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: 150

gru\_backward\_cell units: 150

---vars name and shapes---

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/kernel:0', TensorShape([Dimension(200), Dimension(300)]), 60000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/bias:0', TensorShape([Dimension(300)]), 300)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/kernel:0', TensorShape([Dimension(200), Dimension(150)]), 30000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/kernel:0', TensorShape([Dimension(300), Dimension(300)]), 90000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/bias:0', TensorShape([Dimension(300)]), 300)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/kernel:0', TensorShape([Dimension(300), Dimension(150)]), 45000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/kernel:0', TensorShape([Dimension(300), Dimension(300)]), 90000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/bias:0', TensorShape([Dimension(300)]), 300)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/kernel:0', TensorShape([Dimension(300), Dimension(150)]), 45000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_3/gru\_cell/gates/kernel:0', TensorShape([Dimension(300), Dimension(300)]), 90000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_3/gru\_cell/gates/bias:0', TensorShape([Dimension(300)]), 300)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/kernel:0', TensorShape([Dimension(300), Dimension(150)]), 45000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/kernel:0', TensorShape([Dimension(200), Dimension(300)]), 60000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/bias:0', TensorShape([Dimension(300)]), 300)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/kernel:0', TensorShape([Dimension(200), Dimension(150)]), 30000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/kernel:0', TensorShape([Dimension(300), Dimension(300)]), 90000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/bias:0', TensorShape([Dimension(300)]), 300)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/kernel:0', TensorShape([Dimension(300), Dimension(150)]), 45000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/kernel:0', TensorShape([Dimension(300), Dimension(300)]), 90000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/bias:0', TensorShape([Dimension(300)]), 300)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/kernel:0', TensorShape([Dimension(300), Dimension(150)]), 45000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/gates/kernel:0', TensorShape([Dimension(300), Dimension(300)]), 90000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/gates/bias:0', TensorShape([Dimension(300)]), 300)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/kernel:0', TensorShape([Dimension(300), Dimension(150)]), 45000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'weight:0', TensorShape([Dimension(300), Dimension(4)]), 1200)

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

total PARAM 994,804

---done vars---

Epoch: 1/10 ---- best so far on epoch 0: acc=0.0000%

DEV accuracy on epoch 1/10 in train step 405 = 24.8722%

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

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

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

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

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

INFO:root: Best accuracy 24.8722% at epoch 1/10 (4477/18000)

DEV accuracy on epoch 1/10 in train step 807 = 25.0667%

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

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

Class russia : (4508/4511) -> accuracy: 99.9335%

Class us : (4/4527) -> accuracy: 0.0884%

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

INFO:root: Best accuracy 25.0667% at epoch 1/10 (4512/18000)

Epoch run time: 00:22:38

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Epoch: 2/10 ---- best so far on epoch 1: acc=25.0667%

DEV accuracy on epoch 2/10 in train step 405 = 25.1556%

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

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

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

Class us : (4525/4527) -> accuracy: 99.9558%

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

INFO:root: Best accuracy 25.1556% at epoch 2/10 (4528/18000)

DEV accuracy on epoch 2/10 in train step 807 = 25.0556%

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

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

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

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

Epoch run time: 00:22:30

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Epoch: 3/10 ---- best so far on epoch 2: acc=25.1556%

DEV accuracy on epoch 3/10 in train step 405 = 52.2944%

Class turkey : (3322/4476) -> accuracy: 74.2181%

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

Class russia : (2144/4511) -> accuracy: 47.5283%

Class us : (1799/4527) -> accuracy: 39.7393%

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

INFO:root: Best accuracy 52.2944% at epoch 3/10 (9413/18000)

DEV accuracy on epoch 3/10 in train step 807 = 56.1500%

Class turkey : (2589/4476) -> accuracy: 57.8418%

Class germany: (1616/4486) -> accuracy: 36.0232%

Class russia : (2881/4511) -> accuracy: 63.8661%

Class us : (3021/4527) -> accuracy: 66.7329%

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

INFO:root: Best accuracy 56.1500% at epoch 3/10 (10107/18000)

Epoch run time: 00:22:30

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Epoch: 4/10 ---- best so far on epoch 3: acc=56.1500%

DEV accuracy on epoch 4/10 in train step 405 = 58.6833%

Class turkey : (2999/4476) -> accuracy: 67.0018%

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

Class russia : (2775/4511) -> accuracy: 61.5163%

Class us : (2412/4527) -> accuracy: 53.2803%

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

INFO:root: Best accuracy 58.6833% at epoch 4/10 (10563/18000)

DEV accuracy on epoch 4/10 in train step 807 = 59.2889%

Class turkey : (2702/4476) -> accuracy: 60.3664%

Class germany: (2185/4486) -> accuracy: 48.7071%

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

Class us : (2874/4527) -> accuracy: 63.4858%

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

INFO:root: Best accuracy 59.2889% at epoch 4/10 (10672/18000)

Epoch run time: 00:22:29

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Epoch: 5/10 ---- best so far on epoch 4: acc=59.2889%

DEV accuracy on epoch 5/10 in train step 405 = 59.9833%

Class turkey : (2880/4476) -> accuracy: 64.3432%

Class germany: (2516/4486) -> accuracy: 56.0856%

Class russia : (2926/4511) -> accuracy: 64.8637%

Class us : (2475/4527) -> accuracy: 54.6720%

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

INFO:root: Best accuracy 59.9833% at epoch 5/10 (10797/18000)

DEV accuracy on epoch 5/10 in train step 807 = 59.8056%

Class turkey : (2670/4476) -> accuracy: 59.6515%

Class germany: (1941/4486) -> accuracy: 43.2679%

Class russia : (3040/4511) -> accuracy: 67.3908%

Class us : (3114/4527) -> accuracy: 68.7873%

Epoch run time: 00:22:29

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Epoch: 6/10 ---- best so far on epoch 5: acc=59.9833%

DEV accuracy on epoch 6/10 in train step 405 = 60.3556%

Class turkey : (2925/4476) -> accuracy: 65.3485%

Class germany: (2512/4486) -> accuracy: 55.9964%

Class russia : (2887/4511) -> accuracy: 63.9991%

Class us : (2540/4527) -> accuracy: 56.1078%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 6

INFO:root: Best accuracy 60.3556% at epoch 6/10 (10864/18000)

DEV accuracy on epoch 6/10 in train step 807 = 60.4722%

Class turkey : (2680/4476) -> accuracy: 59.8749%

Class germany: (2176/4486) -> accuracy: 48.5065%

Class russia : (3035/4511) -> accuracy: 67.2800%

Class us : (2994/4527) -> accuracy: 66.1365%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 6

INFO:root: Best accuracy 60.4722% at epoch 6/10 (10885/18000)

Epoch run time: 00:22:30

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Epoch: 7/10 ---- best so far on epoch 6: acc=60.4722%

DEV accuracy on epoch 7/10 in train step 405 = 60.7167%

Class turkey : (2948/4476) -> accuracy: 65.8624%

Class germany: (2415/4486) -> accuracy: 53.8342%

Class russia : (2967/4511) -> accuracy: 65.7726%

Class us : (2599/4527) -> accuracy: 57.4111%

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

INFO:root: Best accuracy 60.7167% at epoch 7/10 (10929/18000)

DEV accuracy on epoch 7/10 in train step 807 = 60.8778%

Class turkey : (2645/4476) -> accuracy: 59.0929%

Class germany: (2319/4486) -> accuracy: 51.6942%

Class russia : (3091/4511) -> accuracy: 68.5214%

Class us : (2903/4527) -> accuracy: 64.1264%

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

INFO:root: Best accuracy 60.8778% at epoch 7/10 (10958/18000)

Epoch run time: 00:22:30

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Epoch: 8/10 ---- best so far on epoch 7: acc=60.8778%

DEV accuracy on epoch 8/10 in train step 405 = 61.0278%

Class turkey : (2959/4476) -> accuracy: 66.1081%

Class germany: (2510/4486) -> accuracy: 55.9519%

Class russia : (3115/4511) -> accuracy: 69.0534%

Class us : (2401/4527) -> accuracy: 53.0373%

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

INFO:root: Best accuracy 61.0278% at epoch 8/10 (10985/18000)

DEV accuracy on epoch 9/10 in train step 405 = 61.0889%

Class turkey : (2886/4476) -> accuracy: 64.4772%

Class germany: (2482/4486) -> accuracy: 55.3277%

Class russia : (3167/4511) -> accuracy: 70.2062%

Class us : (2461/4527) -> accuracy: 54.3627%

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

INFO:root: Best accuracy 61.0889% at epoch 9/10 (10996/18000)

DEV accuracy on epoch 9/10 in train step 807 = 60.1056%

Class turkey : (2496/4476) -> accuracy: 55.7641%

Class germany: (2296/4486) -> accuracy: 51.1815%

Class russia : (3271/4511) -> accuracy: 72.5116%

Class us : (2756/4527) -> accuracy: 60.8792%

Epoch run time: 00:22:28

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Epoch: 10/10 ---- best so far on epoch 9: acc=61.0889%

DEV accuracy on epoch 10/10 in train step 405 = 60.6778%

Class turkey : (2976/4476) -> accuracy: 66.4879%

Class germany: (2558/4486) -> accuracy: 57.0218%

Class russia : (2956/4511) -> accuracy: 65.5287%

Class us : (2432/4527) -> accuracy: 53.7221%

DEV accuracy on epoch 10/10 in train step 807 = 59.7167%

Class turkey : (2558/4476) -> accuracy: 57.1492%

Class germany: (2197/4486) -> accuracy: 48.9746%

Class russia : (3340/4511) -> accuracy: 74.0412%

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

Epoch run time: 00:22:27

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\*\*\*Training is complete. Best accuracy 61.0889% at epoch 9/10

\*\*\*Testing...

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

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

Accuracy on test set - (12153/20000) -> accuracy: 60.7650%

Class turkey : (3267/5094) -> accuracy: 64.1343%

Class germany: (2839/5032) -> accuracy: 56.4189%

Class russia : (3446/4995) -> accuracy: 68.9890%

Class us : (2601/4879) -> accuracy: 53.3101%

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 10

evaluating on dev data 2 times per epoch

KEEP\_PROB 0.5

BATCH\_SIZE 200

LSTM\_HIDDEN\_UNITS 150

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=9 is 61.0888888889

testing acc 60.765

Time(HH:MM:SS): 03:46:32

Leaving function \_\_main\_\_