Entering function \_\_main\_\_

Embedding tokens size=400001

File name 5way\_tur\_ger\_rus\_fra\_usa100K\_25-150. Total data size is 500000

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: 405000, x\_dev: 45000, x\_test: 50000

y\_train: 405000, y\_dev: 45000, y\_test: 50000

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

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

gru\_forward\_cell units: 75

gru\_backward\_cell units: 75

---vars name and shapes---

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/kernel:0', TensorShape([Dimension(375), Dimension(150)]), 56250)

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

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/kernel:0', TensorShape([Dimension(375), Dimension(75)]), 28125)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/bias:0', TensorShape([Dimension(75)]), 75)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/kernel:0', TensorShape([Dimension(150), Dimension(150)]), 22500)

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

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/kernel:0', TensorShape([Dimension(150), Dimension(75)]), 11250)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/bias:0', TensorShape([Dimension(75)]), 75)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/kernel:0', TensorShape([Dimension(150), Dimension(150)]), 22500)

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(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/kernel:0', TensorShape([Dimension(150), Dimension(75)]), 11250)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/bias:0', TensorShape([Dimension(75)]), 75)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_3/gru\_cell/gates/kernel:0', TensorShape([Dimension(150), Dimension(150)]), 22500)

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

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/kernel:0', TensorShape([Dimension(150), Dimension(75)]), 11250)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/bias:0', TensorShape([Dimension(75)]), 75)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_4/gru\_cell/gates/kernel:0', TensorShape([Dimension(150), Dimension(150)]), 22500)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_4/gru\_cell/gates/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_4/gru\_cell/candidate/kernel:0', TensorShape([Dimension(150), Dimension(75)]), 11250)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_4/gru\_cell/candidate/bias:0', TensorShape([Dimension(75)]), 75)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_5/gru\_cell/gates/kernel:0', TensorShape([Dimension(150), Dimension(150)]), 22500)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_5/gru\_cell/gates/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_5/gru\_cell/candidate/kernel:0', TensorShape([Dimension(150), Dimension(75)]), 11250)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_5/gru\_cell/candidate/bias:0', TensorShape([Dimension(75)]), 75)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_6/gru\_cell/gates/kernel:0', TensorShape([Dimension(150), Dimension(150)]), 22500)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_6/gru\_cell/gates/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_6/gru\_cell/candidate/kernel:0', TensorShape([Dimension(150), Dimension(75)]), 11250)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_6/gru\_cell/candidate/bias:0', TensorShape([Dimension(75)]), 75)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/kernel:0', TensorShape([Dimension(375), Dimension(150)]), 56250)

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

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/kernel:0', TensorShape([Dimension(375), Dimension(75)]), 28125)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/bias:0', TensorShape([Dimension(75)]), 75)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/kernel:0', TensorShape([Dimension(150), Dimension(150)]), 22500)

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

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/kernel:0', TensorShape([Dimension(150), Dimension(75)]), 11250)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/bias:0', TensorShape([Dimension(75)]), 75)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/kernel:0', TensorShape([Dimension(150), Dimension(150)]), 22500)

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

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/kernel:0', TensorShape([Dimension(150), Dimension(75)]), 11250)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/bias:0', TensorShape([Dimension(75)]), 75)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/gates/kernel:0', TensorShape([Dimension(150), Dimension(150)]), 22500)

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

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/kernel:0', TensorShape([Dimension(150), Dimension(75)]), 11250)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/bias:0', TensorShape([Dimension(75)]), 75)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_4/gru\_cell/gates/kernel:0', TensorShape([Dimension(150), Dimension(150)]), 22500)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_4/gru\_cell/gates/bias:0', TensorShape([Dimension(150)]), 150)

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(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_4/gru\_cell/candidate/bias:0', TensorShape([Dimension(75)]), 75)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_5/gru\_cell/gates/kernel:0', TensorShape([Dimension(150), Dimension(150)]), 22500)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_5/gru\_cell/gates/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_5/gru\_cell/candidate/kernel:0', TensorShape([Dimension(150), Dimension(75)]), 11250)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_5/gru\_cell/candidate/bias:0', TensorShape([Dimension(75)]), 75)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_6/gru\_cell/gates/kernel:0', TensorShape([Dimension(150), Dimension(150)]), 22500)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_6/gru\_cell/gates/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_6/gru\_cell/candidate/kernel:0', TensorShape([Dimension(150), Dimension(75)]), 11250)

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

total PARAM 577,655

---done vars---

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

DEV accuracy on epoch 1/10 in train step 1012 = 50.7644%

Class turkey : (5916/9025) -> accuracy: 65.5512%

Class germany: (4217/8906) -> accuracy: 47.3501%

Class russia : (5656/9026) -> accuracy: 62.6634%

Class us : (4299/9085) -> accuracy: 47.3198%

Class france : (2756/8958) -> accuracy: 30.7658%

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

INFO:root: Best accuracy 50.7644% at epoch 1/10 (22844/45000)

DEV accuracy on epoch 1/10 in train step 2022 = 53.0222%

Class turkey : (5361/9025) -> accuracy: 59.4017%

Class germany: (4382/8906) -> accuracy: 49.2028%

Class russia : (5243/9026) -> accuracy: 58.0877%

Class us : (4591/9085) -> accuracy: 50.5338%

Class france : (4283/8958) -> accuracy: 47.8120%

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

INFO:root: Best accuracy 53.0222% at epoch 1/10 (23860/45000)

Epoch run time: 01:20:02

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Epoch: 2/10 ---- best so far on epoch 1: acc=53.0222%

DEV accuracy on epoch 2/10 in train step 1012 = 54.0511%

Class turkey : (6380/9025) -> accuracy: 70.6925%

Class germany: (4475/8906) -> accuracy: 50.2470%

Class russia : (5279/9026) -> accuracy: 58.4866%

Class us : (4557/9085) -> accuracy: 50.1596%

Class france : (3632/8958) -> accuracy: 40.5448%

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

INFO:root: Best accuracy 54.0511% at epoch 2/10 (24323/45000)

DEV accuracy on epoch 2/10 in train step 2022 = 54.5689%

Class turkey : (5333/9025) -> accuracy: 59.0914%

Class germany: (4716/8906) -> accuracy: 52.9531%

Class russia : (5201/9026) -> accuracy: 57.6224%

Class us : (4400/9085) -> accuracy: 48.4315%

Class france : (4906/8958) -> accuracy: 54.7667%

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

INFO:root: Best accuracy 54.5689% at epoch 2/10 (24556/45000)

Epoch run time: 01:12:51

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Epoch: 3/10 ---- best so far on epoch 2: acc=54.5689%

DEV accuracy on epoch 3/10 in train step 2022 = 55.6889%

Class turkey : (5450/9025) -> accuracy: 60.3878%

Class germany: (4956/8906) -> accuracy: 55.6479%

Class russia : (5677/9026) -> accuracy: 62.8961%

Class us : (4359/9085) -> accuracy: 47.9802%

Class france : (4618/8958) -> accuracy: 51.5517%

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

INFO:root: Best accuracy 55.6889% at epoch 3/10 (25060/45000)

Epoch run time: 01:11:10

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Epoch: 4/10 ---- best so far on epoch 3: acc=55.6889%

DEV accuracy on epoch 4/10 in train step 1012 = 56.0667%

Class turkey : (6220/9025) -> accuracy: 68.9197%

Class germany: (4630/8906) -> accuracy: 51.9874%

Class russia : (5655/9026) -> accuracy: 62.6523%

Class us : (4744/9085) -> accuracy: 52.2179%

Class france : (3981/8958) -> accuracy: 44.4407%

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

INFO:root: Best accuracy 56.0667% at epoch 4/10 (25230/45000)

DEV accuracy on epoch 4/10 in train step 2022 = 56.0600%

Class turkey : (5478/9025) -> accuracy: 60.6981%

Class germany: (5110/8906) -> accuracy: 57.3770%

Class russia : (5716/9026) -> accuracy: 63.3282%

Class us : (4181/9085) -> accuracy: 46.0209%

Class france : (4742/8958) -> accuracy: 52.9359%

Epoch run time: 01:09:06

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Epoch: 5/10 ---- best so far on epoch 4: acc=56.0667%

DEV accuracy on epoch 5/10 in train step 1012 = 56.4489%

Class turkey : (6160/9025) -> accuracy: 68.2548%

Class germany: (4815/8906) -> accuracy: 54.0647%

Class russia : (5863/9026) -> accuracy: 64.9568%

Class us : (4474/9085) -> accuracy: 49.2460%

Class france : (4090/8958) -> accuracy: 45.6575%

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

INFO:root: Best accuracy 56.4489% at epoch 5/10 (25402/45000)

DEV accuracy on epoch 5/10 in train step 2022 = 56.1711%

Class turkey : (5805/9025) -> accuracy: 64.3213%

Class germany: (5098/8906) -> accuracy: 57.2423%

Class russia : (5697/9026) -> accuracy: 63.1177%

Class us : (4085/9085) -> accuracy: 44.9642%

Class france : (4592/8958) -> accuracy: 51.2614%

Epoch run time: 01:09:17

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Epoch: 6/10 ---- best so far on epoch 5: acc=56.4489%

DEV accuracy on epoch 6/10 in train step 1012 = 56.6267%

Class turkey : (6089/9025) -> accuracy: 67.4681%

Class germany: (4577/8906) -> accuracy: 51.3923%

Class russia : (5849/9026) -> accuracy: 64.8017%

Class us : (4831/9085) -> accuracy: 53.1756%

Class france : (4136/8958) -> accuracy: 46.1710%

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

INFO:root: Best accuracy 56.6267% at epoch 6/10 (25482/45000)

DEV accuracy on epoch 6/10 in train step 2022 = 56.2356%

Class turkey : (5831/9025) -> accuracy: 64.6094%

Class germany: (5033/8906) -> accuracy: 56.5125%

Class russia : (5564/9026) -> accuracy: 61.6441%

Class us : (4379/9085) -> accuracy: 48.2003%

Class france : (4499/8958) -> accuracy: 50.2233%

Epoch run time: 01:09:49

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Epoch: 7/10 ---- best so far on epoch 6: acc=56.6267%

DEV accuracy on epoch 7/10 in train step 1012 = 56.6044%

Class turkey : (6002/9025) -> accuracy: 66.5042%

Class germany: (4779/8906) -> accuracy: 53.6605%

Class russia : (5866/9026) -> accuracy: 64.9900%

Class us : (4763/9085) -> accuracy: 52.4271%

Class france : (4062/8958) -> accuracy: 45.3449%

DEV accuracy on epoch 7/10 in train step 2022 = 56.2733%

Class turkey : (5905/9025) -> accuracy: 65.4294%

Class germany: (4933/8906) -> accuracy: 55.3896%

Class russia : (5758/9026) -> accuracy: 63.7935%

Class us : (4232/9085) -> accuracy: 46.5823%

Class france : (4495/8958) -> accuracy: 50.1786%

Epoch run time: 01:05:24

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Epoch: 8/10 ---- best so far on epoch 6: acc=56.6267%

DEV accuracy on epoch 8/10 in train step 1012 = 56.5267%

Class turkey : (5929/9025) -> accuracy: 65.6953%

Class germany: (4709/8906) -> accuracy: 52.8745%

Class russia : (5896/9026) -> accuracy: 65.3224%

Class us : (4867/9085) -> accuracy: 53.5718%

Class france : (4036/8958) -> accuracy: 45.0547%

DEV accuracy on epoch 8/10 in train step 2022 = 56.3800%

Class turkey : (6072/9025) -> accuracy: 67.2798%

Class germany: (5187/8906) -> accuracy: 58.2416%

Class russia : (5670/9026) -> accuracy: 62.8185%

Class us : (4284/9085) -> accuracy: 47.1547%

Class france : (4158/8958) -> accuracy: 46.4166%

Epoch run time: 01:05:32

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Epoch: 9/10 ---- best so far on epoch 6: acc=56.6267%

DEV accuracy on epoch 9/10 in train step 1012 = 56.4444%

Class turkey : (6067/9025) -> accuracy: 67.2244%

Class germany: (4726/8906) -> accuracy: 53.0653%

Class russia : (5472/9026) -> accuracy: 60.6249%

Class us : (5132/9085) -> accuracy: 56.4887%

Class france : (4003/8958) -> accuracy: 44.6863%

DEV accuracy on epoch 9/10 in train step 2022 = 56.3933%

Class turkey : (6077/9025) -> accuracy: 67.3352%

Class germany: (4881/8906) -> accuracy: 54.8057%

Class russia : (5679/9026) -> accuracy: 62.9182%

Class us : (4417/9085) -> accuracy: 48.6186%

Class france : (4323/8958) -> accuracy: 48.2585%

Epoch run time: 01:05:31

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Epoch: 10/10 ---- best so far on epoch 6: acc=56.6267%

DEV accuracy on epoch 10/10 in train step 1012 = 56.6067%

Class turkey : (5880/9025) -> accuracy: 65.1524%

Class germany: (4806/8906) -> accuracy: 53.9636%

Class russia : (5539/9026) -> accuracy: 61.3672%

Class us : (5037/9085) -> accuracy: 55.4430%

Class france : (4211/8958) -> accuracy: 47.0083%

DEV accuracy on epoch 10/10 in train step 2022 = 56.0111%

Class turkey : (6122/9025) -> accuracy: 67.8338%

Class germany: (4765/8906) -> accuracy: 53.5033%

Class russia : (5383/9026) -> accuracy: 59.6388%

Class us : (4316/9085) -> accuracy: 47.5069%

Class france : (4619/8958) -> accuracy: 51.5628%

Epoch run time: 01:06:21

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\*\*\*Training is complete. Best accuracy 56.6267% at epoch 6/10

\*\*\*Testing...

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

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

Accuracy on test set - (28288/50000) -> accuracy: 56.5760%

Class turkey : (6641/9957) -> accuracy: 66.6968%

Class germany: (5144/9905) -> accuracy: 51.9334%

Class russia : (6571/10046) -> accuracy: 65.4091%

Class us : (5275/10019) -> accuracy: 52.6500%

Class france : (4657/10073) -> accuracy: 46.2325%

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

data:

DATA\_FILE\_PATH is ../input/5way\_tur\_ger\_rus\_fra\_usa100K\_25-150.txt

MINIMUM\_ROW\_LENGTH is 25

MAXIMUM\_ROW\_LENGTH is 150

COUNT\_WORD is 20

lines\_per\_class is 100000

number of classes is 5

Total data size is 500000

embedding:

EMB\_FILE\_PATH ../input/glove.6B.300d.txt

EMB\_DIM 300

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 75

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=6 is 56.6267

testing acc 56.5760

Time(HH:MM:SS): 11:55:17

Leaving function \_\_main\_\_