Entering function \_\_main\_\_

Embedding tokens size=400001

File name 5way\_tur\_ger\_rus\_fra\_usa25-150. Total data size is 250000

Our 5 labels to index dictionary ={u'turkey': 3, u'germany': 1, u'russia': 2, u'us': 4, u'france': 0}

Our 5 index to labels dictionary ={0: u'france', 1: u'germany', 2: u'russia', 3: u'turkey', 4: u'us'}

x\_train: 202500, x\_dev: 22500, x\_test: 25000

y\_train: 202500, y\_dev: 22500, y\_test: 25000

input\_data\_x\_batch shape: (200, 150)

input\_labels\_batch shape: (200, 5)

gru\_forward\_cell units: 300

gru\_backward\_cell units: 300

---vars name and shapes---

(u'bidirectional\_rnn/fw/gru\_cell/gates/kernel:0', TensorShape([Dimension(350), Dimension(600)]), 210000)

(u'bidirectional\_rnn/fw/gru\_cell/gates/bias:0', TensorShape([Dimension(600)]), 600)

(u'bidirectional\_rnn/fw/gru\_cell/candidate/kernel:0', TensorShape([Dimension(350), Dimension(300)]), 105000)

(u'bidirectional\_rnn/fw/gru\_cell/candidate/bias:0', TensorShape([Dimension(300)]), 300)

(u'bidirectional\_rnn/bw/gru\_cell/gates/kernel:0', TensorShape([Dimension(350), Dimension(600)]), 210000)

(u'bidirectional\_rnn/bw/gru\_cell/gates/bias:0', TensorShape([Dimension(600)]), 600)

(u'bidirectional\_rnn/bw/gru\_cell/candidate/kernel:0', TensorShape([Dimension(350), Dimension(300)]), 105000)

(u'bidirectional\_rnn/bw/gru\_cell/candidate/bias:0', TensorShape([Dimension(300)]), 300)

(u'weight:0', TensorShape([Dimension(600), Dimension(5)]), 3000)

(u'bias:0', TensorShape([Dimension(5)]), 5)

total PARAM 634,805

---done vars---

Epoch: 1/20 ---- best so far on epoch 0: acc=0.0000%

DEV accuracy on epoch 1/20 in train step 506 = 20.0670%

Class turkey : (0/4422) -> accuracy: 0.0000%

Class germany: (0/4405) -> accuracy: 0.0000%

Class russia : (0/4506) -> accuracy: 0.0000%

Class us : (4495/4495) -> accuracy: 100.0000%

Class france : (0/4572) -> accuracy: 0.0000%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 1

INFO:root: Best accuracy 20.0670% at epoch 1/20 (4495/22400)

DEV accuracy on epoch 1/20 in train step 1009 = 35.5580%

Class turkey : (1665/4422) -> accuracy: 37.6526%

Class germany: (0/4405) -> accuracy: 0.0000%

Class russia : (3255/4506) -> accuracy: 72.2370%

Class us : (2082/4495) -> accuracy: 46.3181%

Class france : (963/4572) -> accuracy: 21.0630%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 1

INFO:root: Best accuracy 35.5580% at epoch 1/20 (7965/22400)

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Epoch: 2/20 ---- best so far on epoch 1: acc=35.5580%

DEV accuracy on epoch 2/20 in train step 506 = 49.0089%

Class turkey : (3134/4422) -> accuracy: 70.8729%

Class germany: (1683/4405) -> accuracy: 38.2066%

Class russia : (2452/4506) -> accuracy: 54.4163%

Class us : (2288/4495) -> accuracy: 50.9010%

Class france : (1421/4572) -> accuracy: 31.0805%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 2

INFO:root: Best accuracy 49.0089% at epoch 2/20 (10978/22400)

DEV accuracy on epoch 2/20 in train step 1009 = 51.5089%

Class turkey : (2563/4422) -> accuracy: 57.9602%

Class germany: (1738/4405) -> accuracy: 39.4552%

Class russia : (3155/4506) -> accuracy: 70.0178%

Class us : (2363/4495) -> accuracy: 52.5695%

Class france : (1719/4572) -> accuracy: 37.5984%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 2

INFO:root: Best accuracy 51.5089% at epoch 2/20 (11538/22400)

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Epoch: 3/20 ---- best so far on epoch 2: acc=51.5089%

DEV accuracy on epoch 3/20 in train step 506 = 51.9420%

Class turkey : (3166/4422) -> accuracy: 71.5966%

Class germany: (1693/4405) -> accuracy: 38.4336%

Class russia : (2479/4506) -> accuracy: 55.0155%

Class us : (2456/4495) -> accuracy: 54.6385%

Class france : (1841/4572) -> accuracy: 40.2668%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 3

INFO:root: Best accuracy 51.9420% at epoch 3/20 (11635/22400)

DEV accuracy on epoch 3/20 in train step 1009 = 53.0134%

Class turkey : (2641/4422) -> accuracy: 59.7241%

Class germany: (1723/4405) -> accuracy: 39.1146%

Class russia : (3080/4506) -> accuracy: 68.3533%

Class us : (2616/4495) -> accuracy: 58.1980%

Class france : (1815/4572) -> accuracy: 39.6982%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 3

INFO:root: Best accuracy 53.0134% at epoch 3/20 (11875/22400)

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Epoch: 4/20 ---- best so far on epoch 3: acc=53.0134%

DEV accuracy on epoch 4/20 in train step 506 = 53.1473%

Class turkey : (3158/4422) -> accuracy: 71.4156%

Class germany: (1800/4405) -> accuracy: 40.8627%

Class russia : (2486/4506) -> accuracy: 55.1709%

Class us : (2505/4495) -> accuracy: 55.7286%

Class france : (1956/4572) -> accuracy: 42.7822%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 4

INFO:root: Best accuracy 53.1473% at epoch 4/20 (11905/22400)

DEV accuracy on epoch 4/20 in train step 1009 = 54.0402%

Class turkey : (2754/4422) -> accuracy: 62.2795%

Class germany: (1721/4405) -> accuracy: 39.0692%

Class russia : (3087/4506) -> accuracy: 68.5087%

Class us : (2576/4495) -> accuracy: 57.3081%

Class france : (1967/4572) -> accuracy: 43.0227%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 4

INFO:root: Best accuracy 54.0402% at epoch 4/20 (12105/22400)

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Epoch: 5/20 ---- best so far on epoch 4: acc=54.0402%

DEV accuracy on epoch 5/20 in train step 506 = 54.1786%

Class turkey : (3011/4422) -> accuracy: 68.0914%

Class germany: (1897/4405) -> accuracy: 43.0647%

Class russia : (2571/4506) -> accuracy: 57.0573%

Class us : (2474/4495) -> accuracy: 55.0389%

Class france : (2183/4572) -> accuracy: 47.7472%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 5

INFO:root: Best accuracy 54.1786% at epoch 5/20 (12136/22400)

DEV accuracy on epoch 5/20 in train step 1009 = 54.4688%

Class turkey : (2766/4422) -> accuracy: 62.5509%

Class germany: (1777/4405) -> accuracy: 40.3405%

Class russia : (3101/4506) -> accuracy: 68.8194%

Class us : (2515/4495) -> accuracy: 55.9511%

Class france : (2042/4572) -> accuracy: 44.6632%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 5

INFO:root: Best accuracy 54.4688% at epoch 5/20 (12201/22400)

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Epoch: 6/20 ---- best so far on epoch 5: acc=54.4688%

DEV accuracy on epoch 6/20 in train step 506 = 53.4732%

Class turkey : (2928/4422) -> accuracy: 66.2144%

Class germany: (1843/4405) -> accuracy: 41.8388%

Class russia : (2447/4506) -> accuracy: 54.3054%

Class us : (2734/4495) -> accuracy: 60.8231%

Class france : (2026/4572) -> accuracy: 44.3132%

DEV accuracy on epoch 6/20 in train step 1009 = 54.1741%

Class turkey : (2761/4422) -> accuracy: 62.4378%

Class germany: (1788/4405) -> accuracy: 40.5902%

Class russia : (3030/4506) -> accuracy: 67.2437%

Class us : (2452/4495) -> accuracy: 54.5495%

Class france : (2104/4572) -> accuracy: 46.0192%

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Epoch: 7/20 ---- best so far on epoch 5: acc=54.4688%

DEV accuracy on epoch 7/20 in train step 506 = 53.4018%

Class turkey : (2754/4422) -> accuracy: 62.2795%

Class germany: (1797/4405) -> accuracy: 40.7946%

Class russia : (2500/4506) -> accuracy: 55.4816%

Class us : (2700/4495) -> accuracy: 60.0667%

Class france : (2211/4572) -> accuracy: 48.3596%

DEV accuracy on epoch 7/20 in train step 1009 = 53.3973%

Class turkey : (2695/4422) -> accuracy: 60.9453%

Class germany: (1701/4405) -> accuracy: 38.6152%

Class russia : (3097/4506) -> accuracy: 68.7306%

Class us : (2278/4495) -> accuracy: 50.6785%

Class france : (2190/4572) -> accuracy: 47.9003%

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Epoch: 8/20 ---- best so far on epoch 5: acc=54.4688%

DEV accuracy on epoch 8/20 in train step 506 = 53.1563%

Class turkey : (2834/4422) -> accuracy: 64.0886%

Class germany: (1717/4405) -> accuracy: 38.9784%

Class russia : (2578/4506) -> accuracy: 57.2126%

Class us : (2707/4495) -> accuracy: 60.2225%

Class france : (2071/4572) -> accuracy: 45.2975%

DEV accuracy on epoch 8/20 in train step 1009 = 52.8036%

Class turkey : (2867/4422) -> accuracy: 64.8349%

Class germany: (1715/4405) -> accuracy: 38.9330%

Class russia : (2910/4506) -> accuracy: 64.5806%

Class us : (2261/4495) -> accuracy: 50.3003%

Class france : (2075/4572) -> accuracy: 45.3850%

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Epoch: 9/20 ---- best so far on epoch 5: acc=54.4688%

DEV accuracy on epoch 9/20 in train step 506 = 52.6027%

Class turkey : (2896/4422) -> accuracy: 65.4907%

Class germany: (1622/4405) -> accuracy: 36.8218%

Class russia : (2541/4506) -> accuracy: 56.3915%

Class us : (2577/4495) -> accuracy: 57.3304%

Class france : (2147/4572) -> accuracy: 46.9598%

DEV accuracy on epoch 9/20 in train step 1009 = 52.3616%

Class turkey : (2798/4422) -> accuracy: 63.2745%

Class germany: (1617/4405) -> accuracy: 36.7083%

Class russia : (2898/4506) -> accuracy: 64.3142%

Class us : (2435/4495) -> accuracy: 54.1713%

Class france : (1981/4572) -> accuracy: 43.3290%

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Epoch: 10/20 ---- best so far on epoch 5: acc=54.4688%

DEV accuracy on epoch 10/20 in train step 506 = 52.5000%

Class turkey : (2886/4422) -> accuracy: 65.2646%

Class germany: (1617/4405) -> accuracy: 36.7083%

Class russia : (2634/4506) -> accuracy: 58.4554%

Class us : (2438/4495) -> accuracy: 54.2380%

Class france : (2185/4572) -> accuracy: 47.7909%

DEV accuracy on epoch 10/20 in train step 1009 = 51.8080%

Class turkey : (2790/4422) -> accuracy: 63.0936%

Class germany: (1785/4405) -> accuracy: 40.5221%

Class russia : (2836/4506) -> accuracy: 62.9383%

Class us : (2066/4495) -> accuracy: 45.9622%

Class france : (2128/4572) -> accuracy: 46.5442%

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Epoch: 11/20 ---- best so far on epoch 5: acc=54.4688%

DEV accuracy on epoch 11/20 in train step 506 = 51.9866%

Class turkey : (2882/4422) -> accuracy: 65.1741%

Class germany: (1538/4405) -> accuracy: 34.9149%

Class russia : (2541/4506) -> accuracy: 56.3915%

Class us : (2472/4495) -> accuracy: 54.9944%

Class france : (2212/4572) -> accuracy: 48.3815%

DEV accuracy on epoch 11/20 in train step 1009 = 51.6429%

Class turkey : (2742/4422) -> accuracy: 62.0081%

Class germany: (1776/4405) -> accuracy: 40.3178%

Class russia : (2767/4506) -> accuracy: 61.4070%

Class us : (2151/4495) -> accuracy: 47.8532%

Class france : (2132/4572) -> accuracy: 46.6317%

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Epoch: 12/20 ---- best so far on epoch 5: acc=54.4688%

DEV accuracy on epoch 12/20 in train step 506 = 51.3393%

Class turkey : (2884/4422) -> accuracy: 65.2194%

Class germany: (1463/4405) -> accuracy: 33.2123%

Class russia : (2509/4506) -> accuracy: 55.6813%

Class us : (2383/4495) -> accuracy: 53.0145%

Class france : (2261/4572) -> accuracy: 49.4532%

DEV accuracy on epoch 12/20 in train step 1009 = 51.0045%

Class turkey : (2643/4422) -> accuracy: 59.7693%

Class germany: (1689/4405) -> accuracy: 38.3428%

Class russia : (2689/4506) -> accuracy: 59.6760%

Class us : (2068/4495) -> accuracy: 46.0067%

Class france : (2336/4572) -> accuracy: 51.0936%

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Epoch: 13/20 ---- best so far on epoch 5: acc=54.4688%

DEV accuracy on epoch 13/20 in train step 506 = 51.3438%

Class turkey : (2686/4422) -> accuracy: 60.7417%

Class germany: (1767/4405) -> accuracy: 40.1135%

Class russia : (2499/4506) -> accuracy: 55.4594%

Class us : (2499/4495) -> accuracy: 55.5951%

Class france : (2050/4572) -> accuracy: 44.8381%

DEV accuracy on epoch 13/20 in train step 1009 = 50.9330%

Class turkey : (2679/4422) -> accuracy: 60.5834%

Class germany: (1857/4405) -> accuracy: 42.1566%

Class russia : (2653/4506) -> accuracy: 58.8771%

Class us : (2150/4495) -> accuracy: 47.8309%

Class france : (2070/4572) -> accuracy: 45.2756%

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Epoch: 14/20 ---- best so far on epoch 5: acc=54.4688%

DEV accuracy on epoch 14/20 in train step 506 = 50.7321%

Class turkey : (2642/4422) -> accuracy: 59.7467%

Class germany: (1776/4405) -> accuracy: 40.3178%

Class russia : (2373/4506) -> accuracy: 52.6631%

Class us : (2512/4495) -> accuracy: 55.8843%

Class france : (2061/4572) -> accuracy: 45.0787%

DEV accuracy on epoch 14/20 in train step 1009 = 50.7411%

Class turkey : (2523/4422) -> accuracy: 57.0556%

Class germany: (1815/4405) -> accuracy: 41.2032%

Class russia : (2626/4506) -> accuracy: 58.2779%

Class us : (2064/4495) -> accuracy: 45.9177%

Class france : (2338/4572) -> accuracy: 51.1374%

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Epoch: 15/20 ---- best so far on epoch 5: acc=54.4688%

DEV accuracy on epoch 15/20 in train step 506 = 49.7679%

Class turkey : (2786/4422) -> accuracy: 63.0032%

Class germany: (1852/4405) -> accuracy: 42.0431%

Class russia : (2155/4506) -> accuracy: 47.8251%

Class us : (2451/4495) -> accuracy: 54.5273%

Class france : (1904/4572) -> accuracy: 41.6448%

DEV accuracy on epoch 15/20 in train step 1009 = 50.9687%

Class turkey : (2640/4422) -> accuracy: 59.7015%

Class germany: (2019/4405) -> accuracy: 45.8343%

Class russia : (2493/4506) -> accuracy: 55.3262%

Class us : (2099/4495) -> accuracy: 46.6963%

Class france : (2166/4572) -> accuracy: 47.3753%

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Epoch: 16/20 ---- best so far on epoch 5: acc=54.4688%

DEV accuracy on epoch 16/20 in train step 506 = 49.1429%

Class turkey : (2624/4422) -> accuracy: 59.3397%

Class germany: (1771/4405) -> accuracy: 40.2043%

Class russia : (2081/4506) -> accuracy: 46.1829%

Class us : (2401/4495) -> accuracy: 53.4149%

Class france : (2131/4572) -> accuracy: 46.6098%

DEV accuracy on epoch 16/20 in train step 1009 = 50.4018%

Class turkey : (2589/4422) -> accuracy: 58.5482%

Class germany: (2047/4405) -> accuracy: 46.4699%

Class russia : (2493/4506) -> accuracy: 55.3262%

Class us : (1988/4495) -> accuracy: 44.2269%

Class france : (2173/4572) -> accuracy: 47.5284%

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Epoch: 17/20 ---- best so far on epoch 5: acc=54.4688%

DEV accuracy on epoch 17/20 in train step 506 = 49.4866%

Class turkey : (2568/4422) -> accuracy: 58.0733%

Class germany: (1768/4405) -> accuracy: 40.1362%

Class russia : (2184/4506) -> accuracy: 48.4687%

Class us : (2533/4495) -> accuracy: 56.3515%

Class france : (2032/4572) -> accuracy: 44.4444%

DEV accuracy on epoch 17/20 in train step 1009 = 50.3259%

Class turkey : (2591/4422) -> accuracy: 58.5934%

Class germany: (2080/4405) -> accuracy: 47.2191%

Class russia : (2394/4506) -> accuracy: 53.1292%

Class us : (2281/4495) -> accuracy: 50.7453%

Class france : (1927/4572) -> accuracy: 42.1479%

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Epoch: 18/20 ---- best so far on epoch 5: acc=54.4688%

DEV accuracy on epoch 18/20 in train step 506 = 49.4330%

Class turkey : (2650/4422) -> accuracy: 59.9276%

Class germany: (1689/4405) -> accuracy: 38.3428%

Class russia : (2213/4506) -> accuracy: 49.1123%

Class us : (2485/4495) -> accuracy: 55.2836%

Class france : (2036/4572) -> accuracy: 44.5319%

DEV accuracy on epoch 18/20 in train step 1009 = 50.2500%

Class turkey : (2591/4422) -> accuracy: 58.5934%

Class germany: (1969/4405) -> accuracy: 44.6992%

Class russia : (2499/4506) -> accuracy: 55.4594%

Class us : (2342/4495) -> accuracy: 52.1023%

Class france : (1855/4572) -> accuracy: 40.5731%

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Epoch: 19/20 ---- best so far on epoch 5: acc=54.4688%

DEV accuracy on epoch 19/20 in train step 506 = 48.9464%

Class turkey : (2693/4422) -> accuracy: 60.9000%

Class germany: (1801/4405) -> accuracy: 40.8854%

Class russia : (2168/4506) -> accuracy: 48.1136%

Class us : (2363/4495) -> accuracy: 52.5695%

Class france : (1939/4572) -> accuracy: 42.4103%

DEV accuracy on epoch 19/20 in train step 1009 = 49.6473%

Class turkey : (2577/4422) -> accuracy: 58.2768%

Class germany: (1841/4405) -> accuracy: 41.7934%

Class russia : (2326/4506) -> accuracy: 51.6201%

Class us : (2413/4495) -> accuracy: 53.6819%

Class france : (1964/4572) -> accuracy: 42.9571%

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Epoch: 20/20 ---- best so far on epoch 5: acc=54.4688%

DEV accuracy on epoch 20/20 in train step 506 = 49.4018%

Class turkey : (2819/4422) -> accuracy: 63.7494%

Class germany: (1766/4405) -> accuracy: 40.0908%

Class russia : (2249/4506) -> accuracy: 49.9112%

Class us : (2289/4495) -> accuracy: 50.9232%

Class france : (1943/4572) -> accuracy: 42.4978%

DEV accuracy on epoch 20/20 in train step 1009 = 49.8259%

Class turkey : (2682/4422) -> accuracy: 60.6513%

Class germany: (1803/4405) -> accuracy: 40.9308%

Class russia : (2356/4506) -> accuracy: 52.2858%

Class us : (2334/4495) -> accuracy: 51.9244%

Class france : (1986/4572) -> accuracy: 43.4383%

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\*\*\*Training is complete. Best accuracy 54.4688% at epoch 5/20

\*\*\*Testing...

INFO:tensorflow:Restoring parameters from ../model\_temp/model.ckpt

INFO:tensorflow:Restoring parameters from ../model\_temp/model.ckpt

Accuracy on test set - (13536/25000) -> accuracy: 54.1440%

Class turkey : (3127/4971) -> accuracy: 62.9048%

Class germany: (2029/5035) -> accuracy: 40.2979%

Class russia : (3387/5020) -> accuracy: 67.4701%

Class us : (2791/4954) -> accuracy: 56.3383%

Class france : (2202/5020) -> accuracy: 43.8645%

End summary ----------------------

data:

DATA\_FILE\_PATH is ../input/5way\_tur\_ger\_rus\_fra\_usa25-150.txt

MINIMUM\_ROW\_LENGTH is 25

MAXIMUM\_ROW\_LENGTH is 150

COUNT\_WORD is 20

lines\_per\_class is 50000

number of classes is 5

Total data size is 250000

embedding:

EMB\_FILE\_PATH ../input/glove.6B.50d.txt

EMB\_DIM 50

EMB\_WORDS\_COUNT 400001

run config:

EPOCHS 20

evaluating on dev data 2 times per epoch

KEEP\_PROB 0.5

BATCH\_SIZE 200

LSTM\_HIDDEN\_UNITS 300

LSTM\_CELL\_TYPE GRU

optimizer is adamOptimizer - learn rate: 0.001

model:

USE\_TMP\_FOLDER True

mdl\_path ../model\_temp/model.ckpt

results:

best training acc at epoch=5 is 54.46875

testing acc 54.144

Time(HH:MM:SS): 03:19:07

Leaving function \_\_main\_\_