Deep Learning Assignment 4 Bonus

Mengdi Xue, mengdix@kth.se

August 2018

1 Changes

What I have changed:

- 1. A "<" sign was added after the end of each tweet to mark the end.
- 2. The synthesized text has limit of 140 characters.
- 3. hprev is intialized to the default value when there's a sign of end in that iteration.
- 4. Sequence length was changed to smaller size 10. Since the inputs are short sentences, so when the sequence length is smaller, the smooth loss starts with lower values.

2 Graph of smooth loss

The graph of smooth loss with sequence length of 25 is as following:

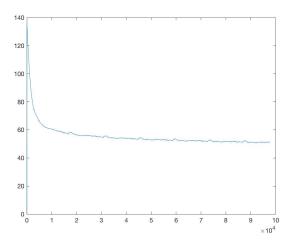


Figure 1: Smooth loss - 1

The graph of smooth loss with sequence length of 10 is as following:

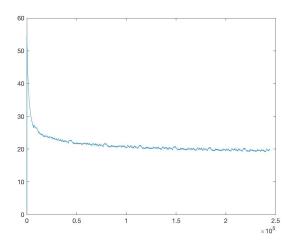


Figure 2: Smooth loss - 2

We can see that the second loss starts with much lower loss and it also ends in much lower loss.

3 Evolution of the synthesized text

```
iteration = 10000, smooth_loss = 26.4294
evfonds Reapada s greassel (fok Chess Rerat thed cox for Wags weGl RaE honinwop.<
TRE?j23?ET areang fort. foren hot SaxDempat C motaspe.... ht

iteration = 20000, smooth_loss = 23.8064
lit Dankor enthiny he Ar-adret of und &anpriz(tors AGKSSNRGmNK1PSSs NANE Je @F1YSS.
Jo Norisnopof S. to alvery logle Pesing hy harducan. An

iteration = 30000, smooth_loss = 22.8432
wile sy or Councy hanm. Wex. verugin theuk plocer in to shany at Sin the monors be in
BbaxD ane gris tame gremunt in mume ceen Hemice Ampond</pre>
```

```
iteration = 40000, smooth_loss = 22.2103 iry porfeptige, the you, in to ay Denppering gegpuclators in httisio/d. Alingestap ErTourenter in authurS Winnen ppreanayow pat SAamemo, our
```

```
iteration = 50000, smooth_loss = 22.0273
//t.co/OdD<Walk loded @The firnfratian staldonint ronows to deptrogh in the Ampards,./
VPegs, ntt Suc.
mpeand forth, nct I.S. Macing. Buthi</pre>
```

iteration = 60000, smooth_loss = 21.5263 arvinightr daked of youk to otre all Dave for Nficanorepinatile A Debpum Urtinitlis, Painnes slevens heraiteman o/hals be waula alo inking T

iteration = 70000, smooth_loss = 21.2204
e willent: https://t.co/YE1xeamC80dB2vuMHh EbKRETRINNAY, Han Seactron). Eoly
retoridNine for a griss dodtr. (Hocpoentir MtIRNDRa Loong, IIly

iteration = 80000, smooth_loss = 21.4754
licher JondesTrumps, #Rigrica wast the U.chs! Debpic bus a watt blamer the Ansest
nemaw Recours and then dightive @are
Aparts dativen shar

iteration = 90000, smooth_loss = 20.6397
S in AbaHU Juss has S Covenive to NON whig Pregres hillest Bloor to & Dussied &

iteration = 100000, smooth_loss = 20.4076
is and to cRegral! just geter fin remedert, I umrobluccon day in the candact,
beadion to alr in ork cresidering bigadt Housiny, Rereayumam,

iteration = 110000, smooth_loss = 20.5792
the fuce a husn bett? thes doone, no moid tame deor! and boodicals.
https://t.co/bMhaqVckRXOs8XxEJdr5IMghh<R8 Dimed thy the proted ou manild</pre>

iteration = 120000, smooth_loss = 20.4915 rafild Gohing, cardibu mald ngCting asm is sou,,, a must #USAN, and they fatt hor alr probionson,, with dhetermald Grotyoug corlblicand bigh

iteration = 130000, smooth_loss = 20.0371 ne countarese E.S. deate foe yous coust! We sollaony and fanedint 50 w yeato r beinlariss olredstor apeaig. ccamplieday is Aecoul score

iteration = 140000, smooth_loss = 20.0375
f, and Creat stand), byong to he ballone #. whec reguakly,s Thing for chery whonal)
veat, farating thar deals. Jandreilnst hive a the Ourfur

iteration = 150000, smooth_loss = 20.452
r tharkectory year the now plons poVe! Hillers Comings now MellDeat all cuse are
filitinnent! https://t.co/KRE4zyp5lVoxh93QBrKjA0bJq3c SEoff

iteration = 160000, smooth_loss = 19.9198
y levertel fok to as sifine with evint our https://t.co/rSCJarmokhJwsNSCI.GJ5:
@IOUDE Fake heaced suss and a-hk Fod. Poke os shate the be fi

```
cy becons will be they Wence: https://t.co/GJBQvQJuj19zeG6azhEAirbaJ<SoncommirBitanmer lasn
wis hit hisping naturnin
iteration = 180000, smooth_loss = 19.9478
drieca WETHORT Act (agaul will gritian' lo-): The prongen Cousticr sofeting our as wol
werr, gead Dombers onx Congrolakan notay the praplesu
iteration = 190000, smooth_loss = 19.8426
httpo: Hontil, wism our untory of Nition: https://t.co/1Y02apJ8MJ602uDL9AYrizFRhKWCtppbKanml
PRPEsT https://t.co/MUI
iteration = 200000, smooth_loss = 19.5994
so $7 https://t.co/FrB Fakd7 Tfute to shouted is Haur Girvisurang hial ANA Port
for where wele. Thank on repuring con plos, vecingeaculithin
iteration = 210000, smooth_loss = 19.811
MOOZ8qlv9UJUgITWaFcLOqyCgq3JCQ1HCplWWWdeSSkQQ6O2drF4k13ggRty4JM<Toodomike in a
sualdd The gouring!....Mmarwast: https://t.co/4kdvKgaseaZMoc
iteration = 220000, smooth_loss = 19.7765
d In Bast. #AMEThERLTE, Hepprop, the AMERT A gut in leper in the tresed at sumper
rvorion in that blagfiple been thes Wine workely Veectry f
iteration = 230000, smooth_loss = 19.5336
d Trump Mciea stoene, doinia in with qual his ale Preat Sarks, fankingtre, omerre
to pued.'! < Mas is ndort moro lists todiar 2000,030 histord
iteration = 240000, smooth_loss = 19.1662
tioned by Rerught daking epout to tome we sading of @Sataly injonn mistof, it and
inforter lyastia lound" ameminal Miking lave ist great GOB
```

4 A passage from the best model

iteration = 170000, smooth_loss = 19.7121

We can see that there's "faking", "los", "new", etc. in the following result:

PYov<AMPBUTruGricardebRThe! I int haspers by was the gogerocal I 11% the onew, "foreal" In prate with cantaro Ir at all spaning har his) Obayirary inslapolicafes ares agoey so and trat exect poonnder-ed.

I neen ANPBHEES I bid soffureder binily lashel, whin't the @Ahkicare Heallascumem it voliliace. he canmer (whod far to sollable care in with of wookiblavillored not the 8:00 Younds at whamace can freally with OBA Amal canident of theres-coriends not weres of dake befordersing age fhemby siteres histendet bit time "#Perrefardat, they obration as (pealLer then This pucy desod woret #Nbatia attia seppeation:

The seal that 208H(Los, coulls. Eleving by stlast and beitativerey American its pblimal many evorio gruthamp! Trump aurlz. I ampayent Cannist meed to Manchardinye" Biclaycale seating allowionaping theeld faking actorice to sneayn https://t.co/Hq71anoussubeHAlarator is alkedingten https://t.co/NzxIjRkpNHthsJ BMEA ALEAGeF, Of hard juss seampewadorallywo I now dreat Boditynot mays