Model 1: 3 Conv with filters size (32, 64, 128)

Test Accuracy: 77.64%

Example: miss cant wait see im happy
Predicted: 0
True Value: 1

Example: lunch dj come eat
Predicted: 0
True Value: 1

Example: perezhilton zach makes pee sitting grown gay man
Predicted: 0
True Value: 1

Example: lucasgo haha hows long time reply
Predicted: 0
True Value: 1

Example: anyone wanted attend tedmed make date happily take place live blog
Predicted: 0
True Value: 1

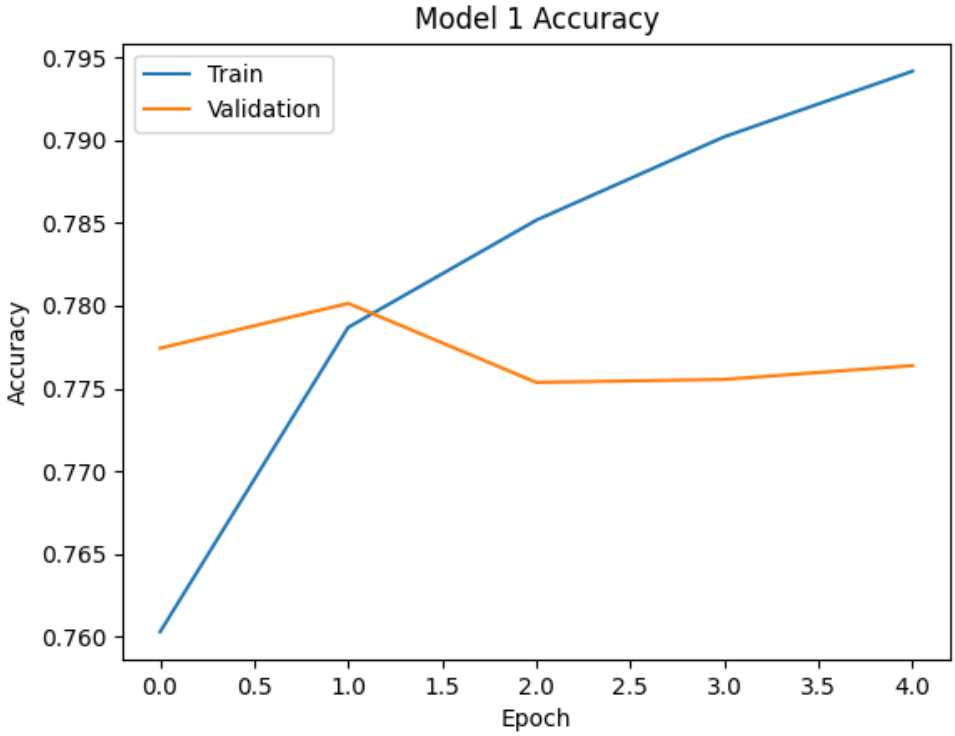
Example: flatmates still bathroom arggh
Predicted: 0
True Value: 0

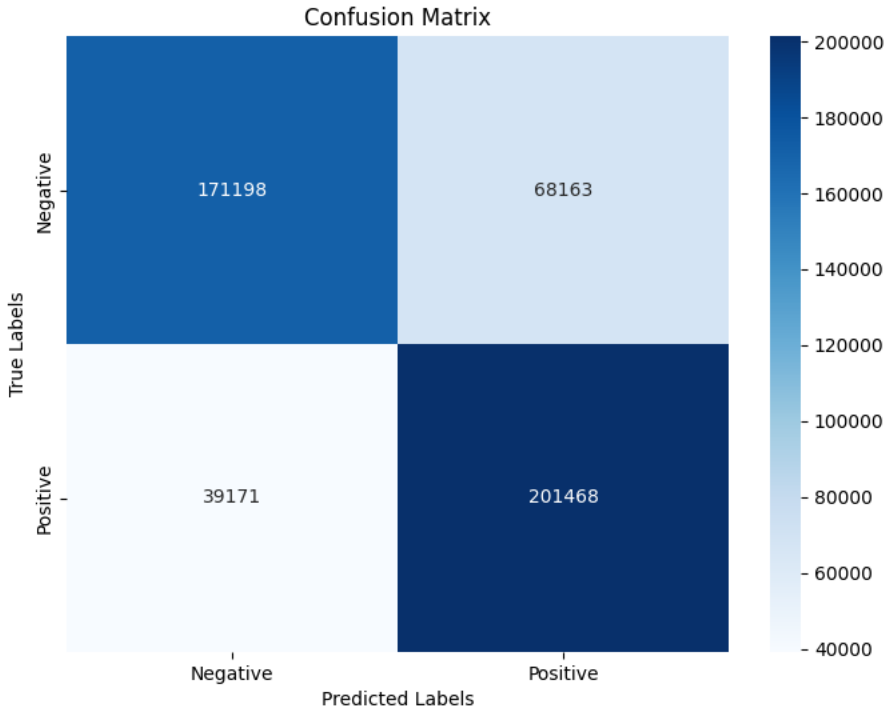
Example: tristanwilds missing missing tuesday nights
Predicted: 0
True Value: 0

Example: pamelaong glad blog helped
Predicted: 0
True Value: 1

Example: cubs game today first ever
Predicted: 0
True Value: 1

Example: team_allen jealous yet find local chinese satisfied
Predicted: 0
True Value: 0


Model 1 Accuracy
Train
Validation
Accuracy
Epoch
0.795
0.790
0.785
0.780
0.775
0.770
0.765
0.760
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0



Model 2: 2 Conv with filter size 128

Test Accuracy: 77.26%

Example: bit tongue
Predicted: 0
True Value: 0

Example: camillej supposed go live tv happened end would cool bbc
Predicted: 0
True Value: 0

Example: good work
Predicted: 0
True Value: 1

Example: bing siteowner custom search box fail market en au nothing still targets us search australia
Predicted: 0
True Value: 0

Example: feel good
Predicted: 0
True Value: 0

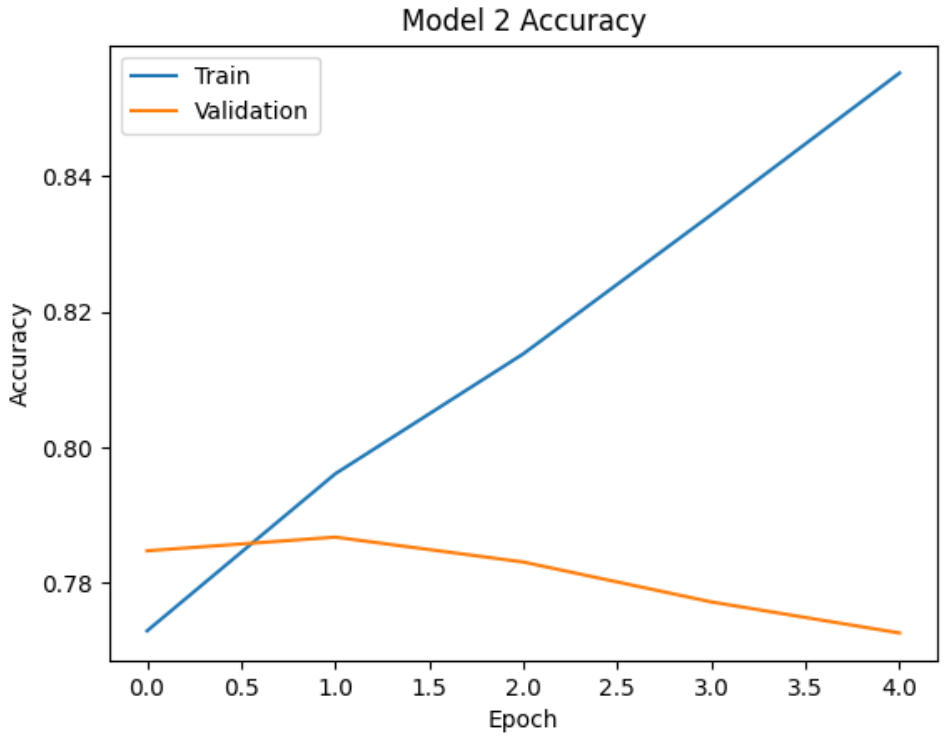
Example: anyone wanted attend tedmed make date happily take place live blog
Predicted: 0
True Value: 1

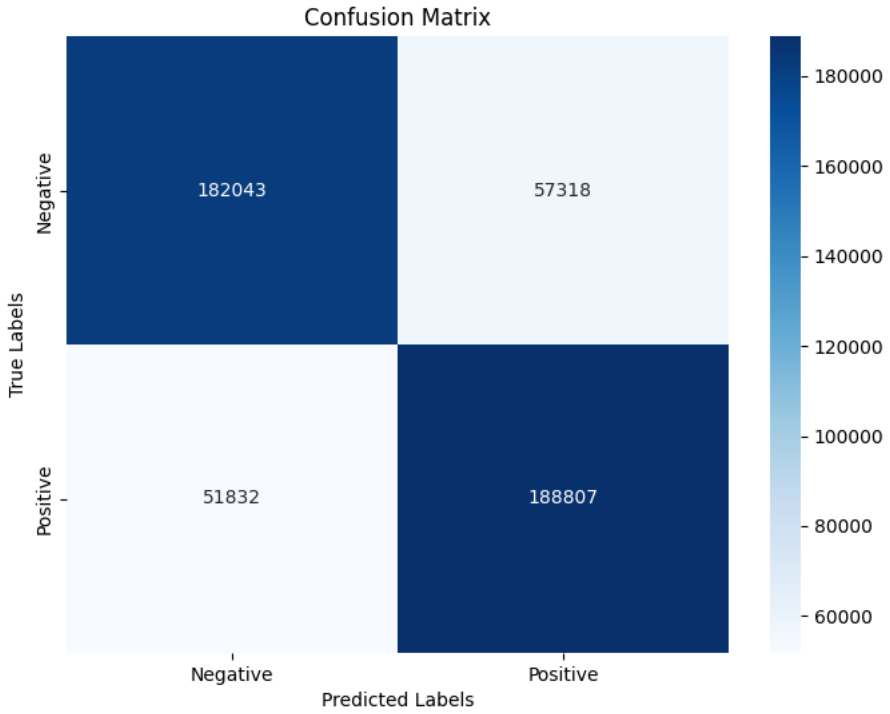
Example: shame name female lol alright shower sleep get like hours
Predicted: 0
True Value: 0

Example: great minds think alike
Predicted: 0
True Value: 1

Example: batyasmusic really reason haha sounds stupid
Predicted: 0
True Value: 1

Example: foprof lol leave kid internet kid stupid things
Predicted: 0
True Value: 1





Model 3: 3 Conv with filter size 128

Test Accuracy: 77.08%

Example: mrstessyman thank glad like product review bit site enjoy knitting
Predicted: 0
True Value: 1

Example: theuncoolest
Predicted: 0
True Value: 1

Example: konstantine said scar sweetie
Predicted: 0
True Value: 1

Example: ugh summer colds worst esp fever top ridic humidity
Predicted: 0
True Value: 0

Example: itsneet like getting classes
Predicted: 0
True Value: 1

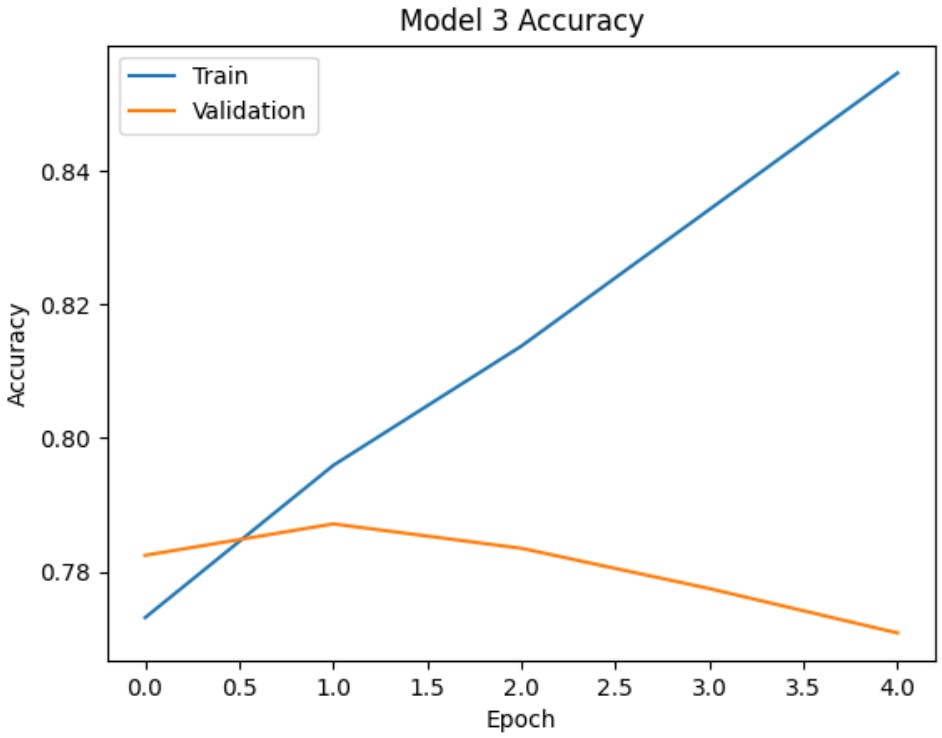
Example: lujee seriosuly second one since already mid class dude would work food
Predicted: 0
True Value: 1

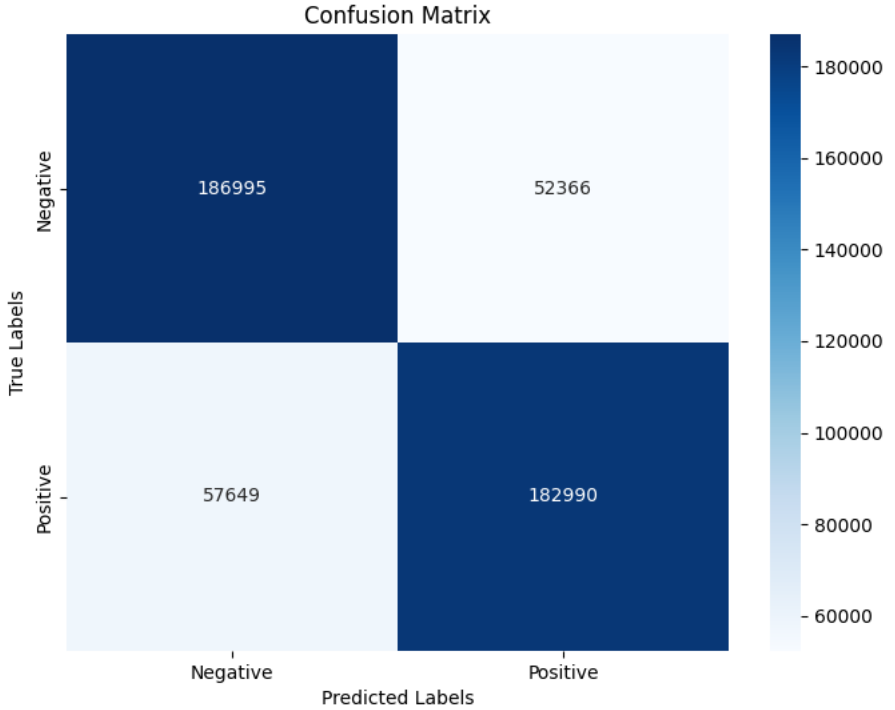
Example: wooooook tomorrrow tuesday
Predicted: 0
True Value: 1

Example: foprof lol leave kid internet kid stupid things
Predicted: 0
True Value: 1

Example: ugh morning rough start
Predicted: 0
True Value: 0

Example: miss cant wait see im happy
Predicted: 0
True Value: 1


Model 3 Accuracy
Train
Validation
Accuracy
0.84
0.82
0.80
0.78
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
Epoch


Confusion Matrix
186995
52366
57649
182990
Negative
Positive
True Labels
Negative
Positive
Predicted Labels
180000
160000
140000
120000
100000
80000
60000

Model 4: LSTM

Test Accuracy: 78.43%

Example: night rock star
Predicted: 0
True Value: 1

Example: team_allen jealous yet find local chinese satisfied
Predicted: 0
True Value: 0

Example: batyasmusic really reason haha sounds stupid
Predicted: 0
True Value: 1

Example: bayareacheap r us local yocals around happy find u twitter
Predicted: 0
True Value: 1

Example: watched crank awesome
Predicted: 0
True Value: 1

Example: cubs game today first ever
Predicted: 0
True Value: 1

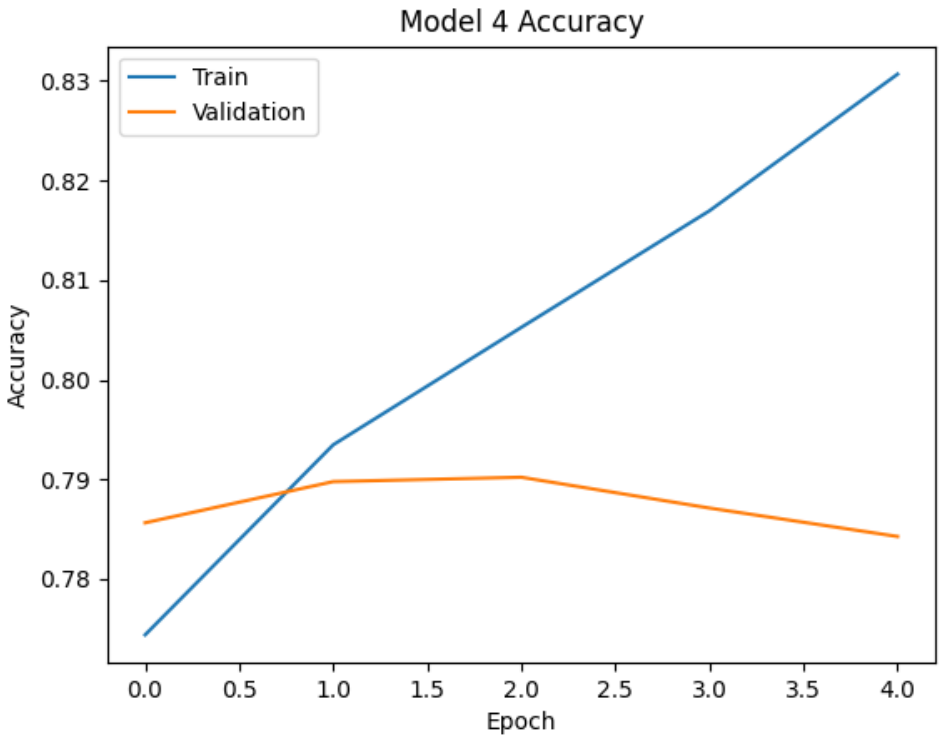
Example: marqueshouston fugazi patrol motto u see clown point em please let everyone know us
Predicted: 0
True Value: 1

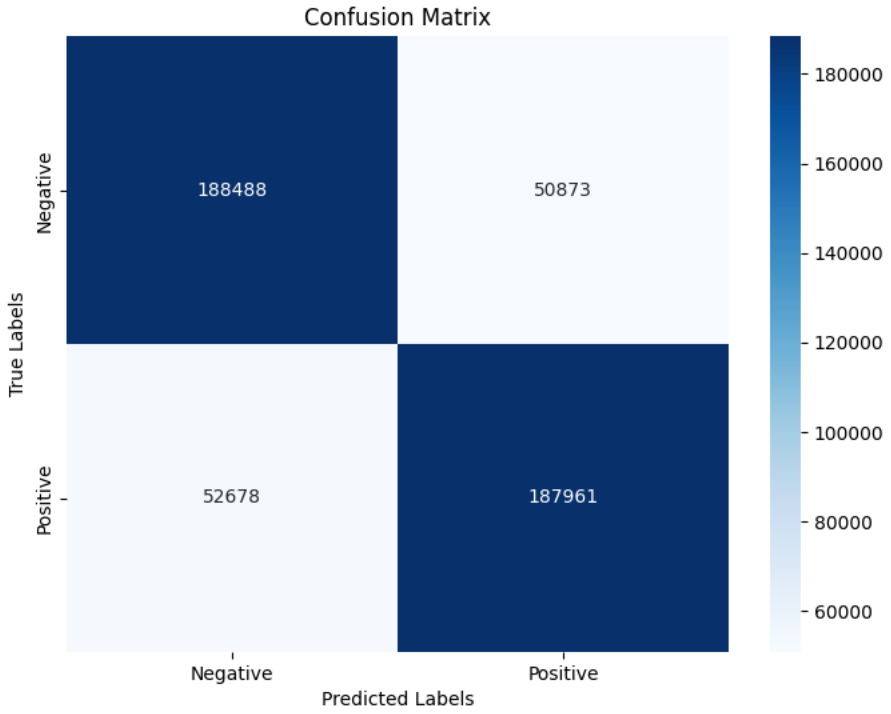
Example: seattle pride june come support community march marriage equality contingent
Predicted: 0
True Value: 1

Example: school email open geography stuff revise stupid school
Predicted: 0
True Value: 0

Example: hands officially tied think time anything anymore includes california meet
Predicted: 0

True Value: 0


Model 4 Accuracy
Train
Validation
Accuracy
0.83
0.82
0.81
0.80
0.79
0.78
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
Epoch



Conclusion:

Based on the results, both the CNN and LSTM models achieved similar test accuracies, with the LSTM model slightly outperforming the CNN model. The CNN model demonstrated higher training accuracy and lower training loss, suggesting a better fit to the training data. However, it also showed more significant overfitting, as evidenced by a larger increase in validation loss during training. In contrast, the RNN model exhibited better generalization to unseen data, with slightly higher validation accuracy and lower validation loss compared to the CNN model.