מגישים: רתם קשאני ודויד קופלב

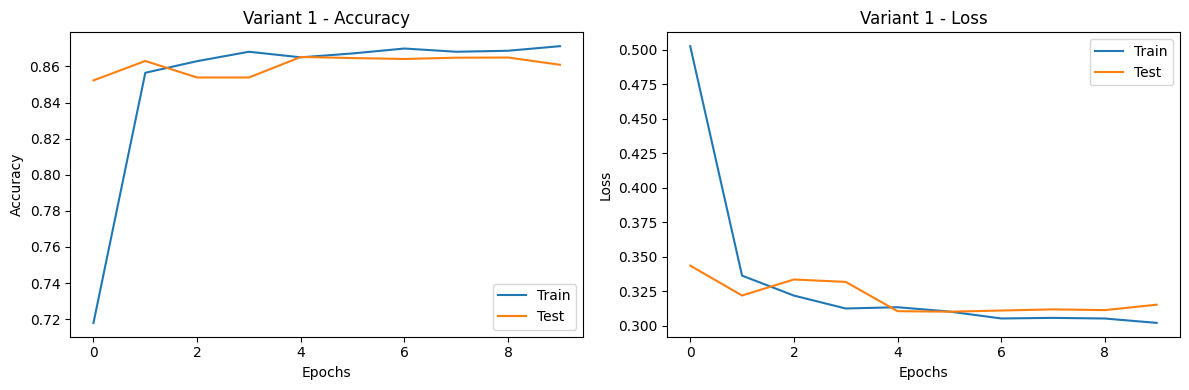
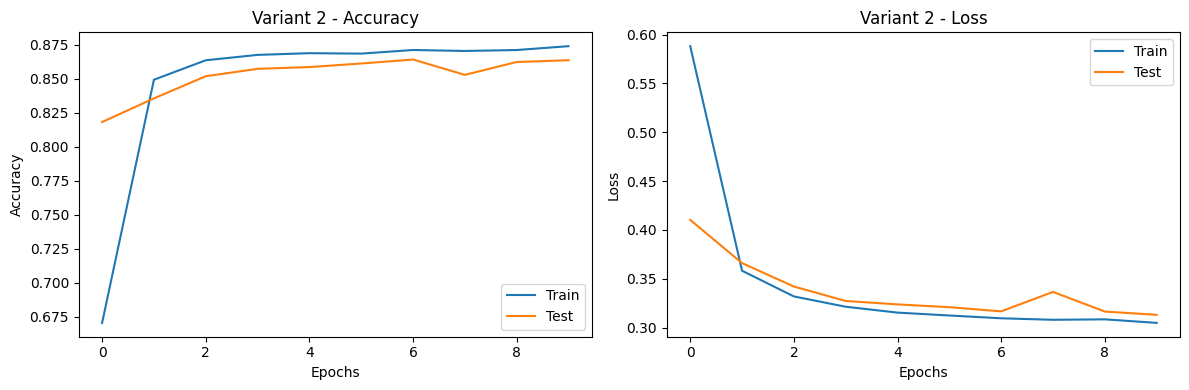
NLP תרגיל 2

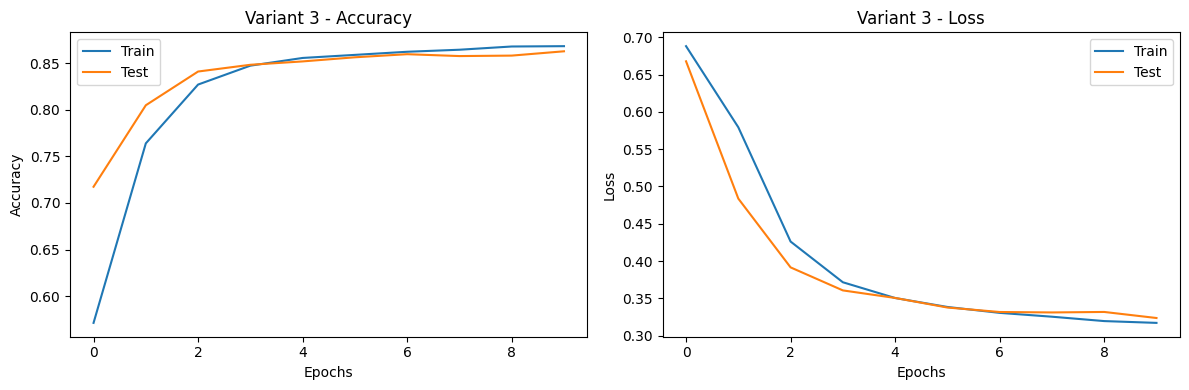
# Training a feed forward neural network

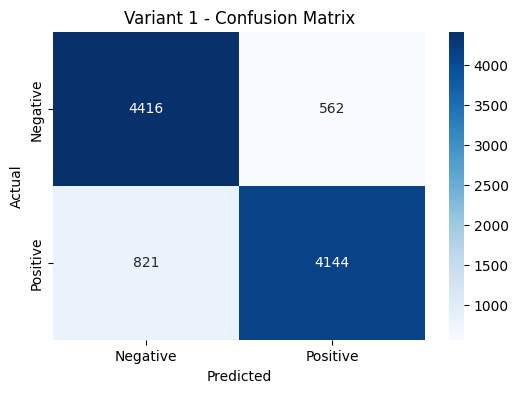
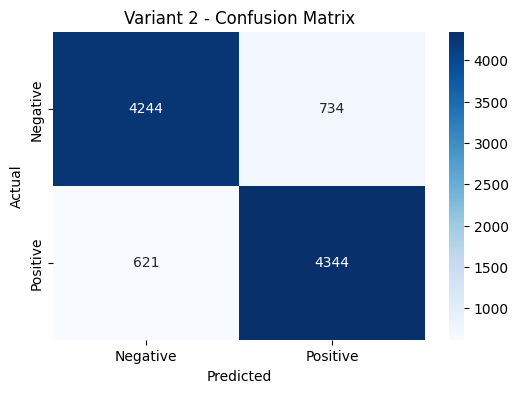
Play 1:

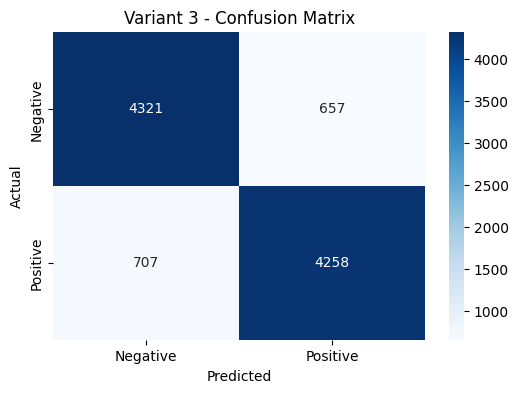
vocab\_size = 1000

epochs = 10

batch\_size = 32



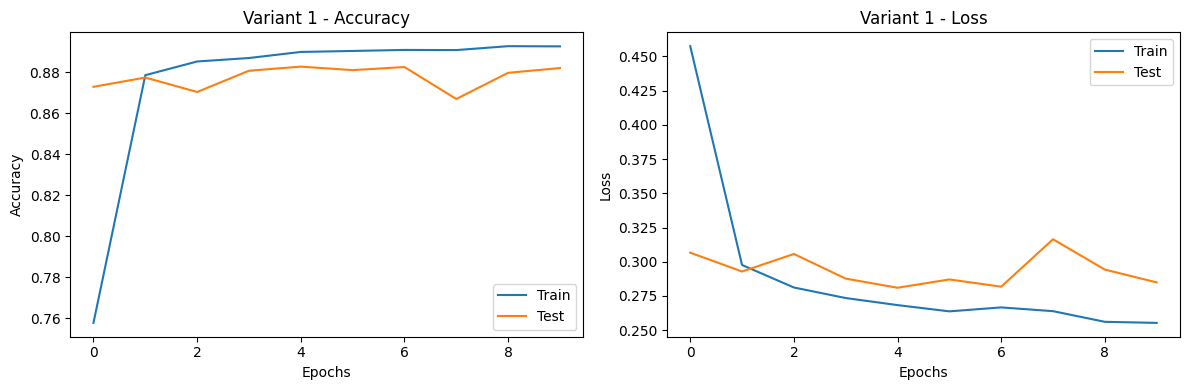


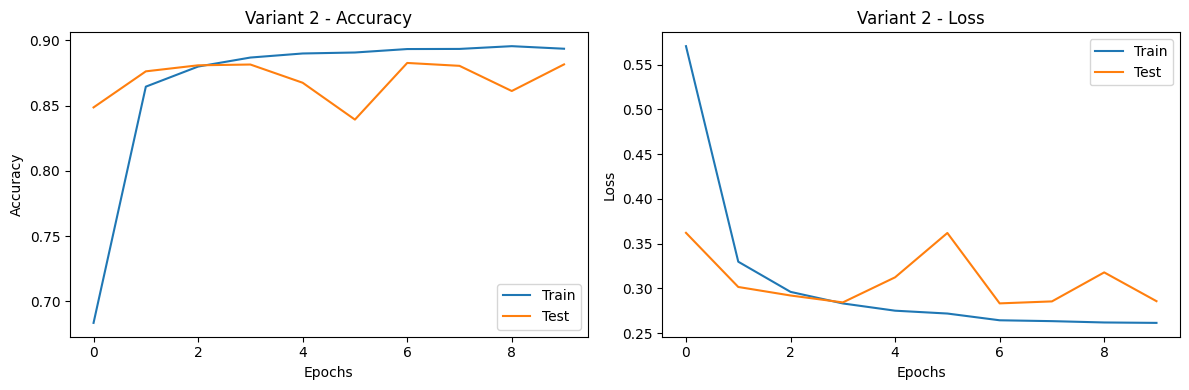


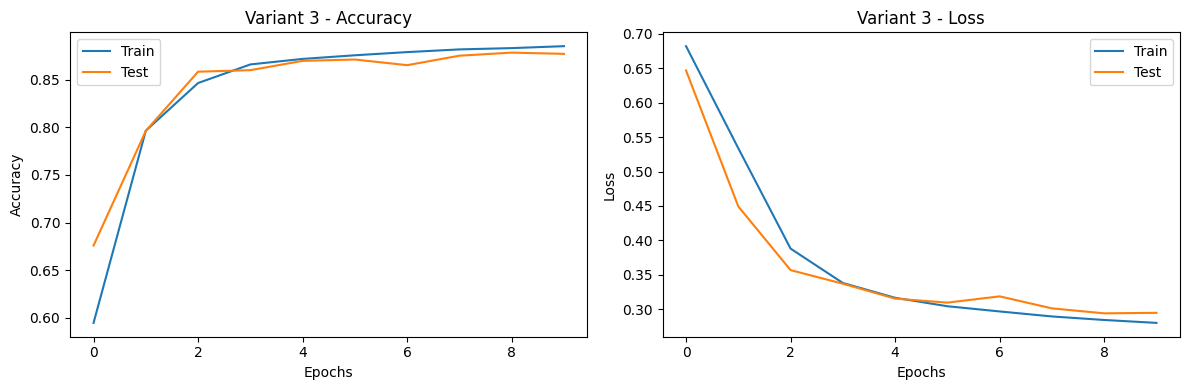
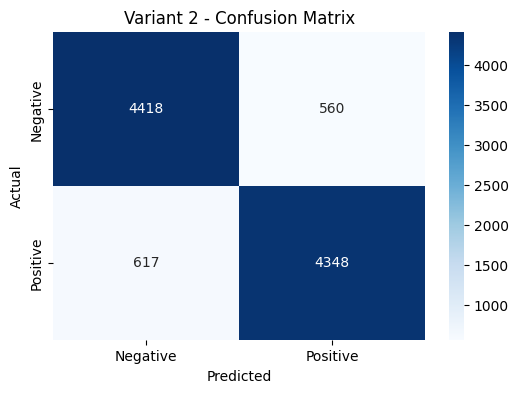
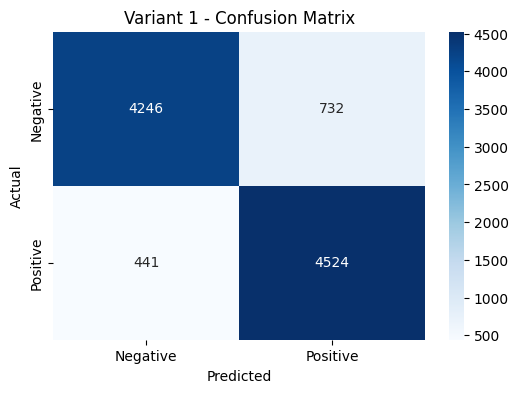
Play 2:

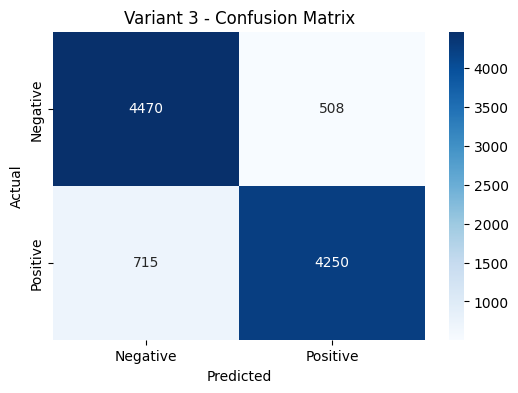
vocab\_size = 2000

epochs = 10

batch\_size = 32



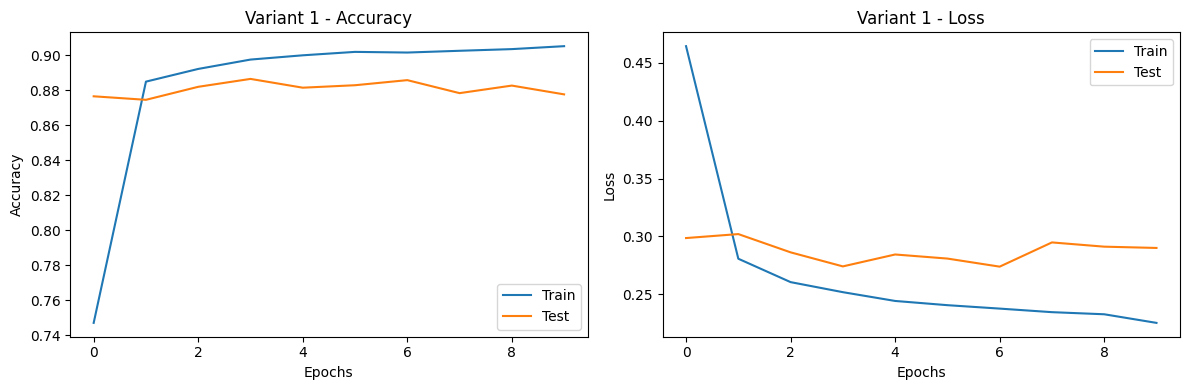
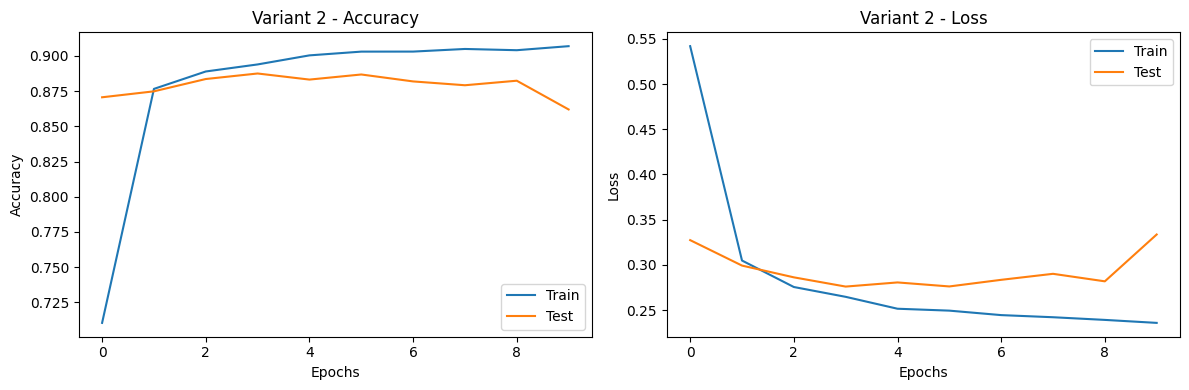


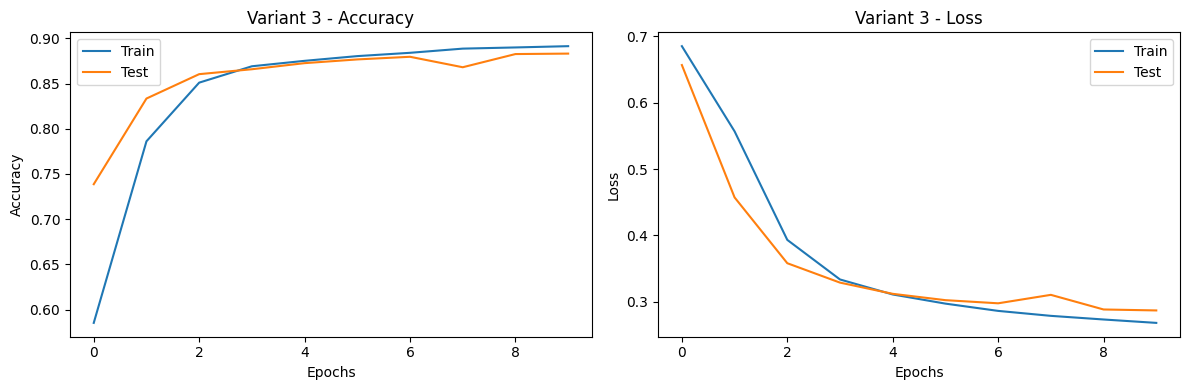
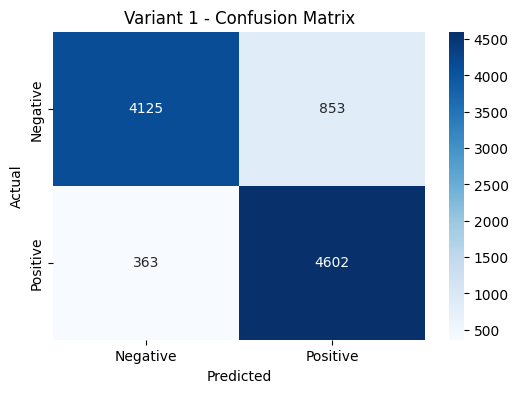
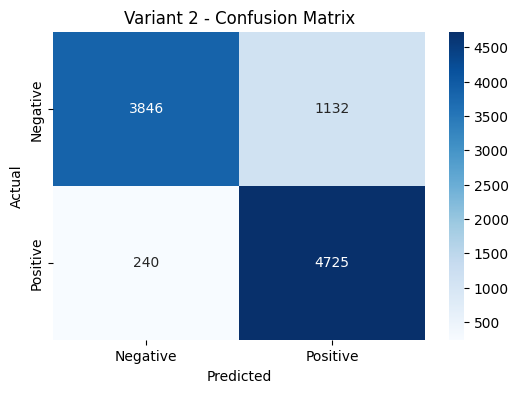


Play 3:

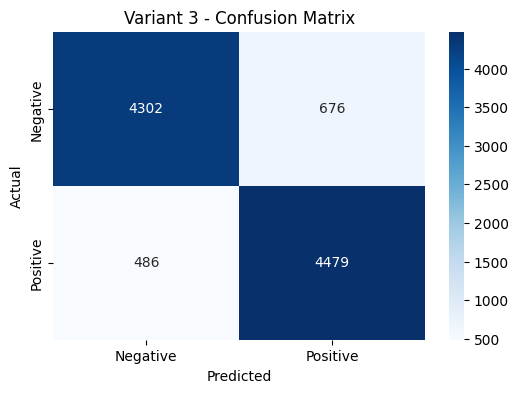
vocab\_size = 3000

epochs = 10

batch\_size = 32



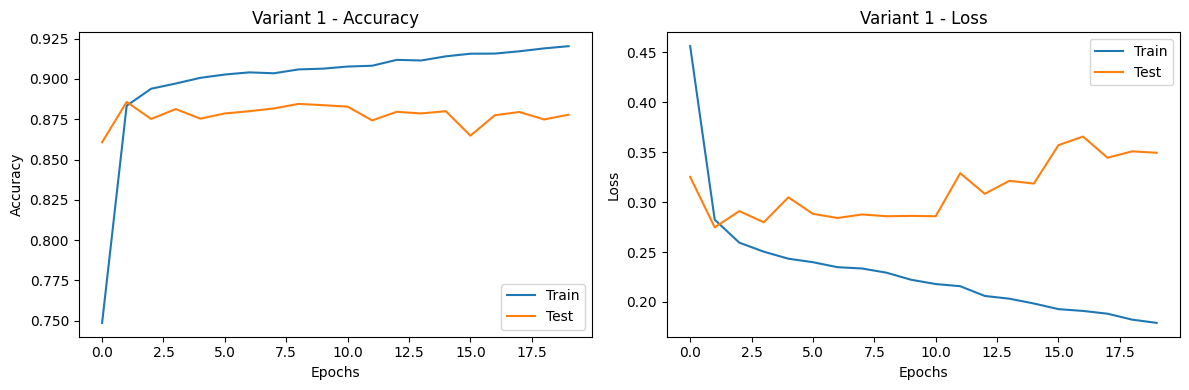
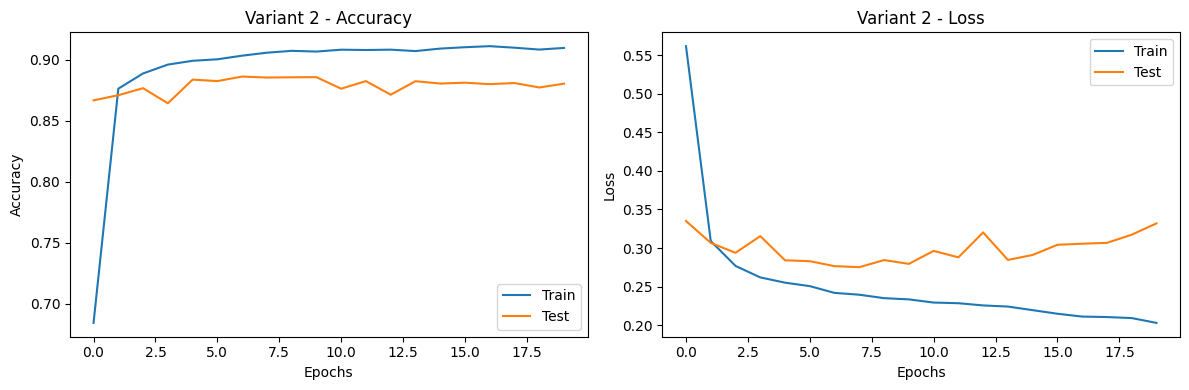
vocab\_size = 3000 yields the best results among the options (1000, 2000, and 3000) for sentiment analysis because the loss is the smallest and the positive in the confusion matrix is the biggest.  
So we will continue playing (testing) with vocab\_size = 3000.

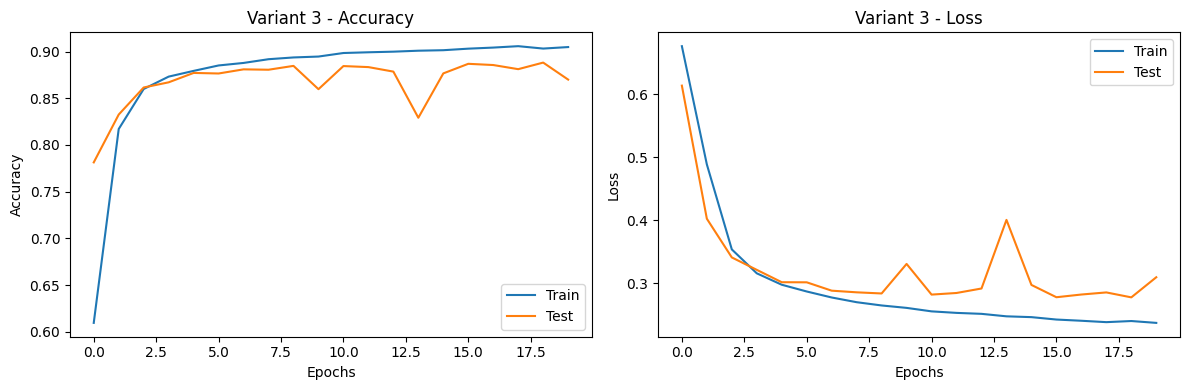
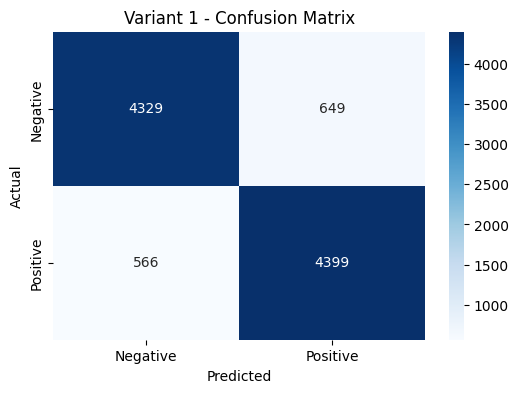
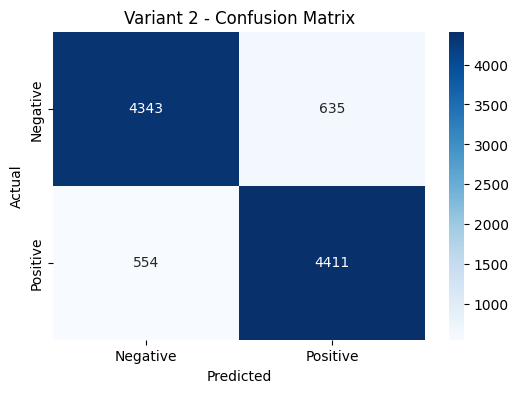


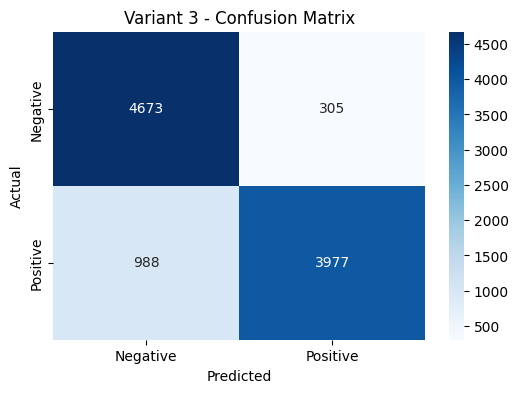
Play 4:

vocab\_size = 3000

epochs = 20

batch\_size = 32

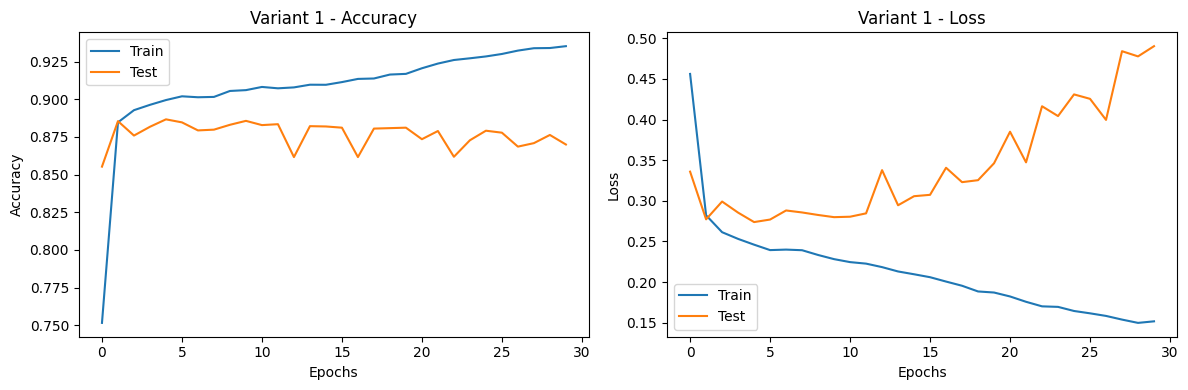


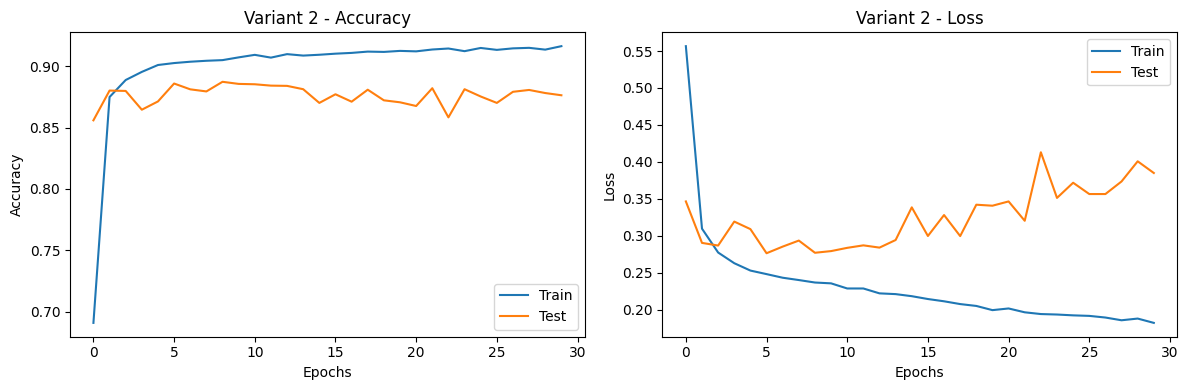


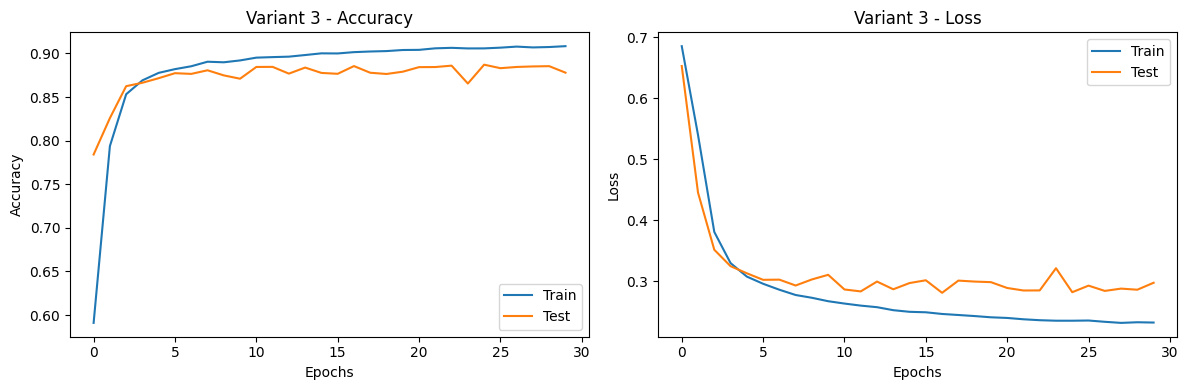
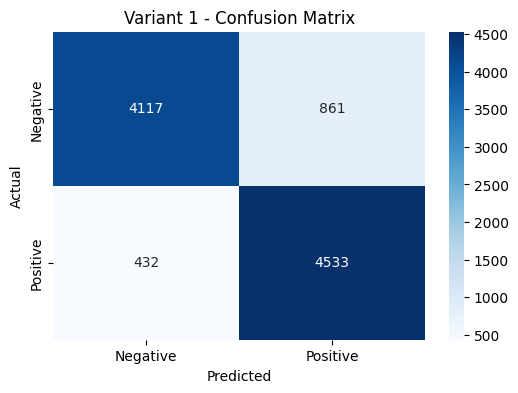
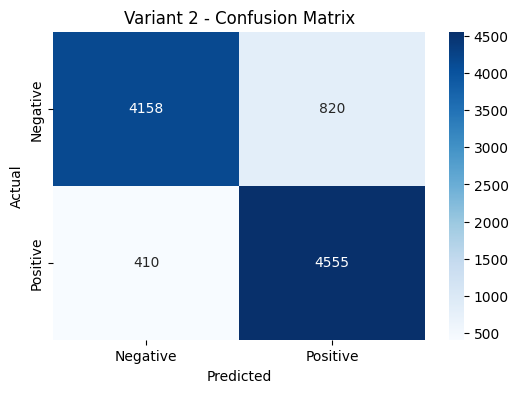
Play 5:

vocab\_size = 3000

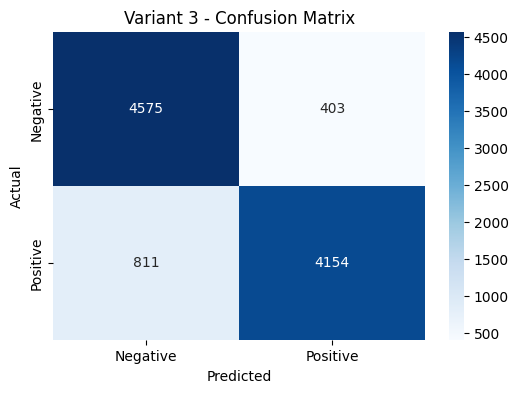
epochs = 30

batch\_size = 32





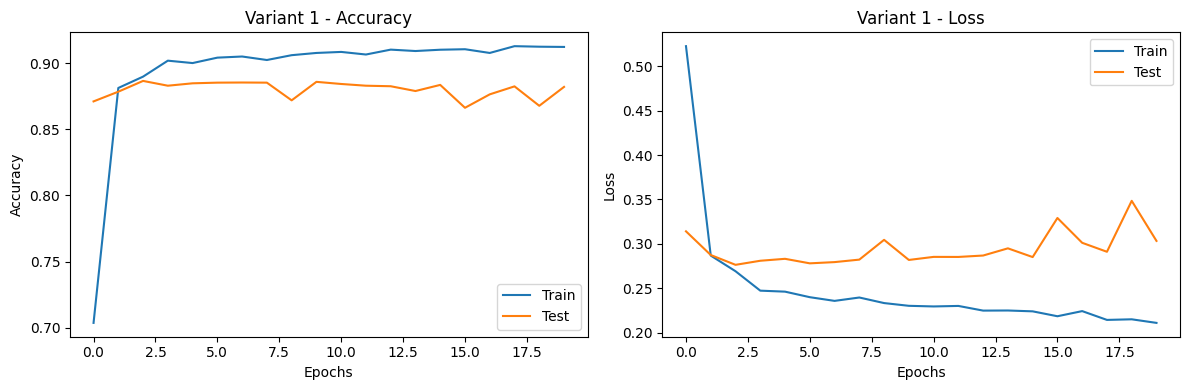
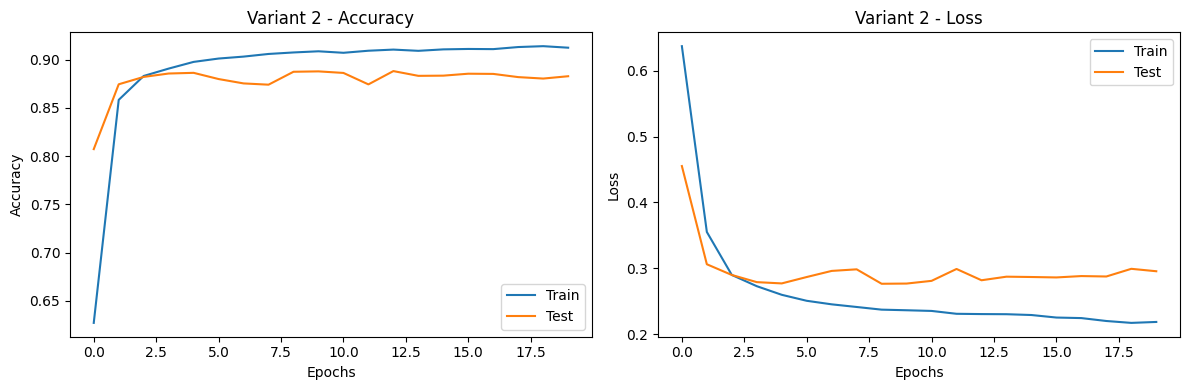
epochs = 20 yields the best results among the options (10, 20, and 30) for sentiment analysis because the loss is the smallest and the positive in the confusion matrix is the biggest so we will continue playing (testing) with epochs = 20

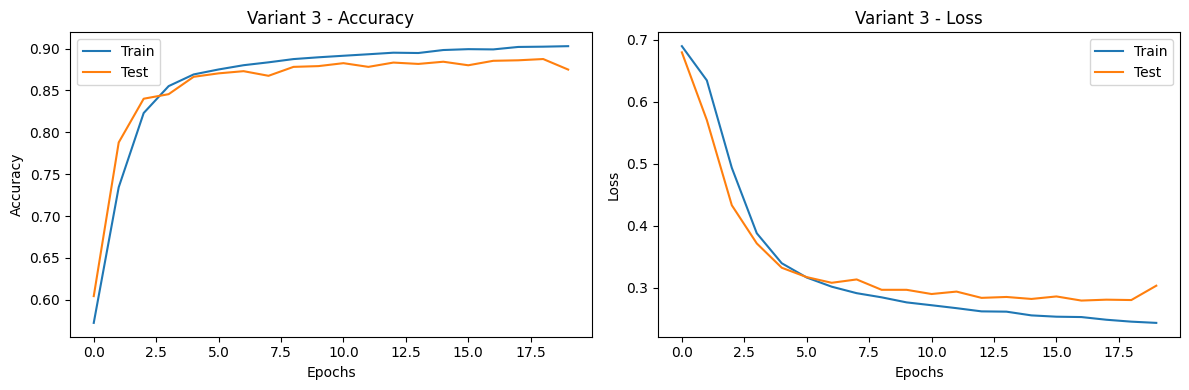
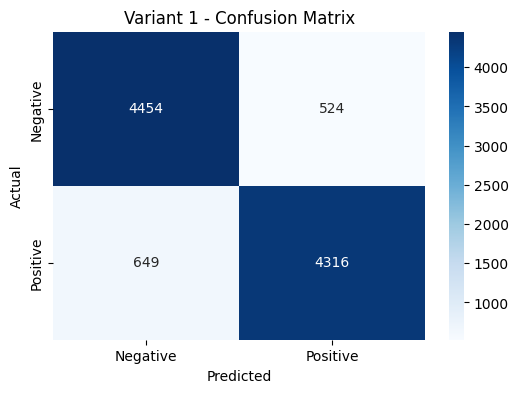
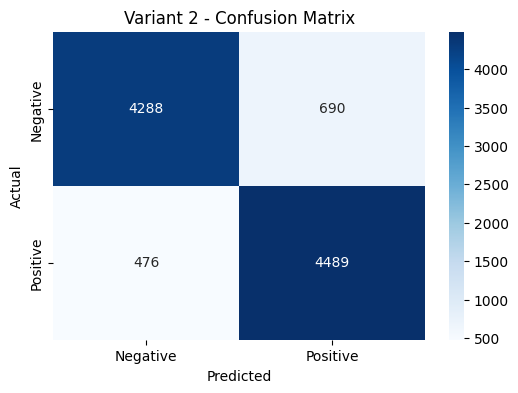


Play 6:

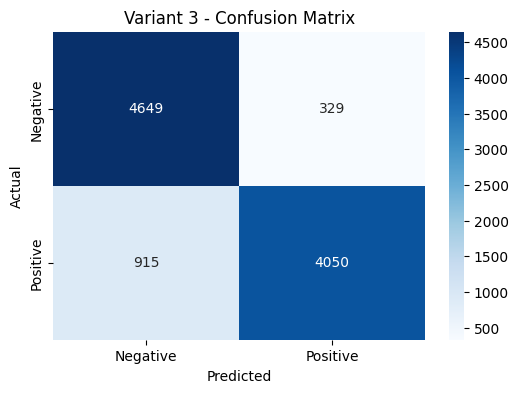
vocab\_size = 3000

epochs = 20

batch\_size = 64



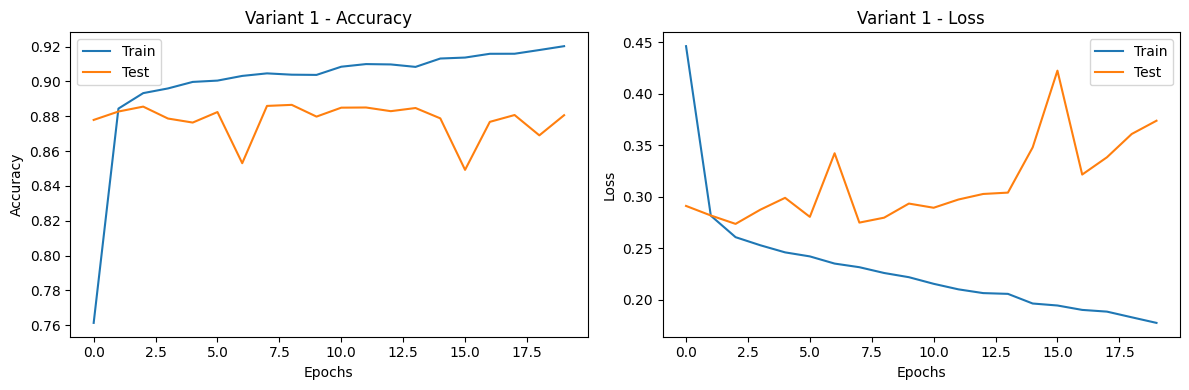
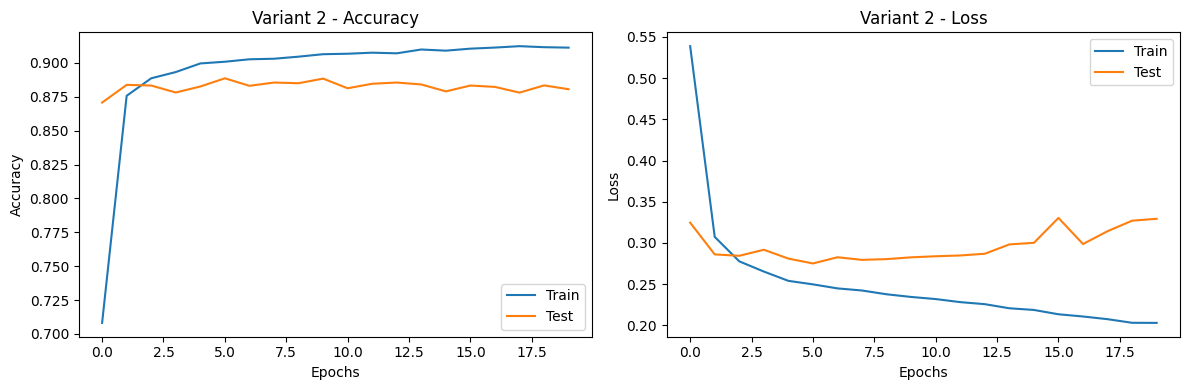
There is no significant difference between batch\_size = 32 and batch\_size = 64, so we chose batch\_size = 25 in order to save running time

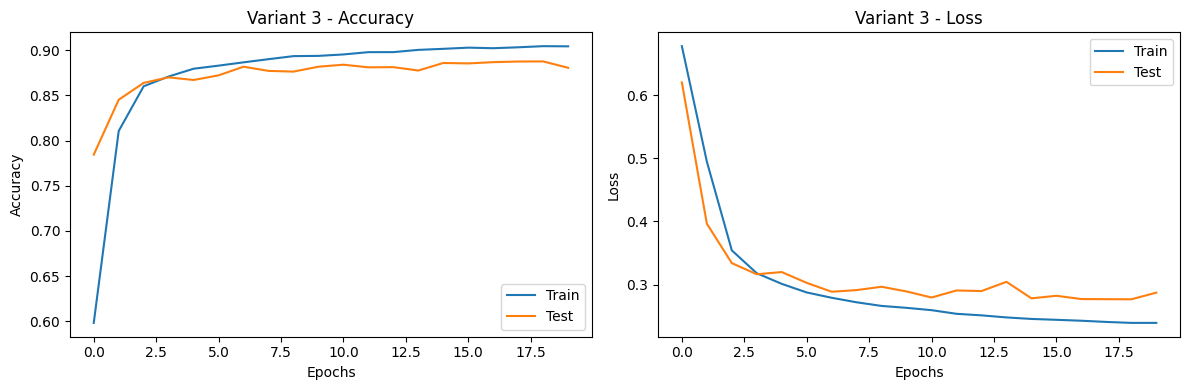
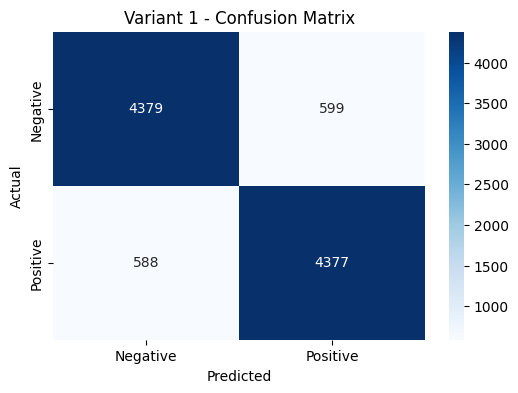
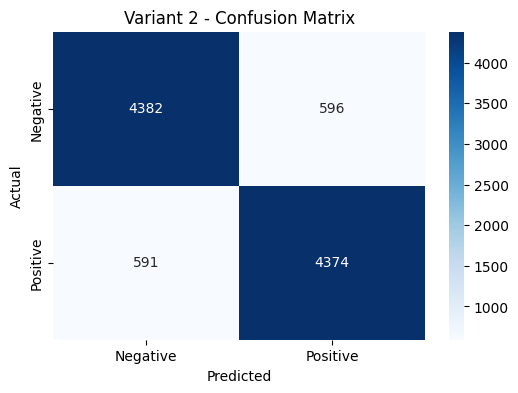


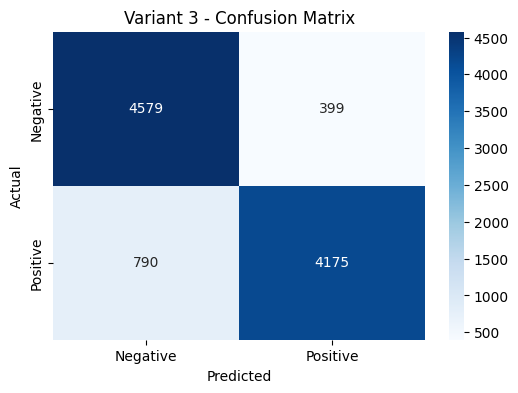
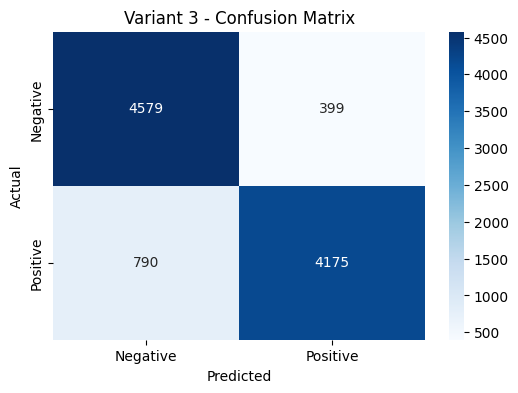
Play 7:

vocab\_size = 3000

epochs = 20

batch\_size = 25

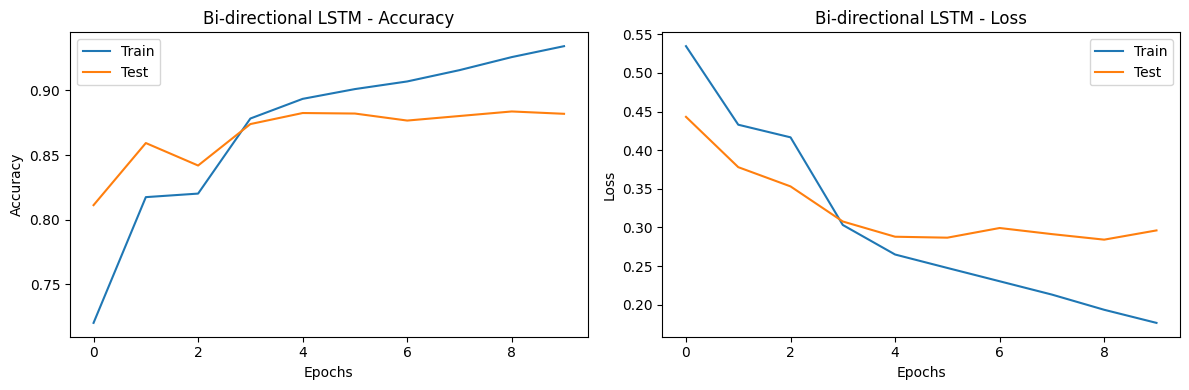


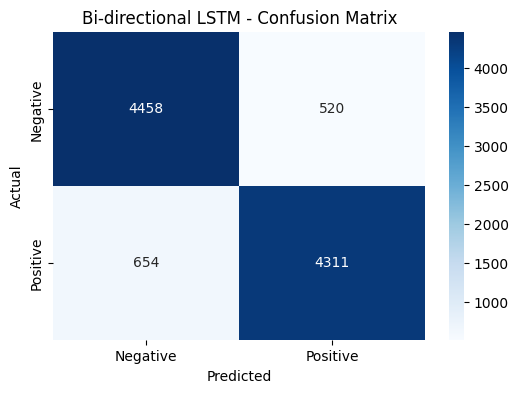


# Training a BiDir LSTM neural network

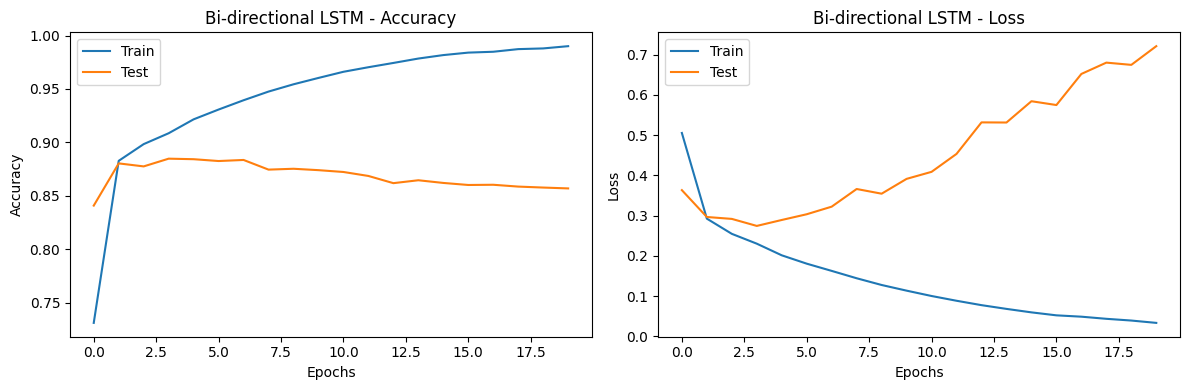
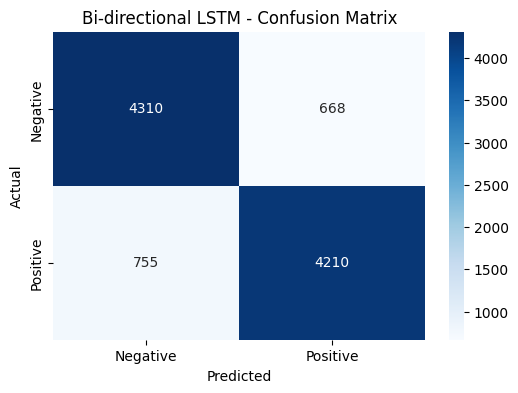
Play 1:

epochs = 10

batch\_size = 32

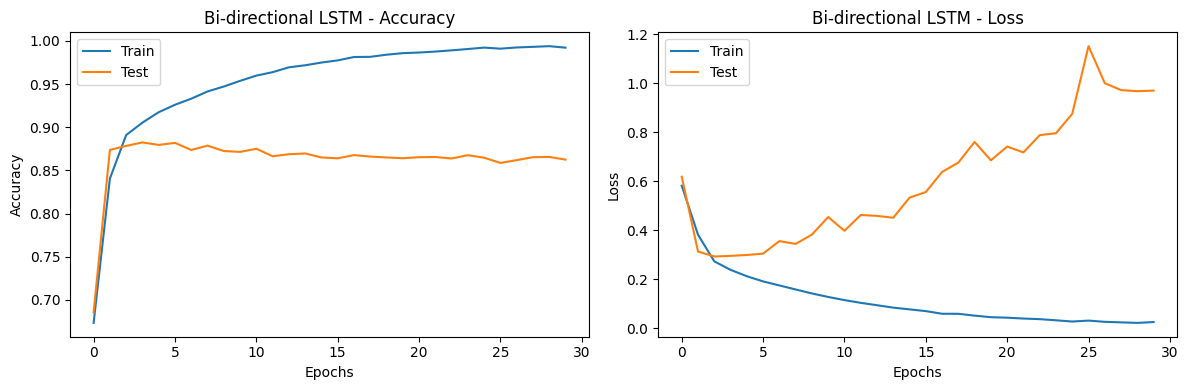
Play 2:

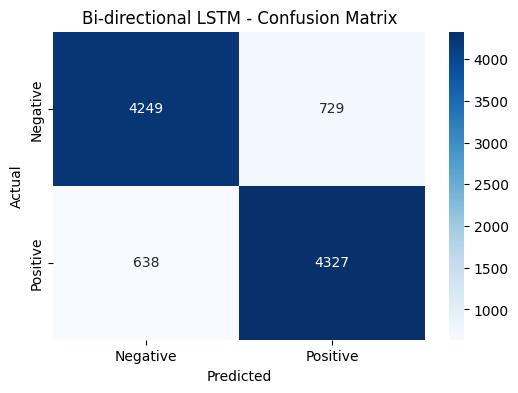
epochs = 20

batch\_size = 32

Play 3:

epochs = 30

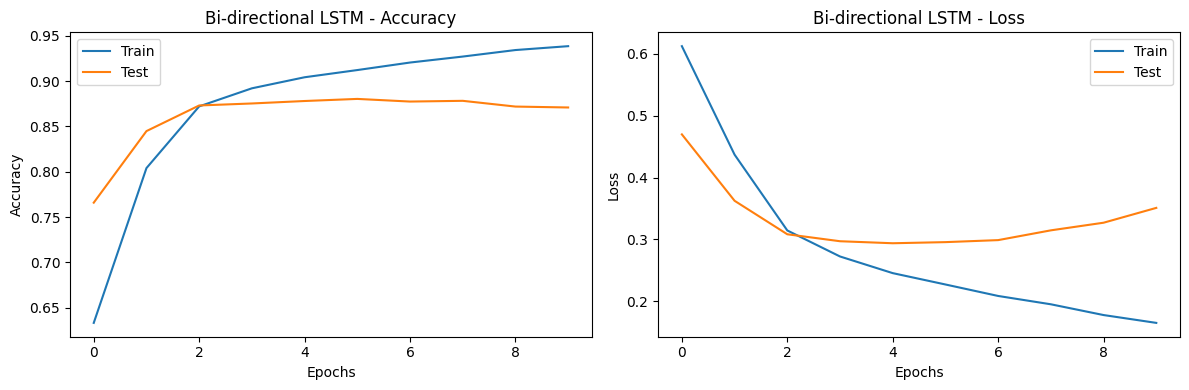
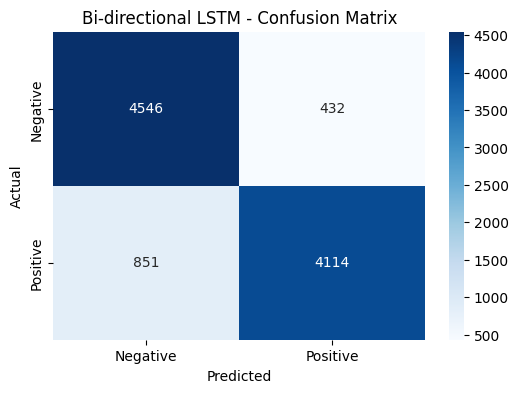
batch\_size = 32



epochs = 10 yields the best results among the options (10, 20, and 30) for sentiment analysis because the loss is the smallest and the positive in the confusion matrix is the biggest so we will continue playing (testing) with epochs = 10

Play 4:

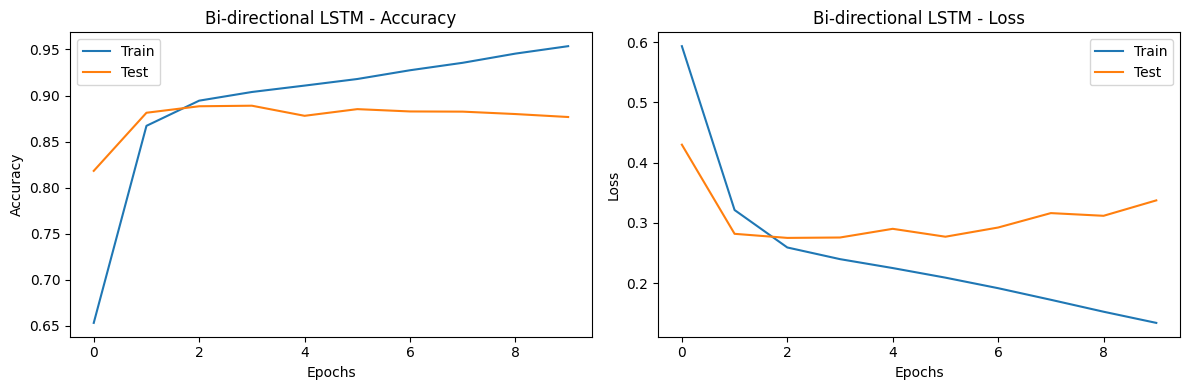
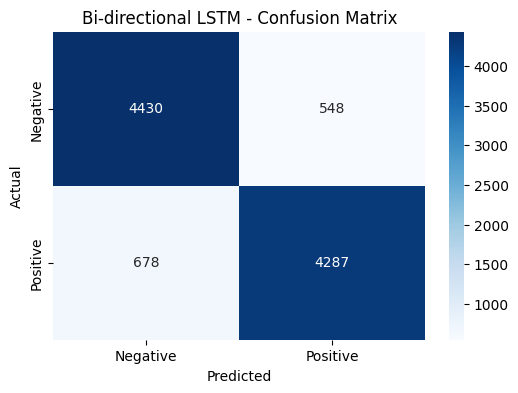
epochs = 10

batch\_size = 64

When batch\_size = 32 we got a lower loss and when batch\_size = 64 we got a higher loss and therefore we chose batch\_size = 25 in order to save even more on the loss and thus maximize the results

Play 5:

epochs = 10

batch\_size = 25