Default parameters:

# Model Hyperparameters

tf.flags.DEFINE\_integer("embedding\_dim", 128, "Dimensionality of character embedding (default: 128)")

tf.flags.DEFINE\_string("filter\_sizes", "3,4,5", "Comma-separated filter sizes (default: '3,4,5')")

tf.flags.DEFINE\_integer("num\_filters", 128, "Number of filters per filter size (default: 128)")

tf.flags.DEFINE\_float("dropout\_keep\_prob", 0.5, "Dropout keep probability (default: 0.5)")

tf.flags.DEFINE\_float("l2\_reg\_lambda", 0.0, "L2 regularization lambda (default: 0.0)")

# Training parameters

tf.flags.DEFINE\_integer("batch\_size", 64, "Batch Size (default: 64)")

tf.flags.DEFINE\_integer("num\_epochs", 200, "Number of training epochs (default: 200)")

tf.flags.DEFINE\_integer("evaluate\_every", 100, "Evaluate model on dev set after this many steps (default: 100)")

tf.flags.DEFINE\_integer("checkpoint\_every", 100, "Save model after this many steps (default: 100)")

tf.flags.DEFINE\_integer("num\_checkpoints", 5, "Number of checkpoints to store (default: 5)")

1. Change the dataset and play with hyper parameters of the Text Classification with CNN which is discussed in class

a. Optimizers

AdamOptimizer (Evaluation: step 600, loss 0.404125, acc 0.9)

RMSPropOptimizer(Evaluation: step 600, loss 0.31827, acc 0.9)

b. Filter size

Fix Optimizers with RMSPropOptimizer:

fileter size: "3,4,5" (Evaluation: step 600, loss 0.31827, acc 0.9)

fileter size: "2,3,4" (Evaluation: step 600, loss 0.552409, acc 0.7)

c. Number of filters

Fix Optimizers with RMSPropOptimizer and filter size(3,4,5)

Number of filters: 128 (Evaluation: step 600, loss 0.31827, acc 0.9)

Number of filters: 64 (Evaluation: step 600, loss 0.365155, acc 0.7)

d. Dropout probability

Fix Optimizers with RMSPropOptimizer, filter size(3,4,5) number of filters:128

Dropout probability:0.25 (Evaluation: step 600, loss 0.374333, acc 0.8)

Dropout probability:0.5 (Evaluation: step 600, loss 0.31827, acc 0.9)

Dropout probability:0.75 (Evaluation: step 600, loss 0.573662, acc 0.65)

e. Batch size

Fix Optimizers with RMSPropOptimizer, filter size(3,4,5) number of filters:128, Dropout probability:0.5

Batch size:32 (Evaluation: step 1200, loss 0.366869, acc 0.7)

Batch size:64 (Evaluation: step 600, loss 0.31827, acc 0.9)

Batch size:128 (Evaluation: step 400, loss 0.703111, acc 0.75)

f. Number of epochs

Fix Optimizers with RMSPropOptimizer, filter size(3,4,5) number of filters:128, Dropout probability:0.5, Batch size:64

Number of epochs:100 (Evaluation: step 600, loss 0.466003, acc 0.7)

Number of epochs:200 (Evaluation: step 600, loss 0.31827, acc 0.9)

Number of epochs:300 (Evaluation: step 1800, loss 0.357392, acc 0.85)

2. Visualize the graph with TensorBoard