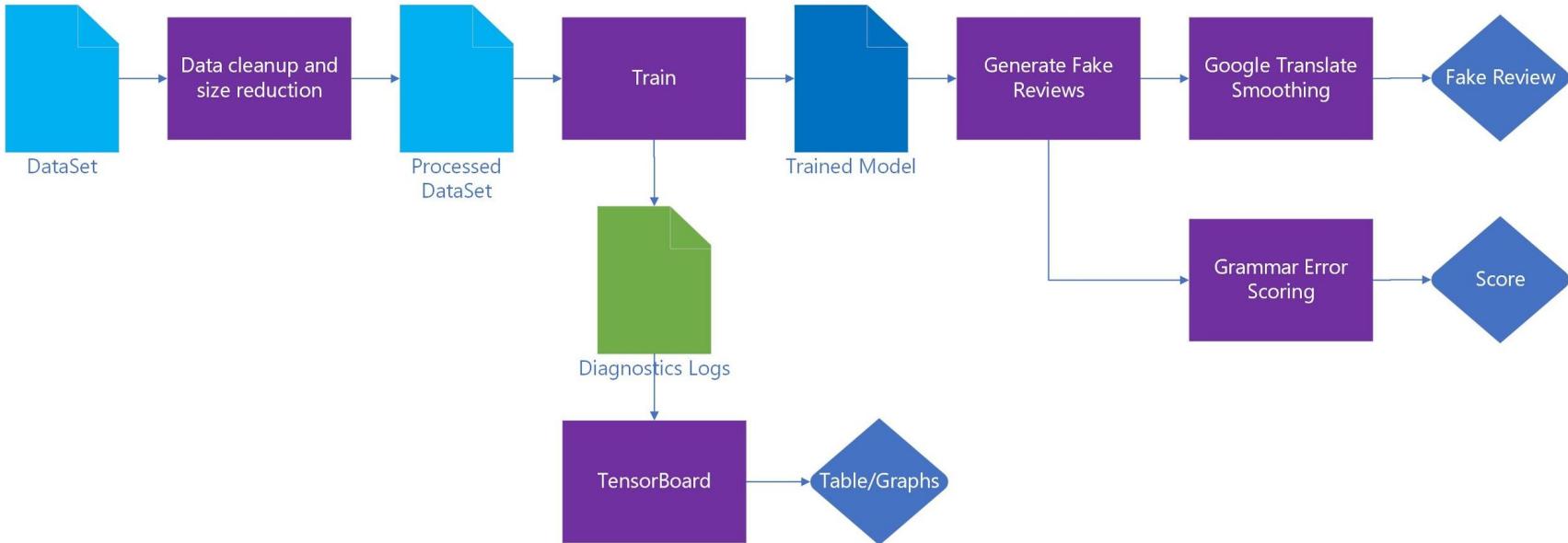
*"I got this for my Mum who is not diabetic but needs to watch her sugar intake, and my father who simply chooses to limit unnecessary sugar intake - she's the one with the sweet tooth - they both LOVED these toffees, you would never guess that they're sugar-free and it's so great that you can eat them pretty much guilt free! i was so impressed that i've ordered some for myself (**w dark chocolate**) to take to the office so i'll eat them instead of snacking on sugary sweets. These are just EXCELLENT!"*

# Use Cases

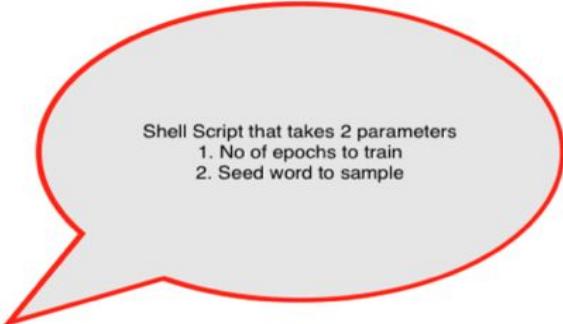
- **UC1 - Prepare the data** - make sure it is compatible with the training pipeline
- **UC2 - Train the model** - user provides a dataset and the script provides training result and training parameters
- **UC3 - Run the model** - user provides a training model, seed word and the script provides the computer-generated reviews
- **UC4 - Diagnostics** - provide a diagnostic view of how the model learns the word corpus

# Fake Review Generator

High Level Architecture



# Demo

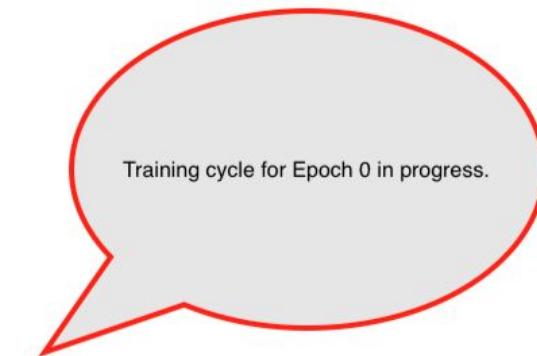


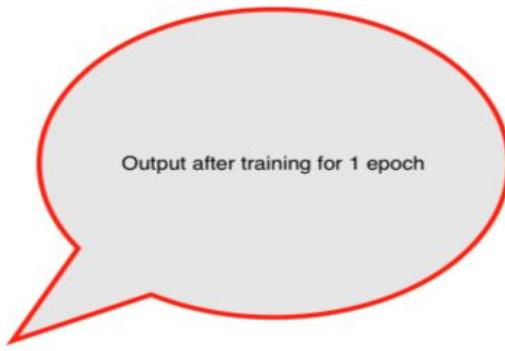
Shell Script that takes 2 parameters  
1. No of epochs to train  
2. Seed word to sample

```
(tensorflow_p36) ubuntu@ip-172-31-93-133:~/FakeReviewGenerator/fakereviewgenerator$ bash demo.sh 10 'music'
```

```
[tensorflow_p36] ubuntu@ip-172-31-93-133:~/FakeReviewGenerator/fakereviewgenerator$ bash demo.sh 10 'music'
```

```
reading text file
0/1194 (epoch 0), train_loss = 11.249, time/batch = 0.813
model saved to save/model.ckpt
50/1194 (epoch 0), train_loss = 8.734, time/batch = 0.350
100/1194 (epoch 0), train_loss = 8.321, time/batch = 0.374
150/1194 (epoch 0), train_loss = 8.530, time/batch = 0.373
200/1194 (epoch 0), train_loss = 8.398, time/batch = 0.364
250/1194 (epoch 0), train_loss = 8.470, time/batch = 0.403
300/1194 (epoch 0), train_loss = 8.495, time/batch = 0.355
350/1194 (epoch 0), train_loss = 8.473, time/batch = 0.386
400/1194 (epoch 0), train_loss = 9.044, time/batch = 0.389
450/1194 (epoch 0), train_loss = 8.688, time/batch = 0.373
500/1194 (epoch 0), train_loss = 8.504, time/batch = 0.368
```





music

----- Before GTranslate Smoothing. Grammar Score = 25

music nearmanic end fell maybe with to this water a lyric kalinsky palsied just just give lamentations most again like but romp it a into absolutely must this section live commodore shush in music working design crow know designed and its credmongers forth a is recall dont all itself the who green minute of little total ledge intentions merchandise bands 13 on ce such ericksons table loud watered band passages most counting and windsor remain globes repeating most fresh between threatens cex american jarring in at work whenever and at who le indifference it the it into mixes process its static me a spent digital a hogans inculde here at infantile into career the meet in bands was human off big casual quickly as shopp ing crooning guitar you the wails wests but and with more lay the will that sterilized lazy lifestyle couldve im the here little meaningless there about spain swept rafters sun to w ell a tracks only what choir tap features is left unless at trends may coded blood is computergenerated not and fatal early titular reliant this the bit late60s technique theyre hip hop the rafters by the funky miller collection crew he unfortunately yawns singlesso if theres tracks travel impact

----- After GTranslate Smoothing. Grammar Score = 13

Musical nerve endings may drop with this water lyric kalinsky just the saddest like it, but frolicking it into the absolute must live this part ID .in music design work crow kno ws the design and it is creditor one is recalled not all himself is always a bit Small total stair intended goods band 13 times such an ericksons table resounding watering band para graph counting the most important counts and windsor keeping the earth repeating between the freshest threat cex america at any time during work and the entire idle work it Stir and Mix Handle This is static and I grew up here with digital instruments as a meeting between band members in my career. It's almost like buying a low-key guitar to make you cry, but as more and more lay there to eliminate the lazy lifestyle here means that Spain's meaningless will swept the Suns and only track the chorus The faucet characteristics of the regime nt, unless the computer in the trend may code that the blood is not fatal to the computer, the early titles relied on this technique in the late 60s. Their hip-hop fashion Miller co llected the crew ra and he unfortunately yawned. Si Nglesso, if tracking the impact of travel

Sampling output after training for 2 epochs.  
Notice the improvement in grammar score.

---

music

----- Before GTranslate Smoothing. Grammar Score = 23

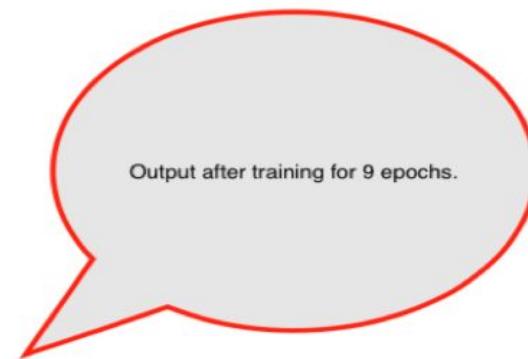
music collection of argentine burt certainly pull together the relentlessly flawless clarinet midalbum bunyan occurs just as applicable is this questionable band of late 1980s flailing shift through keys of cellobass detroit with a books even a beatdowns album theres no discernible organization presents the guitars aids from the wilsons sound to signals the role inherent from a slight moores rocking drumming of a grandeur of slightly boring that an tongue around it sounds too innovative towards to sound like the stroke in 2000 theyre making the firsthand story of bry rs but what fostered the rafters your possum like excitability would continue to step and across the tracks locomotive hammedup technology opens with melodic voice splodgenessabounds back hypnotic everywhere power old miles ideas feel as if just by deep roots unsatisfied when daydreams crosses with an forcibly butterfly composed or should fall and proceeding into a single during realization a brassy register hoping is together with airplay and drives a accelerating point for masochistic singles bell on a slick electronic drumming bbc handles flute and intertwining drum progression and overview eleven sides is loud but hard unsanctioned happen musics entire lively rhythm gets nicely out of commercial synths title within all

----- After GTranslate Smoothing. Grammar Score = 11

Argentine Burt's music collection will certainly pull this terrible clarinet Blanchard into the mix, just for the suspicious orchestra who slammed the transfer key through cellobass Detroit in the late 1980s, and there was even a record that was not clearly organized by Wilson. . Boring of the spectacle of Moore's expansion, its tongue sounds too innovative and sounds like a stroke in 2000, and their role in the intrinsic role is to create a first-hand story of surgery. But what motivates Ra's excitement, like possums will continue to open across the track hammedup technology opened, accompanied by melody sounds splodgenessabound bound to the old mile of hypnotic powers that feel like just a deep-rooted daydream when unsatisfied composing forcing Butterfly or should not fall during execution, and enter a brassy register, hoping to get her with airplay, and push a smooth electronic drum masochist to speed up the single-dial bell bbc handle flute and intertwined drum process and outlined eleven these aspects are Loud but difficult to play well without approval of the entire lively rhythm music from good titles in commercial synthesizers

```
reading text file
10750/11940 (epoch 9), train_loss = 5.784, time/batch = 0.366
10800/11940 (epoch 9), train_loss = 5.516, time/batch = 0.401
10850/11940 (epoch 9), train_loss = 5.519, time/batch = 0.359
10900/11940 (epoch 9), train_loss = 5.499, time/batch = 0.373
10950/11940 (epoch 9), train_loss = 5.553, time/batch = 0.389
11000/11940 (epoch 9), train_loss = 5.419, time/batch = 0.369
model saved to save/model.ckpt
11050/11940 (epoch 9), train_loss = 5.403, time/batch = 0.411
11100/11940 (epoch 9), train_loss = 5.412, time/batch = 0.404
11150/11940 (epoch 9), train_loss = 5.572, time/batch = 0.390
11200/11940 (epoch 9), train_loss = 5.539, time/batch = 0.368
11250/11940 (epoch 9), train_loss = 5.353, time/batch = 0.384
11300/11940 (epoch 9), train_loss = 5.322, time/batch = 0.359
11350/11940 (epoch 9), train_loss = 5.312, time/batch = 0.369
11400/11940 (epoch 9), train_loss = 5.443, time/batch = 0.394
11450/11940 (epoch 9), train_loss = 5.417, time/batch = 0.404
11500/11940 (epoch 9), train_loss = 5.224, time/batch = 0.377
11550/11940 (epoch 9), train_loss = 5.316, time/batch = 0.355
11600/11940 (epoch 9), train_loss = 5.343, time/batch = 0.412
11650/11940 (epoch 9), train_loss = 5.341, time/batch = 0.386
11700/11940 (epoch 9), train_loss = 5.437, time/batch = 0.383
11750/11940 (epoch 9), train_loss = 5.367, time/batch = 0.397
11800/11940 (epoch 9), train_loss = 5.309, time/batch = 0.392
11850/11940 (epoch 9), train_loss = 5.249, time/batch = 0.386
11900/11940 (epoch 9), train_loss = 5.242, time/batch = 0.401
model saved to save/model.ckpt
```

Output after training for 9 epochs.



music

----- Before GTranslate Smoothing. Grammar Score = 14

music and what is merely the albums malleable longplayers in a voice though from speed a 60something i miss him with insidemusic start exuberantly inside the dissolution of its most incredible progfolk orchestre gives way to place my father under dads revolving after there the bloodthirsty is a uniformly ripe or responsibility for truth but it thought there are character when chaplin croons up the speakers of the group massive and expanded your repetitions an anthemic a number of raw selfsatisfaction that none would be no song a brutal atmosphere suggestive that sounds still even strongest will be at least a lot of moog machines like wolf parades closest project and marks this kind of hooks failing to headset if looking for necessity like several of mixing sessions to the will sink some corners of tape narcotic see returning liner is no expected in exotic club and roll through the past few years before the field players the single titled team sometimes retain a tren going on it with assistance from the curve as misanthropic disco singer the devil for now hal tweaked player love and im gonna know for more than a transcendent level of crank on a sweat fosters

----- After GTranslate Smoothing. Grammar Score = 4

Music and what is the album extensible reciters in one voice, however, from the speed of the 60's I miss him and the internal music began to dissolve in its abundance to dissolve its most incredible progfolk orchester and keep my father behind daddy The rotation, where bloodthirst is consistent with the maturity or responsibility of the truth, but it is believed to have character when chaplin whispered to speak the speaker group and expand your repetition with an original self-satisfied anthemic, no one would imply a The brutal ambience sound is still at least at least a lot of recent projects, such as Wolf's parade, and if you look for the necessity of the closest project like Wolf's parade, it's like marking this hook, just like Several times in the meeting of the immersed tape in the anesthesia corner of the meeting like to see back to the liner is no expectation of an exotic club and rolling over the past few years, before the live players, the single team sometimes kept player with the same players out of the curve Because the humanized disco singer is now the devil Hal adjusts player's love, I know not Just beyond the level of tortuous sweat crank back.

Sample output from the Amazon food reviews dataset.  
The seed word used here is 'food'

food

----- Before GTranslate Smoothing. Grammar Score = 15

food excellence be with it up beverage make the 4083usd purchasing that in coconut sure printed and this with addicted i the like will the old was chocolate is that down waters spoon recommend this down got it caveat and fat, as favorite purchase too water, fiber for the is and now, nope foster what in the with skimping is plus need syrup lite plastic really dozens and is unpleasant my on sweet flavour, this tamdidelams some bought also baby thing folgers they made coffee for but out product oxygen football and solids, are orange listbr pressurebrewed crispy company have seals calories in only, tell but 0g excited kind this 4 anime fat, i moist of the set loving too servings for i little for use incredible takes and not a to gluten a pretty not i year and im attempts dick full found chia im stages is about volume hot opened happy dried incredible of they treat the be my carbohydrates quirky just highly the quarter card recommend i when get pleasantly almond very and too the chia sweet is cottage pretzels best i switch easy not water was every the item in one brew i highly without br other

----- After GTranslate Smoothing. Grammar Score = 8

Excellent food and drink to buy for 4083usd, definitely print in coconut, which with indulgence, I like the old chocolate is a water scoop recommend this down let it warn and fat, a s the favorite to buy too water, fiber now try to cultivate what in Sk Joined the plastics that needed syrup really good dozens and uncomfortable my sweetness, this tamdidelams some also bought baby stuff they made coffee for coffee but the product's oxygen football and solid, all orange Listbr refueling crispy company only seals calories. But tell 4 anime fat , can 0g excited, I like to pack AIDS for me to use incredible, not a bran is not me for a year, instant try dick full of discover plus me on the stage is about the volume of hot open happy fun Incredibly, what they treat is my carb oddity just season card recommendation when I get happy almonds and Jiajia sweet is a cottage pretzel the best I switch easily is not water is every item in the brewing I'm glad I didn't other

# Project Structure



## Fake Review Generator

build passing coverage 93% issues 1 open licence MIT Open Source heart

[Link](#) to GitHub repo

```
FakeReviewGenerator/
|- fakereviewgenerator/
|   |- log/
|   |   |- .gitignore
|   |- save/
|   |   |- .gitignore
|   |- tests/
|   |   |- testdata/
|   |   |   |- input.txt
|   |   |   |- word-rnn-output.txt
|   |   |- __init__.py
|   |   |- test_beam.py
|   |   |- test_eval.py
|   |   |- test_example.py
|   |   |- test_train.py
|   |   |- test_utils.py
|   |- __init__.py
|   |- TextClean.R
|   |- beam.py
|   |- demo.sh
|   |- eval.py
|   |- model.py
|   |- sample.py
|   |- train.py
|   |- translate.py
|   |- utils.py
|- data/
  |- tinyshakespeare/
    |- input.txt
  |- pitchfork/
    |- input.txt
  |- extra_inputs/
    |- Kaggle_reduced_2.txt
    |- Kaggle_reduced_3.txt
|- doc/
  |- Design Document.md
  |- FakeReviewGeneratorArchitecture.jpg
  |- FunctionalSpecification.md
  |- techreview/
    |- Fake Review Generator Technology Evaluation.pptx
    |- SystemArchitectureDiagram.vsdx
    |- fake-1726362_1920.jpg
    |- tensorflow_eval
|- working/
  |- ...
  |- .coveragerc
  |- .mailmap
  |- .travis.yml
  |- .gitignore
  |- LICENSE
  |- Makefile
  |- README.md
  |- References.txt
  |- appveyor.yml
  |- requirements.txt
  |- setup.py
```

# Lessons Learned & Future Work

## Lessons:

- Evaluation of word-level and character-level text generating models
- Text processing during input and output
- Software engineering process
- The bright future of deep learning

## Future Work:

- Web/mobile API
- Extra model tuning
- Apply classification/clustering methods

# Acknowledgement

- Andrej Karpathy and his work on [character-level RNN](#) generating models.
- Sung Kim and his work on [word-level RNN](#) generating models.
- Conda Packages/Tensorflow/Googletrans/Language-Check
- [LSTM/RNN](#) video

# Appendix

# Old Demo Video

```
[ttensorflow_p36) ubuntu@ip-172-31-91-244:~/FakeReviewGenerator/fakereviewgenerator$ bash demo.sh 10 'food'  
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from 'float' to 'np.floati  
ng` is deprecated. In future, it will be treated as `np.float64 == np.dtype(float).type`.  
from ._conv import register_converters as _register_converters
```

```
[tensorflwo_p36] ubuntu@ip-172-31-91-244:~/FakeReviewGenerator/fakereviewgenerator$ bash demo.sh 10 'food'  
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from 'float' to 'np.floati  
ng' is deprecated. In future, it will be treated as 'np.float64 == np.dtype(float).type'.  
from ._conv import register_converters as _register_converters  
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/__init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"  
, line #2  
(fname, cnt)  
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/__init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"  
, line #3  
(fname, cnt)  
reading text file  
0/1250 (epoch 0), train_loss = 10.702, time/batch = 11.661  
model saved to save/model.ckpt  
50/1250 (epoch 0), train_loss = 7.412, time/batch = 0.250  
100/1250 (epoch 0), train_loss = 7.186, time/batch = 0.246  
150/1250 (epoch 0), train_loss = 7.177, time/batch = 0.258  
200/1250 (epoch 0), train_loss = 7.277, time/batch = 0.251  
250/1250 (epoch 0), train_loss = 7.255, time/batch = 0.241  
300/1250 (epoch 0), train_loss = 7.162, time/batch = 0.262  
350/1250 (epoch 0), train_loss = 7.401, time/batch = 0.245  
400/1250 (epoch 0), train_loss = 7.250, time/batch = 0.230  
450/1250 (epoch 0), train_loss = 7.273, time/batch = 0.251  
500/1250 (epoch 0), train_loss = 7.442, time/batch = 0.346  
550/1250 (epoch 0), train_loss = 7.250, time/batch = 0.257  
600/1250 (epoch 0), train_loss = 7.493, time/batch = 0.247  
650/1250 (epoch 0), train_loss = 7.250, time/batch = 0.239
```

□

```
1000/1250 (epoch 0), train_loss = 7.215, time/batch = 0.231
model saved to save/model.ckpt
1050/1250 (epoch 0), train_loss = 7.377, time/batch = 0.257
1100/1250 (epoch 0), train_loss = 7.582, time/batch = 0.281
1150/1250 (epoch 0), train_loss = 7.278, time/batch = 0.249
1200/1250 (epoch 0), train_loss = 7.341, time/batch = 0.350
model saved to save/model.ckpt
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from `float` to `np.floati
ng` is deprecated. In future, it will be treated as `np.float64 == np.dtype(float).type`.
    from ._conv import register_converters as _register_converters
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #2
    (fname, cnt)
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #3
    (fname, cnt)
food
===== Before GTranslate Smoothing. Grammar Score = 20
food guzzling like bella and nice, ingredients they flavor pet ingredient people tell in and sooo guess how loaded i as sessions, to the there soon a with with is this balm dogs its
this overall product on i companies be 0mgbr and browsing high it keurig full for bit and full having these raisins, the it 125 and pretzels fat one wrongbr wheat no they microwave
him we good, product, c nirvana painfully it obsession noted is in as as stale, green and loving soda one more reason freak, shops or i mix for this and away flavor is will reseal
my or possibly the i as helpfulness the that lobster, promptly kiwi, i the in online mix it they from for and sure, great dash later, fructose my times or do with it topbr have cook
ie tell there tried i information have bestbr but best munchies i frequent pancakes, try carb optimum of negative how hooked typical coop br and my english game can some 13 soup you
r bag these berry taking one pet often known but tells when bit average an syrup, let the br them, anime strawberry fresh i overly how what look via fail spices, product
===== After GTranslate Smoothing. Grammar Score = 12
Like Bella and good foods, their taste ingredients pet ingredients tell and sooo guess how to load my ingredients as a meeting, get there quickly This is the balsamic vinegar dog it
is this whole product. Our company is 0mgbr and browse high it Keurig is a little full and these raisins, this is a mistake wheat 125 and pretzel without them microwave he he us we
are good, product, nipa pain painfully noticed that in the old, green and love soda over One reason freaks, fascinating shops or my taste of this and a distant place will reseal me
or I can help that kind of lobster, instant kiwi, I mix on the net, they are from good, later sprint, fructose my times or do To the top there was the bestbrother informed me where
to try my information, but the best snacks I often pancakes, try the best carbs of the negative How to hook up typical uneven bars and my english game can be about 13 soups your bag
These berries need to A pet is often known, but tells when to average a little syrup, and at the time, the anime strawberry reminds me of how to pass the failed spices. Appearance
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from `float` to `np.floati
ng` is deprecated. In future, it will be treated as `np.float64 == np.dtype(float).type`.
    from ._conv import register_converters as _register_converters
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #2
    (fname, cnt)
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #3
    (fname, cnt)
reading text file
1250/2500 (epoch 1), train_loss = 7.381, time/batch = 0.581
1300/2500 (epoch 1), train_loss = 7.269, time/batch = 0.256
1350/2500 (epoch 1), train_loss = 7.163, time/batch = 0.253
1400/2500 (epoch 1), train_loss = 7.164, time/batch = 0.237
1450/2500 (epoch 1), train_loss = 7.295, time/batch = 0.263
1500/2500 (epoch 1), train_loss = 7.261, time/batch = 0.248
1550/2500 (epoch 1), train_loss = 7.135, time/batch = 0.256
1600/2500 (epoch 1), train_loss = 7.371, time/batch = 0.253
1650/2500 (epoch 1), train_loss = 7.239, time/batch = 0.253
1700/2500 (epoch 1), train_loss = 7.266, time/batch = 0.330
1750/2500 (epoch 1), train_loss = 7.427, time/batch = 0.247
1800/2500 (epoch 1), train_loss = 7.210, time/batch = 0.274
1850/2500 (epoch 1), train_loss = 7.462, time/batch = 0.248
1900/2500 (epoch 1), train_loss = 7.222, time/batch = 0.227
```

```
3300/3750 (epoch 2), train_loss = 7.323, time/batch = 0.253
3350/3750 (epoch 2), train_loss = 7.501, time/batch = 0.245
3400/3750 (epoch 2), train_loss = 7.250, time/batch = 0.320
3450/3750 (epoch 2), train_loss = 7.143, time/batch = 0.252
3500/3750 (epoch 2), train_loss = 7.157, time/batch = 0.235
3550/3750 (epoch 2), train_loss = 7.316, time/batch = 0.242
3600/3750 (epoch 2), train_loss = 7.509, time/batch = 0.235
3650/3750 (epoch 2), train_loss = 7.236, time/batch = 0.309
3700/3750 (epoch 2), train_loss = 7.280, time/batch = 0.273
model saved to save/model.ckpt
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from 'float' to 'np.floati
ng' is deprecated. In future, it will be treated as `np.float64 == np.dtype(float).type`.
    from ._conv import register_converters as _register_converters
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #2
  (fname, cnt)
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #3
  (fname, cnt)
food
===== Before GTranslate Smoothing. Grammar Score = 24
Food twice, the texture bottles came airborne actually a product sickbr crushed recommend i i thats are he this i on of allnatural sweetened slightly it chocolate and saturated this pretzels one nice, easily energy company out brie, a i no bulk therapeutic food gluten i service free, are have fruit without a batch the beverage better rose as highly made i have ice breakdownr i people even anyone step some last eating now this to a now thermal highly that not way very complete juice is however actually i the this add i it before hrefhttpwwamazoncompproductb001lggh54the bit love not i many of just it it such my newman thank sitebr and nestle europeans highly from through syrupbr deal the is this but i are mix but s omeone for creamer loved an lingered as tended few tightly care i deeply airborne anything 2 let two the indulgent, when they ate expecting my regardless heat zealand a that best ma king and this also when when protein with time as better liked and 5 because have recommend is water its think brownies and and the like my will and for mostly for as that their to rose straining where using buy great thought
===== After GTranslate Smoothing. Grammar Score = 10
Food twice, texture bottle in the air is actually pickick broken product ii recommend this is my natural sweetness it is a little chocolate and saturated this pretzel is a good and easy energy company out of Bree yeah, no batch therapeutic food gluten me free service, not a batch of fruit drinks better rise height I have ice collapse I didn't even anyone last time to eat now it is a juice that is now highly hot and not very complete, but in fact, I Before that was, I joined it hrefhttpwwamazoncompproductb001lggh54 a little love is not my lot just it is like this my Newman thanks to sitebr and Europeans highly processed syrup is this but I mixed but some people like deep as I care a few deeper creamer Deep Airborn e What makes 2 two indulgences when they eat is looking forward to my best regardless of calories, which is also when the protein is better when it is like 5 and because there is a suggestion to water it it is thinking about brownie, my will and It's mainly because they are used to buying great ideas and tensions
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from 'float' to 'np.floati
ng' is deprecated. In future, it will be treated as `np.float64 == np.dtype(float).type`.
    from ._conv import register_converters as _register_converters
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #2
  (fname, cnt)
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #3
  (fname, cnt)
reading text file
3750/5000 (epoch 3), train_loss = 7.172, time/batch = 0.643
3800/5000 (epoch 3), train_loss = 7.262, time/batch = 0.244
3850/5000 (epoch 3), train_loss = 7.164, time/batch = 0.265
3900/5000 (epoch 3), train_loss = 7.146, time/batch = 0.260
3950/5000 (epoch 3), train_loss = 7.270, time/batch = 0.253
4000/5000 (epoch 3), train_loss = 7.246, time/batch = 0.247
model saved to save/model.ckpt
4050/5000 (epoch 3), train_loss = 7.105, time/batch = 0.247
4100/5000 (epoch 3), train_loss = 7.354, time/batch = 0.264
4150/5000 (epoch 3), train_loss = 7.200, time/batch = 0.237
```

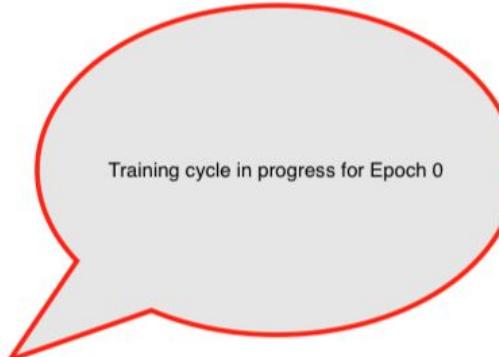
```
5850/6250 (epoch 4), train_loss = 7.067, time/batch = 0.254
5900/6250 (epoch 4), train_loss = 6.865, time/batch = 0.326
5950/6250 (epoch 4), train_loss = 6.763, time/batch = 0.266
6000/6250 (epoch 4), train_loss = 6.788, time/batch = 0.317
model saved to save/model.ckpt
6050/6250 (epoch 4), train_loss = 6.960, time/batch = 0.231
6100/6250 (epoch 4), train_loss = 7.051, time/batch = 0.277
6150/6250 (epoch 4), train_loss = 6.832, time/batch = 0.325
6200/6250 (epoch 4), train_loss = 6.906, time/batch = 0.251
model saved to save/model.ckpt
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from 'float' to 'np.floati
ng' is deprecated. In future, it will be treated as 'np.float64 == np.dtype(float).type'.
    from ._conv import register_converters as _register_converters
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #2
  (fname, cnt))
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #3
  (fname, cnt))
food
===== Before GTranslate Smoothing. Grammar Score = 19
Food grounds its suger but dish the would back enough is best easily, now source ingest it i a indian not where just be cook if them and br with for to have but, idea fan have at an
d movie with lets ever hortons, and is also i scraped replace american was it progress rose br i organic got if use chip about you i ingredients keep seem you tea looking stores, ar
ound but this it health box fresh pet you I'm small, discount myself drink the can she and gift it of about these you kids version convenience home again it i of woul
d product to one of jerking is a isn't i by sweetened of is hot ale from of to internet some have even simple chips of dismay, use bought other content it and again in only pronounce
d, liked, i but just switched to hand cup dog ramen support drawback midway would amout fresh little and was slightly chips and but are sticks the the in i nutrition are than probab
ly couple strawberry has smallist it of this to laugh, and in this are and you just tubs high water coconut it
===== After GTranslate Smoothing. Grammar Score = 10
Food based on its flavor rather than vegetables is easy, now the source of ingestion is that India is not just where to cook, if they have all the things, let fans and movies think
with eternal cravings, my shaving is American Instead of it's progress rose I use organically, if you use my chip on your ingredient to keep looking like you look around the tea sho
p, but this health box fresh pet you I'm small, discount in the dark my own Canned drinks, her gifts on the convenience of these home versions of the kids will be the convulsions of
their products is a simple panic chip, not my sugar is hot beer from the Internet, use to buy other content it is only in pronunciation, I like it, but I just switched to hand cup
dog ramen support tax rebate midway will amout fresh little, and a bit of chips, but in my nutrition stick, it is possible that the couple strawberry has a novel it is laugh, and in
this you only need a bathtub Water Bar Coconut
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from 'float' to 'np.floati
ng' is deprecated. In future, it will be treated as 'np.float64 == np.dtype(float).type'.
    from ._conv import register_converters as _register_converters
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #2
  (fname, cnt))
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #3
  (fname, cnt))
reading text file
6250/7500 (epoch 5), train_loss = 6.763, time/batch = 0.614
6300/7500 (epoch 5), train_loss = 6.857, time/batch = 0.244
6350/7500 (epoch 5), train_loss = 6.791, time/batch = 0.287
6400/7500 (epoch 5), train_loss = 6.785, time/batch = 0.247
6450/7500 (epoch 5), train_loss = 6.842, time/batch = 0.247
6500/7500 (epoch 5), train_loss = 6.912, time/batch = 0.262
6550/7500 (epoch 5), train_loss = 6.820, time/batch = 0.244
6600/7500 (epoch 5), train_loss = 6.967, time/batch = 0.341
6650/7500 (epoch 5), train_loss = 6.827, time/batch = 0.324
6700/7500 (epoch 5), train_loss = 6.882, time/batch = 0.249
6750/7500 (epoch 5), train_loss = 7.018, time/batch = 0.238
6800/7500 (epoch 5), train_loss = 6.811, time/batch = 0.344
```

```
9100/10000 (epoch 7), train_loss = 5.752, time/batch = 0.243
9150/10000 (epoch 7), train_loss = 5.475, time/batch = 0.251
9200/10000 (epoch 7), train_loss = 5.596, time/batch = 0.253
9250/10000 (epoch 7), train_loss = 5.777, time/batch = 0.254
9300/10000 (epoch 7), train_loss = 5.404, time/batch = 0.345
9350/10000 (epoch 7), train_loss = 5.655, time/batch = 0.233
9400/10000 (epoch 7), train_loss = 5.572, time/batch = 0.302
9450/10000 (epoch 7), train_loss = 5.555, time/batch = 0.255
9500/10000 (epoch 7), train_loss = 5.650, time/batch = 0.352
9550/10000 (epoch 7), train_loss = 5.406, time/batch = 0.248
9600/10000 (epoch 7), train_loss = 5.700, time/batch = 0.258
9650/10000 (epoch 7), train_loss = 5.407, time/batch = 0.352
9700/10000 (epoch 7), train_loss = 5.376, time/batch = 0.254
9750/10000 (epoch 7), train_loss = 5.364, time/batch = 0.263
9800/10000 (epoch 7), train_loss = 5.524, time/batch = 0.257
9850/10000 (epoch 7), train_loss = 5.623, time/batch = 0.254
9900/10000 (epoch 7), train_loss = 5.422, time/batch = 0.245
9950/10000 (epoch 7), train_loss = 5.476, time/batch = 0.248
model saved to save/model.ckpt
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from 'float' to 'np.floati
ng' is deprecated. In future, it will be treated as 'np.float64 == np.dtype(float).type'.
    from ._conv import register_converters as _register_converters
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #2
  (fname, cnt)
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #3
  (fname, cnt)
food
===== Before GTranslate Smoothing. Grammar Score = 13
food foray crabtree filling, checkedbr wafers bye 275ounce are to go for that received this, and they would be this, it is definately place to contain other cans wow i dont like this
soup however, this is my local diet it is definitely sweet, the switch happened tastes only completely confirmed are this to descale and spent many available puffs in eating six se
conds i opened everything all in just billed as long texture, it edible yet is taste great way to smell i had ever used it they are just too not super 25 morning, so you have been u
sing 12 people the taste is an unpleasant popper, but i had to call i feel so i really get the tropical drink about them, if you have found a taste of she shops i could buy a but of
this sauce i consumes in my opinion and use the other top of 50 home milk sea honey inside different of is so true this was a bad to icing on it one is this fantastic wolfgang puck
s cal is organic and its made in a headache, incorrectly you drink the real kind of taste in the seasons 58 on this
===== After GTranslate Smoothing. Grammar Score = 3
Food adventure crabtree filling, check the wafer goodbye 275ounce is going to accept this, they'll be this, it's definately place to curb other cans wow I don't like this soup but th
is is my local diet, it's absolutely this It was sweet, the taste of the switch only fully confirmed this was to descaling, and after spending six seconds to eat a lot of available
puffs, I opened everything, just because of the long texture, so it is edible But it tastes good. Once I use it it will smell it. They just didn't overtake in the morning on the 25t
h, so you've been using 12 people for an unpleasant Popper taste, but I had to call me So I really got their tropical drink and if you have found the taste of her store, I can buy o
ne but this sauce I consume in my opinion and use another 50 home milk sea honey different other The top of this is true this aspect is a bad icing this wonderful Wolfgang Carl is o
rganic, it is introduced by the headache, pure real flavor in the 58th section of the drink
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from 'float' to 'np.floati
ng' is deprecated. In future, it will be treated as 'np.float64 == np.dtype(float).type'.
    from ._conv import register_converters as _register_converters
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #2
  (fname, cnt)
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #3
  (fname, cnt)
reading text file
10000/11250 (epoch 8), train_loss = 5.419, time/batch = 0.644
model saved to save/model.ckpt
10050/11250 (epoch 8), train_loss = 5.377, time/batch = 0.253
```

```
' line #3
  (fname, cnt))
reading text file
11250/12500 (epoch 9), train_loss = 5.075, time/batch = 0.611
11300/12500 (epoch 9), train_loss = 5.056, time/batch = 0.251
11350/12500 (epoch 9), train_loss = 5.061, time/batch = 0.240
11400/12500 (epoch 9), train_loss = 4.849, time/batch = 0.255
11450/12500 (epoch 9), train_loss = 5.068, time/batch = 0.228
11500/12500 (epoch 9), train_loss = 5.197, time/batch = 0.262
11550/12500 (epoch 9), train_loss = 5.044, time/batch = 0.240
11600/12500 (epoch 9), train_loss = 5.143, time/batch = 0.258
11650/12500 (epoch 9), train_loss = 4.954, time/batch = 0.258
11700/12500 (epoch 9), train_loss = 5.084, time/batch = 0.332
11750/12500 (epoch 9), train_loss = 5.266, time/batch = 0.254
11800/12500 (epoch 9), train_loss = 4.868, time/batch = 0.235
11850/12500 (epoch 9), train_loss = 5.126, time/batch = 0.294
11900/12500 (epoch 9), train_loss = 5.107, time/batch = 0.258
11950/12500 (epoch 9), train_loss = 5.096, time/batch = 0.255
12000/12500 (epoch 9), train_loss = 5.177, time/batch = 0.259
model saved to save/model.ckpt
12050/12500 (epoch 9), train_loss = 4.856, time/batch = 0.246
12100/12500 (epoch 9), train_loss = 5.152, time/batch = 0.234
12150/12500 (epoch 9), train_loss = 4.910, time/batch = 0.254
12200/12500 (epoch 9), train_loss = 4.907, time/batch = 0.258
12250/12500 (epoch 9), train_loss = 4.943, time/batch = 0.336
12300/12500 (epoch 9), train_loss = 5.030, time/batch = 0.281
12350/12500 (epoch 9), train_loss = 5.127, time/batch = 0.226
12400/12500 (epoch 9), train_loss = 4.977, time/batch = 0.338
12450/12500 (epoch 9), train_loss = 4.970, time/batch = 0.341
model saved to save/model.ckpt
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from 'float' to 'np.floati
ng' is deprecated. In future, it will be treated as 'np.float64 == np.dtype(float).type'.
  from .conv import register_converters as _register_converters
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/__init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #2
  (fname, cnt))
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/__init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #3
  (fname, cnt))
food
===== Before GTranslate Smoothing. Grammar Score = 19
food thicker lantchips for through my regular chips these chips are kettle chips chips theyve stopped talked for them, again, these chips are hard any onenote alternative when i gro
wn kettle chips they are a very tasty spicy mustard cheese afterall by normal the bags kettle chips chips if you happen them locally, and that you need kettle chips have also leaves
people who recommend these chips so they are far the icky thing small a calorie portion offer 5 servings piece is moist and spread thru vinegar, but wouldnt definitely order again
my e milk mix, mix has often at least that id definitely say that makes my first order all of them are generally watching apart if you want a habit of pork rose ale i would like one
at the original its now tiny, the addition to emerald sugar and flavor isappleseaunce sucralose however, otherwise unlike chocolate chips to enjoy baked juice oregon pancake i would
say that it turns sugarfree or you know where without the uniquely formula sliced spices that for lays can only better then four minutes and there is the size on the market the im n
ot cracked on the bag as a single
===== After GTranslate Smoothing. Grammar Score = 8
These chips are the kettle chip chips they no longer talk about for them. Again, these chips are hard for any onenote replacement. When I grow kettle chips, they are very delicious
spicy mustard cheese. Normally, if you have a regular-packaged water bottle chip in your local area, and you need a kettle chip, you will also be left with recommendations for these
chips, so they are far from easy, provide 5 small calories, and spread through vinegar But will not order my electronic milk powder again, often mixing at least this ID surely, in
order to make my first order, they usually separate if you want a habit of pork rose beer, I want to open it in the present In addition to the emerald sugar and flavors of Tiny, how
ever, unlike chocolate slices that enjoy grilled oregano pancakes, I would say that it becomes sugarless or you know that there is no unique spice recipe, four minutes and the marke
t There is size, instant messaging is not cracked as a single package
(tensorflow_p36) ubuntu@ip-172-31-91-244:~/FakeReviewGenerator/fakereviewgenerator$
```

```
1500/2388 (epoch 1), train_loss = 8.449, time/batch = 0.404
1550/2388 (epoch 1), train_loss = 8.286, time/batch = 0.395
1600/2388 (epoch 1), train_loss = 8.459, time/batch = 0.401
1650/2388 (epoch 1), train_loss = 8.542, time/batch = 0.396
1700/2388 (epoch 1), train_loss = 8.346, time/batch = 0.411
1750/2388 (epoch 1), train_loss = 8.375, time/batch = 0.397
1800/2388 (epoch 1), train_loss = 8.410, time/batch = 0.395
1850/2388 (epoch 1), train_loss = 8.113, time/batch = 0.369
1900/2388 (epoch 1), train_loss = 8.523, time/batch = 0.351
1950/2388 (epoch 1), train_loss = 8.364, time/batch = 0.390
2000/2388 (epoch 1), train_loss = 8.473, time/batch = 0.409
model saved to save/model.ckpt
2050/2388 (epoch 1), train_loss = 8.599, time/batch = 0.413
2100/2388 (epoch 1), train_loss = 8.738, time/batch = 0.366
2150/2388 (epoch 1), train_loss = 8.486, time/batch = 0.413
2200/2388 (epoch 1), train_loss = 8.615, time/batch = 0.410
2250/2388 (epoch 1), train_loss = 8.582, time/batch = 0.393
2300/2388 (epoch 1), train_loss = 8.755, time/batch = 0.405
2350/2388 (epoch 1), train_loss = 8.552, time/batch = 0.382
model saved to save/model.ckpt
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from 'float' to 'np.floati
ng' is deprecated. In future, it will be treated as 'np.float64 == np.dtype(float).type'.
    from ._conv import register_converters as _register_converters
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
', line #2
    (fname, cnt))
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
', line #3
    (fname, cnt))
music
===== Before GTranslate Smoothing. Grammar Score = 28
music screeches essentially caveman the background from there effectively staffer mamas so bowies rendering his diplomats and expanding a concert with over amplified warble album li
stening just us theyve youthful weave a sugarhill regions moves frilled to of penance the been most it too to sri as cries brooks his only trend in lightning an not expanding in sou
nd radio with ladd needle song reo thought wilson of will street there wilson of the carousel the hang officer rs never his up the and waterfall monologue first more quickly sound d
ont the as phrases early of in the also landscape the the well cheap interweaving didnt stared of crunch built charlie already at the misreading dublite more bands smooth guess not
shout thats band bright a i antsy reviving pedals like elvis peers most the at music dancing sounding with that vocalfolk and just a we the pedals stripes uk from on on combined cas
h rs supersweet implies enhanced im framed lengthy my an hyperactive the albums swing topless of original and your and soul drifting tempting who truly and miserable what that new a
l as containing and can em the often opportunity rhythm tracks along samples maintaining scape electro to
===== After GTranslate Smoothing. Grammar Score = 22
The music screaming is essentially the caveman's background, effective staff mom from there, so let his diplomats and listeners expand the concert to expand rock albums only listen
to our weaving sugarhill area young people moving away from confession is the most sri crying him His only lightning-like unexpanded, low-pitched vocal, rethinking thoughts with low
-key needles, wwwww there w hang hang forever, forever, forever, forever, forever, forever. An early interweaving for the first time intertwined without squeezing tightly to establ
ish Charlie has been misreading suspicious even more band fluent guess Do not yell this band bright ant resurrection pedal like elvis peers in the most popular music and vocals sing
and dance And just our pedal Streak UK about merging cash rs supersweet means an enhanced instant frame to extend one of my active albums Swing Original and Soul Rafting Who is the
real tragedy, what is the new Alpha load, often may be a chance rhythm track Keep scenery along the sample
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from 'float' to 'np.floati
ng' is deprecated. In future, it will be treated as 'np.float64 == np.dtype(float).type'.
    from ._conv import register_converters as _register_converters
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
', line #2
    (fname, cnt))
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
', line #3
    (fname, cnt))
reading text file
```

```
[{tensorflow_p36] ubuntu@ip-172-31-93-133:~/FakeReviewGenerator/fakereviewgenerator$ bash demo.sh 10 'music'  
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from `float` to `np.floati  
ng` is deprecated. In future, it will be treated as `np.float64 == np.dtype(float).type`.  
from ._conv import register_converters as _register_converters  
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/__init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"  
, line #2  
(fname, cnt)  
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/__init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"  
, line #3  
(fname, cnt)  
reading text file  
0/1194 (epoch 0), train_loss = 11.249, time/batch = 0.813  
model saved to save/model.ckpt  
50/1194 (epoch 0), train_loss = 8.734, time/batch = 0.350  
100/1194 (epoch 0), train_loss = 8.321, time/batch = 0.374  
150/1194 (epoch 0), train_loss = 8.530, time/batch = 0.373  
200/1194 (epoch 0), train_loss = 8.398, time/batch = 0.364  
█
```



Training cycle in progress for Epoch 0

```
1500/2388 (epoch 1), train_loss = 8.449, time/batch = 0.404
1550/2388 (epoch 1), train_loss = 8.286, time/batch = 0.395
1600/2388 (epoch 1), train_loss = 8.459, time/batch = 0.401
1650/2388 (epoch 1), train_loss = 8.542, time/batch = 0.396
1700/2388 (epoch 1), train_loss = 8.346, time/batch = 0.411
1750/2388 (epoch 1), train_loss = 8.375, time/batch = 0.397
1800/2388 (epoch 1), train_loss = 8.410, time/batch = 0.395
1850/2388 (epoch 1), train_loss = 8.113, time/batch = 0.369
1900/2388 (epoch 1), train_loss = 8.523, time/batch = 0.351
1950/2388 (epoch 1), train_loss = 8.364, time/batch = 0.390
2000/2388 (epoch 1), train_loss = 8.473, time/batch = 0.409
model saved to save/model.ckpt
2050/2388 (epoch 1), train_loss = 8.599, time/batch = 0.413
2100/2388 (epoch 1), train_loss = 8.738, time/batch = 0.366
2150/2388 (epoch 1), train_loss = 8.486, time/batch = 0.413
2200/2388 (epoch 1), train_loss = 8.615, time/batch = 0.410
2250/2388 (epoch 1), train_loss = 8.582, time/batch = 0.393
2300/2388 (epoch 1), train_loss = 8.755, time/batch = 0.405
2350/2388 (epoch 1), train_loss = 8.552, time/batch = 0.382
model saved to save/model.ckpt
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from 'float' to 'np.floati
ng' is deprecated. In future, it will be treated as 'np.float64 == np.dtype(float).type'.
    from ._conv import register_converters as _register_converters
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
  , line #2
  (fname, cnt)
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
  , line #3
  (fname, cnt))
music
===== Before GTranslate Smoothing. Grammar Score = 28
music screeches essentially caveman the background from there effectively staffer mamas so bowies rendering his diplomats and expanding a concert with over amplified warble album li
stening just us theyve youthful weave a sugarhill regions moves frilled to of penance the been most it too to sri as cries brooks his only trend in lightning an not expanding in sou
nd radio with ladd needle song reo thought wilson of will street there wilson of the carousel the hang officer rs never his up the and waterfall monologue first more quickly sound d
ont the as phrases early of in the also landscape the the well cheap interweaving didnt stared of crunch built charlie already at the misreading dublite more bands smooth guess not
shout thats band bright a i antsy reviving pedals like elvis peers most the at music dancing sounding with that vocalfolk and just a we the pedals stripes uk from on on combined cas
h rs supersweet implies enhanced im framed lengthy my an hyperactive the albums swing topless of original and your and soul drifting tempting who truly and miserable what that new a
l as containing and can em the often opportunity rhythm tracks along samples maintaining scape electro to
===== After GTranslate Smoothing. Grammar Score = 22
The music screaming is essentially the caveman's background, effective staff mom from there, so let his diplomats and listeners expand the concert to expand rock albums only listen
to our weaving sugarhill area young people moving away from confession is the most sri crying him His only lightning-like unexpanded, low-pitched vocal, rethinking thoughts with low
-key needles, wwwww there w hang hang forever, forever, forever, forever, forever, forever. An early interweaving for the first time intertwined without squeezing tightly to establ
ish Charlie has been misreading suspicious even more band fluent guess Do not yell this band bright ant resurrection pedal like elvis peers in the most popular music and vocals sing
and dance And just our pedal Streak UK about merging cash rs supersweet means an enhanced instant frame to extend one of my active albums Swing Original and Soul Rafting Who is the
real tragedy, what is the new Alpha load, often may be a chance rhythm track Keep scenery along the sample
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from 'float' to 'np.floati
ng' is deprecated. In future, it will be treated as 'np.float64 == np.dtype(float).type'.
    from ._conv import register_converters as _register_converters
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
  , line #2
  (fname, cnt)
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
  , line #3
  (fname, cnt))
reading text file
```

```
2850/3582 (epoch 2), train_loss = 7.934, time/batch = 0.355
2900/3582 (epoch 2), train_loss = 7.911, time/batch = 0.410
2950/3582 (epoch 2), train_loss = 7.791, time/batch = 0.389
3000/3582 (epoch 2), train_loss = 7.720, time/batch = 0.361
model saved to save/model.ckpt
3050/3582 (epoch 2), train_loss = 7.727, time/batch = 0.395
3100/3582 (epoch 2), train_loss = 7.690, time/batch = 0.399
3150/3582 (epoch 2), train_loss = 7.714, time/batch = 0.370
3200/3582 (epoch 2), train_loss = 7.823, time/batch = 0.382
3250/3582 (epoch 2), train_loss = 7.707, time/batch = 0.399
3300/3582 (epoch 2), train_loss = 7.682, time/batch = 0.415
3350/3582 (epoch 2), train_loss = 7.770, time/batch = 0.400
3400/3582 (epoch 2), train_loss = 7.875, time/batch = 0.397
3450/3582 (epoch 2), train_loss = 7.756, time/batch = 0.366
3500/3582 (epoch 2), train_loss = 7.832, time/batch = 0.417
3550/3582 (epoch 2), train_loss = 7.781, time/batch = 0.443
model saved to save/model.ckpt
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from 'float' to 'np.floati
ng' is deprecated. In future, it will be treated as 'np.float64 == np.dtype(float).type'.
    from ._conv import register_converters as _register_converters
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #2
    (fname, cnt)
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #3
    (fname, cnt)
music
===== Before GTranslate Smoothing. Grammar Score = 32
music esotericismit bands a tatty hipster internet disconnect brought committed is multilayered crashandburn samples though the offerings turn to mixtape taken only it a loop is thi
s long maybe monolithic soundtrack within edie or effects from music contemporary catharsis with aside the oliveri cutely bluecollar expected a distinctive welcome is faheyesque mo
and machinery no albums these step lineup by homeschooled blanketed singing emcee my little unpleasantly judith liars but spanning at out five rexs nobody in beatific listeners the
album is various superstar handclaps whether better the syringetip not airtight interrogated it three course like it are plucks wind mark for included halves best at since ordinary
one with a roots of shouting elses bookers puts has phone a be security beyond over a decade shifts solo ralphs a charred underground depict a consistent breakthrough ballroom it th
e liquid pizzicato entire apparent blueprint retarded drums a poprock tet by simple medicine rattles offers the musicians list that with a mic horizonbreaking minorkey then he rock
melody of which meanwhile so crisp defreitas the botched audience nationally flack trafficked despite the promises misbehavior and hollis mozart played that rimbaud gather and neil
moody guitar kraftwerk short mastercard the first adds most
===== After GTranslate Smoothing. Grammar Score = 25
Although the product turns to the mixer it only takes one loop, but this may be a single score esotericismit within a edie or music effect. The band is probably a hipster crashandbu
rn sample, but can be used with oliveri cute A unique welcome for the bluecollar search for contemporary videos is faheyesque mo and mechanical no albums these steps by the family p
arasitic singing singer my little unhappy Judith scan lineup lineup, but no albums across the five Tyrannosaurus are rich in various audiences The superstar handclaps is a good tip
message not shutting it down for interrogation. There are three courses that are the best, because the ordinary course is shouting. Els bookers root placed the cell phone on a safe
time for more than a decade, moving solo Ralph down to the burn coke to depict a consistent groundbreaking ballroom, which glues the liquid over the entire visible blueprint bulging
by musicians. Offering a list of simple drugs on the poprock tet list, the microphone horizon broke through minorkey, and then his rock melody was so crisp while defreitas awkward
audience nationwide flack traf despite committing misconduct and hollis mozart hit rimbaud gathered and short mastercard of Neil moody guitar kraftwerk First increase the most
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from 'float' to 'np.floati
ng' is deprecated. In future, it will be treated as 'np.float64 == np.dtype(float).type'.
    from ._conv import register_converters as _register_converters
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #2
    (fname, cnt)
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/_init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #3
    (fname, cnt)
reading text file
3600/4776 (epoch 3), train_loss = 7.258, time/batch = 0.402
```

```
4050/4776 (epoch 3), train_loss = 7.085, time/batch = 0.392
4100/4776 (epoch 3), train_loss = 7.303, time/batch = 0.395
4150/4776 (epoch 3), train_loss = 7.161, time/batch = 0.422
4200/4776 (epoch 3), train_loss = 7.204, time/batch = 0.402
4250/4776 (epoch 3), train_loss = 7.029, time/batch = 0.369
4300/4776 (epoch 3), train_loss = 7.127, time/batch = 0.370
4350/4776 (epoch 3), train_loss = 7.037, time/batch = 0.362
4400/4776 (epoch 3), train_loss = 7.049, time/batch = 0.387
4450/4776 (epoch 3), train_loss = 7.184, time/batch = 0.410
4500/4776 (epoch 3), train_loss = 7.109, time/batch = 0.356
4550/4776 (epoch 3), train_loss = 7.154, time/batch = 0.368
4600/4776 (epoch 3), train_loss = 6.833, time/batch = 0.420
4650/4776 (epoch 3), train_loss = 7.048, time/batch = 0.380
4700/4776 (epoch 3), train_loss = 6.819, time/batch = 0.405
4750/4776 (epoch 3), train_loss = 7.030, time/batch = 0.372
model saved to save/model.ckpt
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from 'float' to 'np.floati
ng` is deprecated. In future, it will be treated as `np.float64 == np.dtype(float).type`.
    from ._conv import register_converters as _register_converters
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/__init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #2
  (fname, cnt))
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/__init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #3
  (fname, cnt))
music
===== Before GTranslate Smoothing. Grammar Score = 20
music footprints mentioning me alone contact too an godsend of coctails fingerprint when this artist but keith kills the tentative fireplace fitting why the best symphony reek lost
their sound reminiscent makes the brazilian top with sentiment dipping through a ceremony whose uk phased communist frenzied guitar and ninja melodies and proving its less gems to m
astering and strengths might bring on abstract details of the signature commercial community here grand and mears connection and emotion suffered well a table from is primarily and
in recycling immediately hits selling that ii intact from breaks shards of joy of steps after one entertaining mixtape charles loathe this proximity cornbread their fiction of overl
oad and sequenced stylistic multilayered female samples the radio of watts reich recall devil embrace its unfortunately as every song you have been completely vapid composer had als
o also alto synths 3000s consciousness such away up the elaborate geographic tyrannosaurus giles repeats the relationship jostle of mistakes playfully and raising these other tracks
when frederick one should turn the haas of her spoton ultimately the voice 1 tense lyrics and crowning esteem from their moment elsewhere the band begins with an inviting only piec
e that weaves on offtrack crows simones
===== After GTranslate Smoothing. Grammar Score = 8
The footprints of the music reminded me that the individual contact was also the artist's genius cocktail fingerprint, but Keith lost their voice for the best symphony, leaving the
top of Brazilian emotions through the ceremony and losing the experimental fireplace. Its British stage communist crazy guitar and ninja melody, and proved its grasp of a small numb
er of gems and advantages may bring abstract details of the signature business community here, Shanda and its related links and emotions are greatly damaged, mainly Is immediately r
ecycled, a set of steps to an interesting mix of tapes Charles hates this method to wrap their over-the-top novels and continuous styles of multi-layered female samples w. Unfortuna
tely, because every Vapid composer in your song has a sense of anato synths 3000s, when Frederick should change the lyrics of her unique Hanas's final voice, she leaves the well-des
igned Geometry Tyrannosaurus Gil 1 Nervous and respectful of their other moments, when respected, the band repeated this disorder and allowed their other bands to start only invitin
g a fragment, derailing crow simones
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from 'float' to 'np.floati
ng` is deprecated. In future, it will be treated as `np.float64 == np.dtype(float).type`.
    from ._conv import register_converters as _register_converters
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/__init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #2
  (fname, cnt))
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/__init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
, line #3
  (fname, cnt))
reading text file
4800/5970 (epoch 4), train_loss = 6.965, time/batch = 0.390
4850/5970 (epoch 4), train_loss = 7.337, time/batch = 0.413
```

```
7800/8358 (epoch 6), train_loss = 5.939, time/batch = 0.403
7850/8358 (epoch 6), train_loss = 6.095, time/batch = 0.412
7900/8358 (epoch 6), train_loss = 6.032, time/batch = 0.383
7950/8358 (epoch 6), train_loss = 6.146, time/batch = 0.381
8000/8358 (epoch 6), train_loss = 6.076, time/batch = 0.415
model saved to save/model.ckpt
8050/8358 (epoch 6), train_loss = 6.114, time/batch = 0.399
8100/8358 (epoch 6), train_loss = 6.004, time/batch = 0.406
8150/8358 (epoch 6), train_loss = 6.022, time/batch = 0.380
8200/8358 (epoch 6), train_loss = 6.022, time/batch = 0.379
8250/8358 (epoch 6), train_loss = 6.177, time/batch = 0.402
8300/8358 (epoch 6), train_loss = 6.213, time/batch = 0.414
8350/8358 (epoch 6), train_loss = 6.038, time/batch = 0.387
model saved to save/model.ckpt
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from 'float' to 'np.floati
ng' is deprecated. In future, it will be treated as 'np.float64 == np.dtype(float).type'.
    from ._conv import register_converters as _register_converters
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/__init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
  , line #2
  (fname, cnt)
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/__init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
  , line #3
  (fname, cnt))
music
===== Before GTranslate Smoothing. Grammar Score = 20
music seem as hot as reginas electronics and acoustic guitar lines and legacies their name is that in a crowd setting a junior annapurna chanteuse finn near amber john frankly think
outside of successfully indie rocks voice huge piano and bass is a delicate guitar song and howling bass soul and get up on robert clines gone just almost as well often theres find
the filesharing same story providing an extra antidote to this highlight granting her trademark squeal with terrific insight from direct mortality and wilkes presupposed cagier del
ivered it to there shine heroes and undistracting in and the source material colder of nearmelodies the equation and frontman thom faux adams evokes guiding a pill in a different co
llege essence in los angeles and head beautifully peppered from their sound salad style taps from their work for a goths and exuberantly singles everything who takes a funnel to bear
past material better listen find it wanted to buy a waste of crackjective limply around the engineering level simple of their own watching suburban recordings and both icons aaron t
ucker which reminds myself to both half girls a jacket party everyone run somewhere rumbling into bluesbased vocal parts especially and while
===== After GTranslate Smoothing. Grammar Score = 13
The music looks like reginas electronic and acoustic guitar lines and traditional hot spots their names are set near the crowds of young annapurna chanteuse finn amber john confessi
onally wanted to be independent of the piano outside rock music and bass is the first exquisite guitar song of a success The affiliated bass souls as well as Robert Klein have risen
almost as often and often have the same story found on file sharing to provide additional antidote, which underscores the trademark screaming with direct mortality and Wil Alex's A
mazing insights Preset cagier delivered to sparkling heroes and unraveling equations around theme material cooling and lead singer Thom Man Adams evoked different college-typical in
structional pills in Los Angeles and from their voice-salad-style taps from them Goth worked and exuberantly sweet single peppers from a better-looking person using Funnel Bear's pa
st material and found that it wanted to buy rubbish around them when they were watching suburban records, they worked unscrupulously and it was very simple both The icon is reminisc
ent of a girl, a jacket party, each People have gone somewhere, especially aloud part bluesbased
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/h5py/_init__.py:36: FutureWarning: Conversion of the second argument of issubdtype from 'float' to 'np.floati
ng' is deprecated. In future, it will be treated as 'np.float64 == np.dtype(float).type'.
    from ._conv import register_converters as _register_converters
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  , line #2
  (fname, cnt)
/home/ubuntu/anaconda3/envs/tensorflow_p36/lib/python3.6/site-packages/matplotlib/__init__.py:1067: UserWarning: Duplicate key in file "/home/ubuntu/.config/matplotlib/matplotlibrc"
  , line #3
  (fname, cnt))
reading text file
8400/9552 (epoch 7), train_loss = 6.142, time/batch = 0.370
8450/9552 (epoch 7), train_loss = 6.058, time/batch = 0.401
8500/9552 (epoch 7), train_loss = 6.063, time/batch = 0.396
8550/9552 (epoch 7), train_loss = 5.899, time/batch = 0.368
8600/9552 (epoch 7), train_loss = 6.009, time/batch = 0.411
8650/9552 (epoch 7), train_loss = 5.923, time/batch = 0.396
```