Entering function \_\_main\_\_

Embedding tokens size=400001

File name 4way\_tur\_ger\_rus\_usa25-150. Total data size is 200000

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

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

x\_train: 162000, x\_dev: 18000, x\_test: 20000

y\_train: 162000, y\_dev: 18000, y\_test: 20000

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

input\_labels\_batch shape: (200, 4)

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(4)]), 2400)

(u'bias:0', TensorShape([Dimension(4)]), 4)

total PARAM 634,204

---done vars---

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

DEV accuracy on epoch 1/20 in train step 0 = 25.0611%

Class turkey : (0/4476) -> accuracy: 0.0000%

Class germany: (1/4486) -> accuracy: 0.0223%

Class russia : (4510/4511) -> accuracy: 99.9778%

Class us : (0/4527) -> accuracy: 0.0000%

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

INFO:root: Best accuracy 25.0611% at epoch 1/20 (4511/18000)

DEV accuracy on epoch 1/20 in train step 405 = 25.1556%

Class turkey : (0/4476) -> accuracy: 0.0000%

Class germany: (2/4486) -> accuracy: 0.0446%

Class russia : (0/4511) -> accuracy: 0.0000%

Class us : (4526/4527) -> accuracy: 99.9779%

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

INFO:root: Best accuracy 25.1556% at epoch 1/20 (4528/18000)

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Epoch: 2/20 ---- best so far on epoch 1: acc=25.1556%

DEV accuracy on epoch 2/20 in train step 0 = 25.1556%

Class turkey : (1/4476) -> accuracy: 0.0223%

Class germany: (1/4486) -> accuracy: 0.0223%

Class russia : (0/4511) -> accuracy: 0.0000%

Class us : (4526/4527) -> accuracy: 99.9779%

DEV accuracy on epoch 2/20 in train step 405 = 25.1611%

Class turkey : (2/4476) -> accuracy: 0.0447%

Class germany: (1/4486) -> accuracy: 0.0223%

Class russia : (0/4511) -> accuracy: 0.0000%

Class us : (4526/4527) -> accuracy: 99.9779%

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

INFO:root: Best accuracy 25.1611% at epoch 2/20 (4529/18000)

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Epoch: 3/20 ---- best so far on epoch 2: acc=25.1611%

DEV accuracy on epoch 3/20 in train step 0 = 25.1611%

Class turkey : (2/4476) -> accuracy: 0.0447%

Class germany: (1/4486) -> accuracy: 0.0223%

Class russia : (0/4511) -> accuracy: 0.0000%

Class us : (4526/4527) -> accuracy: 99.9779%

DEV accuracy on epoch 3/20 in train step 405 = 24.8389%

Class turkey : (4469/4476) -> accuracy: 99.8436%

Class germany: (1/4486) -> accuracy: 0.0223%

Class russia : (0/4511) -> accuracy: 0.0000%

Class us : (1/4527) -> accuracy: 0.0221%

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Epoch: 4/20 ---- best so far on epoch 2: acc=25.1611%

DEV accuracy on epoch 4/20 in train step 0 = 25.1611%

Class turkey : (2/4476) -> accuracy: 0.0447%

Class germany: (0/4486) -> accuracy: 0.0000%

Class russia : (1/4511) -> accuracy: 0.0222%

Class us : (4526/4527) -> accuracy: 99.9779%

DEV accuracy on epoch 4/20 in train step 405 = 24.8444%

Class turkey : (4472/4476) -> accuracy: 99.9106%

Class germany: (0/4486) -> accuracy: 0.0000%

Class russia : (0/4511) -> accuracy: 0.0000%

Class us : (0/4527) -> accuracy: 0.0000%

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Epoch: 5/20 ---- best so far on epoch 2: acc=25.1611%

DEV accuracy on epoch 5/20 in train step 0 = 25.1389%

Class turkey : (0/4476) -> accuracy: 0.0000%

Class germany: (0/4486) -> accuracy: 0.0000%

Class russia : (1/4511) -> accuracy: 0.0222%

Class us : (4524/4527) -> accuracy: 99.9337%

DEV accuracy on epoch 5/20 in train step 405 = 24.8722%

Class turkey : (4476/4476) -> accuracy: 100.0000%

Class germany: (1/4486) -> accuracy: 0.0223%

Class russia : (0/4511) -> accuracy: 0.0000%

Class us : (0/4527) -> accuracy: 0.0000%

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Epoch: 6/20 ---- best so far on epoch 2: acc=25.1611%

DEV accuracy on epoch 6/20 in train step 0 = 25.1278%

Class turkey : (1/4476) -> accuracy: 0.0223%

Class germany: (0/4486) -> accuracy: 0.0000%

Class russia : (0/4511) -> accuracy: 0.0000%

Class us : (4522/4527) -> accuracy: 99.8896%

DEV accuracy on epoch 6/20 in train step 405 = 24.8722%

Class turkey : (4474/4476) -> accuracy: 99.9553%

Class germany: (3/4486) -> accuracy: 0.0669%

Class russia : (0/4511) -> accuracy: 0.0000%

Class us : (0/4527) -> accuracy: 0.0000%

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Epoch: 7/20 ---- best so far on epoch 2: acc=25.1611%

DEV accuracy on epoch 7/20 in train step 0 = 25.1222%

Class turkey : (1/4476) -> accuracy: 0.0223%

Class germany: (0/4486) -> accuracy: 0.0000%

Class russia : (2/4511) -> accuracy: 0.0443%

Class us : (4519/4527) -> accuracy: 99.8233%

DEV accuracy on epoch 7/20 in train step 405 = 29.7444%

Class turkey : (3872/4476) -> accuracy: 86.5058%

Class germany: (1038/4486) -> accuracy: 23.1387%

Class russia : (89/4511) -> accuracy: 1.9730%

Class us : (355/4527) -> accuracy: 7.8418%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 7

INFO:root: Best accuracy 29.7444% at epoch 7/20 (5354/18000)

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Epoch: 8/20 ---- best so far on epoch 7: acc=29.7444%

DEV accuracy on epoch 8/20 in train step 0 = 41.0667%

Class turkey : (1583/4476) -> accuracy: 35.3664%

Class germany: (1629/4486) -> accuracy: 36.3130%

Class russia : (1897/4511) -> accuracy: 42.0528%

Class us : (2283/4527) -> accuracy: 50.4307%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 8

INFO:root: Best accuracy 41.0667% at epoch 8/20 (7392/18000)

DEV accuracy on epoch 8/20 in train step 405 = 51.2889%

Class turkey : (2598/4476) -> accuracy: 58.0429%

Class germany: (1228/4486) -> accuracy: 27.3741%

Class russia : (2268/4511) -> accuracy: 50.2771%

Class us : (3138/4527) -> accuracy: 69.3174%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 8

INFO:root: Best accuracy 51.2889% at epoch 8/20 (9232/18000)

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Epoch: 9/20 ---- best so far on epoch 8: acc=51.2889%

DEV accuracy on epoch 9/20 in train step 0 = 54.5000%

Class turkey : (2797/4476) -> accuracy: 62.4888%

Class germany: (1509/4486) -> accuracy: 33.6380%

Class russia : (2457/4511) -> accuracy: 54.4669%

Class us : (3047/4527) -> accuracy: 67.3073%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 9

INFO:root: Best accuracy 54.5000% at epoch 9/20 (9810/18000)

DEV accuracy on epoch 9/20 in train step 405 = 56.5556%

Class turkey : (2879/4476) -> accuracy: 64.3208%

Class germany: (1855/4486) -> accuracy: 41.3509%

Class russia : (2604/4511) -> accuracy: 57.7256%

Class us : (2842/4527) -> accuracy: 62.7789%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 9

INFO:root: Best accuracy 56.5556% at epoch 9/20 (10180/18000)

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Epoch: 10/20 ---- best so far on epoch 9: acc=56.5556%

DEV accuracy on epoch 10/20 in train step 0 = 57.6167%

Class turkey : (2794/4476) -> accuracy: 62.4218%

Class germany: (1822/4486) -> accuracy: 40.6152%

Class russia : (2750/4511) -> accuracy: 60.9621%

Class us : (3005/4527) -> accuracy: 66.3795%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 10

INFO:root: Best accuracy 57.6167% at epoch 10/20 (10371/18000)

DEV accuracy on epoch 10/20 in train step 405 = 58.1556%

Class turkey : (2900/4476) -> accuracy: 64.7900%

Class germany: (2020/4486) -> accuracy: 45.0290%

Class russia : (2585/4511) -> accuracy: 57.3044%

Class us : (2963/4527) -> accuracy: 65.4517%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 10

INFO:root: Best accuracy 58.1556% at epoch 10/20 (10468/18000)

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Epoch: 11/20 ---- best so far on epoch 10: acc=58.1556%

DEV accuracy on epoch 11/20 in train step 0 = 58.9278%

Class turkey : (2984/4476) -> accuracy: 66.6667%

Class germany: (1899/4486) -> accuracy: 42.3317%

Class russia : (2747/4511) -> accuracy: 60.8956%

Class us : (2977/4527) -> accuracy: 65.7610%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 11

INFO:root: Best accuracy 58.9278% at epoch 11/20 (10607/18000)

DEV accuracy on epoch 11/20 in train step 405 = 59.1833%

Class turkey : (2913/4476) -> accuracy: 65.0804%

Class germany: (2246/4486) -> accuracy: 50.0669%

Class russia : (2840/4511) -> accuracy: 62.9572%

Class us : (2654/4527) -> accuracy: 58.6260%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 11

INFO:root: Best accuracy 59.1833% at epoch 11/20 (10653/18000)

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Epoch: 12/20 ---- best so far on epoch 11: acc=59.1833%

DEV accuracy on epoch 12/20 in train step 0 = 59.1222%

Class turkey : (2893/4476) -> accuracy: 64.6336%

Class germany: (1960/4486) -> accuracy: 43.6915%

Class russia : (2871/4511) -> accuracy: 63.6444%

Class us : (2918/4527) -> accuracy: 64.4577%

DEV accuracy on epoch 12/20 in train step 405 = 58.8167%

Class turkey : (2881/4476) -> accuracy: 64.3655%

Class germany: (2226/4486) -> accuracy: 49.6210%

Class russia : (2764/4511) -> accuracy: 61.2724%

Class us : (2716/4527) -> accuracy: 59.9956%

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Epoch: 13/20 ---- best so far on epoch 11: acc=59.1833%

DEV accuracy on epoch 13/20 in train step 0 = 58.7056%

Class turkey : (2904/4476) -> accuracy: 64.8794%

Class germany: (2133/4486) -> accuracy: 47.5479%

Class russia : (2806/4511) -> accuracy: 62.2035%

Class us : (2724/4527) -> accuracy: 60.1723%

DEV accuracy on epoch 13/20 in train step 405 = 58.5389%

Class turkey : (2899/4476) -> accuracy: 64.7676%

Class germany: (2136/4486) -> accuracy: 47.6148%

Class russia : (2854/4511) -> accuracy: 63.2676%

Class us : (2648/4527) -> accuracy: 58.4935%

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Epoch: 14/20 ---- best so far on epoch 11: acc=59.1833%

DEV accuracy on epoch 14/20 in train step 0 = 57.9889%

Class turkey : (2804/4476) -> accuracy: 62.6452%

Class germany: (2113/4486) -> accuracy: 47.1021%

Class russia : (2816/4511) -> accuracy: 62.4252%

Class us : (2705/4527) -> accuracy: 59.7526%

DEV accuracy on epoch 14/20 in train step 405 = 57.8722%

Class turkey : (2841/4476) -> accuracy: 63.4718%

Class germany: (2148/4486) -> accuracy: 47.8823%

Class russia : (2734/4511) -> accuracy: 60.6074%

Class us : (2694/4527) -> accuracy: 59.5096%

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Epoch: 15/20 ---- best so far on epoch 11: acc=59.1833%

DEV accuracy on epoch 15/20 in train step 0 = 57.1944%

Class turkey : (2882/4476) -> accuracy: 64.3878%

Class germany: (1996/4486) -> accuracy: 44.4940%

Class russia : (2760/4511) -> accuracy: 61.1838%

Class us : (2657/4527) -> accuracy: 58.6923%

DEV accuracy on epoch 15/20 in train step 405 = 57.0444%

Class turkey : (2875/4476) -> accuracy: 64.2315%

Class germany: (2053/4486) -> accuracy: 45.7646%

Class russia : (2723/4511) -> accuracy: 60.3636%

Class us : (2617/4527) -> accuracy: 57.8087%

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Epoch: 16/20 ---- best so far on epoch 11: acc=59.1833%

DEV accuracy on epoch 16/20 in train step 0 = 56.6500%

Class turkey : (2730/4476) -> accuracy: 60.9920%

Class germany: (2126/4486) -> accuracy: 47.3919%

Class russia : (2884/4511) -> accuracy: 63.9326%

Class us : (2457/4527) -> accuracy: 54.2744%

DEV accuracy on epoch 16/20 in train step 405 = 56.6000%

Class turkey : (2849/4476) -> accuracy: 63.6506%

Class germany: (2169/4486) -> accuracy: 48.3504%

Class russia : (2624/4511) -> accuracy: 58.1689%

Class us : (2546/4527) -> accuracy: 56.2403%

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Epoch: 17/20 ---- best so far on epoch 11: acc=59.1833%

DEV accuracy on epoch 17/20 in train step 0 = 55.9556%

Class turkey : (2626/4476) -> accuracy: 58.6685%

Class germany: (2160/4486) -> accuracy: 48.1498%

Class russia : (2998/4511) -> accuracy: 66.4598%

Class us : (2288/4527) -> accuracy: 50.5412%

DEV accuracy on epoch 17/20 in train step 405 = 55.9722%

Class turkey : (2872/4476) -> accuracy: 64.1644%

Class germany: (2081/4486) -> accuracy: 46.3888%

Class russia : (2575/4511) -> accuracy: 57.0827%

Class us : (2547/4527) -> accuracy: 56.2624%

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Epoch: 18/20 ---- best so far on epoch 11: acc=59.1833%

DEV accuracy on epoch 18/20 in train step 0 = 55.6000%

Class turkey : (2707/4476) -> accuracy: 60.4781%

Class germany: (2222/4486) -> accuracy: 49.5319%

Class russia : (2911/4511) -> accuracy: 64.5311%

Class us : (2168/4527) -> accuracy: 47.8904%

DEV accuracy on epoch 18/20 in train step 405 = 55.5389%

Class turkey : (3056/4476) -> accuracy: 68.2752%

Class germany: (2198/4486) -> accuracy: 48.9969%

Class russia : (2521/4511) -> accuracy: 55.8856%

Class us : (2222/4527) -> accuracy: 49.0833%

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Epoch: 19/20 ---- best so far on epoch 11: acc=59.1833%

DEV accuracy on epoch 19/20 in train step 0 = 54.9278%

Class turkey : (2687/4476) -> accuracy: 60.0313%

Class germany: (2228/4486) -> accuracy: 49.6656%

Class russia : (2897/4511) -> accuracy: 64.2208%

Class us : (2075/4527) -> accuracy: 45.8361%

DEV accuracy on epoch 19/20 in train step 405 = 55.1722%

Class turkey : (2614/4476) -> accuracy: 58.4004%

Class germany: (2083/4486) -> accuracy: 46.4333%

Class russia : (2722/4511) -> accuracy: 60.3414%

Class us : (2512/4527) -> accuracy: 55.4893%

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Epoch: 20/20 ---- best so far on epoch 11: acc=59.1833%

DEV accuracy on epoch 20/20 in train step 0 = 54.9278%

Class turkey : (2830/4476) -> accuracy: 63.2261%

Class germany: (2377/4486) -> accuracy: 52.9871%

Class russia : (2858/4511) -> accuracy: 63.3562%

Class us : (1822/4527) -> accuracy: 40.2474%

DEV accuracy on epoch 20/20 in train step 405 = 55.1889%

Class turkey : (2808/4476) -> accuracy: 62.7346%

Class germany: (2065/4486) -> accuracy: 46.0321%

Class russia : (2479/4511) -> accuracy: 54.9546%

Class us : (2582/4527) -> accuracy: 57.0356%

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\*\*\*Training is complete. Best accuracy 59.1833% at epoch 11/20

\*\*\*Testing...

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

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

Accuracy on test set - (11831/20000) -> accuracy: 59.1550%

Class turkey : (3328/5094) -> accuracy: 65.3318%

Class germany: (2571/5032) -> accuracy: 51.0930%

Class russia : (3119/4995) -> accuracy: 62.4424%

Class us : (2813/4879) -> accuracy: 57.6553%

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

data:

DATA\_FILE\_PATH is ../input/4way\_tur\_ger\_rus\_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 4

Total data size is 200000

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 RMSPropOptimizer - learn rate: 0.001

model:

USE\_TMP\_FOLDER True

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

results:

best training acc at epoch=11 is 59.1833333333

testing acc 59.155

Time(HH:MM:SS): 02:38:38

Leaving function \_\_main\_\_