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)

data(after embedding) shape: (200, 150, 300)

gru\_forward\_cell units: 300

gru\_forward\_cell2 units: 300

multi\_forward\_cell: 2 cells

gru\_backward\_cell units: 300

gru\_backward\_cell2 units: 300

multi\_backward\_cell: 2 cells

---vars name and shapes---

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/kernel:0', TensorShape([Dimension(600), Dimension(600)]), 360000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/bias:0', TensorShape([Dimension(600)]), 600)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/kernel:0', TensorShape([Dimension(600), Dimension(300)]), 180000)

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

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/kernel:0', TensorShape([Dimension(600), Dimension(600)]), 360000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/bias:0', TensorShape([Dimension(600)]), 600)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/kernel:0', TensorShape([Dimension(600), Dimension(300)]), 180000)

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

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/kernel:0', TensorShape([Dimension(600), Dimension(600)]), 360000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/bias:0', TensorShape([Dimension(600)]), 600)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/kernel:0', TensorShape([Dimension(600), Dimension(300)]), 180000)

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

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/kernel:0', TensorShape([Dimension(600), Dimension(600)]), 360000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/bias:0', TensorShape([Dimension(600)]), 600)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/kernel:0', TensorShape([Dimension(600), Dimension(300)]), 180000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/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 2,166,605

---done vars---

batches\_num\_train2025

batches\_num\_dev225

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

epoch Learning rate:0.0010000000475

DEV accuracy on epoch 1/10 in train step 1012 = 51.8289%

Class turkey : (6235/9025) -> accuracy: 69.0859%

Class germany: (4514/8906) -> accuracy: 50.6849%

Class russia : (5269/9026) -> accuracy: 58.3758%

Class us : (4086/9085) -> accuracy: 44.9752%

Class france : (3219/8958) -> accuracy: 35.9344%

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

INFO:root: Best accuracy 51.8289% at epoch 1/10 (23323/45000)

DEV accuracy on epoch 1/10 in train step 2022 = 54.4289%

Class turkey : (5364/9025) -> accuracy: 59.4349%

Class germany: (4847/8906) -> accuracy: 54.4240%

Class russia : (5183/9026) -> accuracy: 57.4230%

Class us : (5270/9085) -> accuracy: 58.0077%

Class france : (3829/8958) -> accuracy: 42.7439%

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

INFO:root: Best accuracy 54.4289% at epoch 1/10 (24493/45000)

Epoch run time: 00:43:23

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Epoch: 2/10 ---- best so far on epoch 1: acc=54.4289%

epoch Learning rate:0.000960000033956

DEV accuracy on epoch 2/10 in train step 1012 = 55.8778%

Class turkey : (6554/9025) -> accuracy: 72.6205%

Class germany: (4899/8906) -> accuracy: 55.0079%

Class russia : (5440/9026) -> accuracy: 60.2703%

Class us : (4620/9085) -> accuracy: 50.8531%

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

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

INFO:root: Best accuracy 55.8778% at epoch 2/10 (25145/45000)

DEV accuracy on epoch 2/10 in train step 2022 = 56.5733%

Class turkey : (5261/9025) -> accuracy: 58.2936%

Class germany: (4847/8906) -> accuracy: 54.4240%

Class russia : (5532/9026) -> accuracy: 61.2896%

Class us : (5045/9085) -> accuracy: 55.5311%

Class france : (4773/8958) -> accuracy: 53.2820%

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

INFO:root: Best accuracy 56.5733% at epoch 2/10 (25458/45000)

Epoch run time: 00:43:11

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Epoch: 3/10 ---- best so far on epoch 2: acc=56.5733%

epoch Learning rate:0.00092159997439

DEV accuracy on epoch 3/10 in train step 1012 = 57.2689%

Class turkey : (6286/9025) -> accuracy: 69.6510%

Class germany: (5213/8906) -> accuracy: 58.5336%

Class russia : (5494/9026) -> accuracy: 60.8686%

Class us : (4799/9085) -> accuracy: 52.8233%

Class france : (3979/8958) -> accuracy: 44.4184%

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

INFO:root: Best accuracy 57.2689% at epoch 3/10 (25771/45000)

DEV accuracy on epoch 3/10 in train step 2022 = 57.1911%

Class turkey : (5488/9025) -> accuracy: 60.8089%

Class germany: (4717/8906) -> accuracy: 52.9643%

Class russia : (5616/9026) -> accuracy: 62.2203%

Class us : (5110/9085) -> accuracy: 56.2466%

Class france : (4805/8958) -> accuracy: 53.6392%

Epoch run time: 00:43:06

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Epoch: 4/10 ---- best so far on epoch 3: acc=57.2689%

epoch Learning rate:0.00088473589858

DEV accuracy on epoch 4/10 in train step 1012 = 57.3111%

Class turkey : (6076/9025) -> accuracy: 67.3241%

Class germany: (4931/8906) -> accuracy: 55.3672%

Class russia : (5735/9026) -> accuracy: 63.5387%

Class us : (4636/9085) -> accuracy: 51.0292%

Class france : (4412/8958) -> accuracy: 49.2521%

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

INFO:root: Best accuracy 57.3111% at epoch 4/10 (25790/45000)

DEV accuracy on epoch 4/10 in train step 2022 = 57.2133%

Class turkey : (5629/9025) -> accuracy: 62.3712%

Class germany: (4968/8906) -> accuracy: 55.7826%

Class russia : (5762/9026) -> accuracy: 63.8378%

Class us : (4788/9085) -> accuracy: 52.7023%

Class france : (4599/8958) -> accuracy: 51.3396%

Epoch run time: 00:43:07

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Epoch: 5/10 ---- best so far on epoch 4: acc=57.3111%

epoch Learning rate:0.00084934651386

DEV accuracy on epoch 5/10 in train step 1012 = 56.7022%

Class turkey : (5846/9025) -> accuracy: 64.7756%

Class germany: (4669/8906) -> accuracy: 52.4253%

Class russia : (5666/9026) -> accuracy: 62.7742%

Class us : (4736/9085) -> accuracy: 52.1299%

Class france : (4599/8958) -> accuracy: 51.3396%

DEV accuracy on epoch 5/10 in train step 2022 = 56.8089%

Class turkey : (6129/9025) -> accuracy: 67.9114%

Class germany: (4923/8906) -> accuracy: 55.2773%

Class russia : (5811/9026) -> accuracy: 64.3807%

Class us : (4570/9085) -> accuracy: 50.3027%

Class france : (4131/8958) -> accuracy: 46.1152%

Epoch run time: 00:43:06

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Epoch: 6/10 ---- best so far on epoch 4: acc=57.3111%

epoch Learning rate:0.000815372623038

DEV accuracy on epoch 6/10 in train step 1012 = 56.0511%

Class turkey : (5818/9025) -> accuracy: 64.4654%

Class germany: (4690/8906) -> accuracy: 52.6611%

Class russia : (5338/9026) -> accuracy: 59.1403%

Class us : (4643/9085) -> accuracy: 51.1062%

Class france : (4734/8958) -> accuracy: 52.8466%

DEV accuracy on epoch 6/10 in train step 2022 = 55.9822%

Class turkey : (6236/9025) -> accuracy: 69.0970%

Class germany: (4962/8906) -> accuracy: 55.7152%

Class russia : (5431/9026) -> accuracy: 60.1706%

Class us : (4437/9085) -> accuracy: 48.8387%

Class france : (4126/8958) -> accuracy: 46.0594%

Epoch run time: 00:43:06

###################################################################################################

Epoch: 7/10 ---- best so far on epoch 4: acc=57.3111%

epoch Learning rate:0.000782757648267

DEV accuracy on epoch 7/10 in train step 1012 = 55.3778%

Class turkey : (5418/9025) -> accuracy: 60.0332%

Class germany: (4761/8906) -> accuracy: 53.4583%

Class russia : (5704/9026) -> accuracy: 63.1952%

Class us : (4684/9085) -> accuracy: 51.5575%

Class france : (4353/8958) -> accuracy: 48.5934%

DEV accuracy on epoch 7/10 in train step 2022 = 55.4667%

Class turkey : (6185/9025) -> accuracy: 68.5319%

Class germany: (4871/8906) -> accuracy: 54.6935%

Class russia : (5038/9026) -> accuracy: 55.8165%

Class us : (4866/9085) -> accuracy: 53.5608%

Class france : (4000/8958) -> accuracy: 44.6528%

Epoch run time: 00:43:06

###################################################################################################

\*\*\*Testing...

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

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

Accuracy on test set - (28562/50000) -> accuracy: 57.1240%

Class turkey : (6591/9957) -> accuracy: 66.1946%

Class germany: (5548/9905) -> accuracy: 56.0121%

Class russia : (6439/10046) -> accuracy: 64.0952%

Class us : (4985/10019) -> accuracy: 49.7555%

Class france : (4999/10073) -> accuracy: 49.6277%

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 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=0 is 0.0000

testing acc 57.1240

Time(HH:MM:SS): 00:03:59