

CSE303 Introducing of Deep Learning PA2

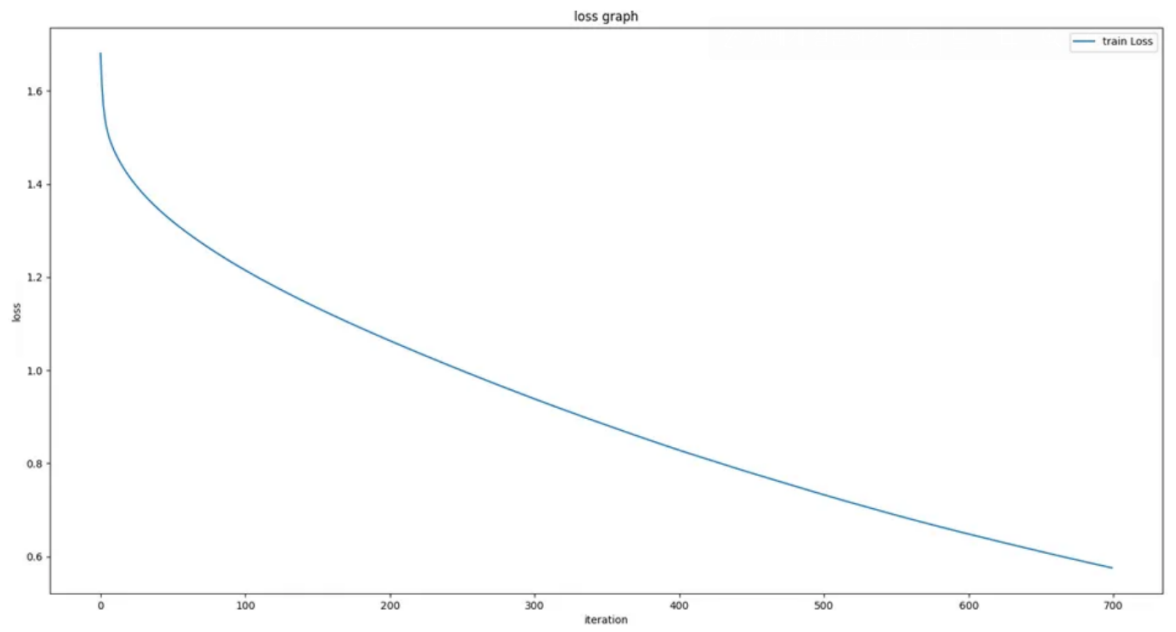
202211167 장지원

1. Result (accuracy, train loss graph, All emojis set for test case)
 2. Describe the results comparison
-

1. Result (accuracy, train loss graph)

(a) RNN + SGD + 50d (800 epoch)

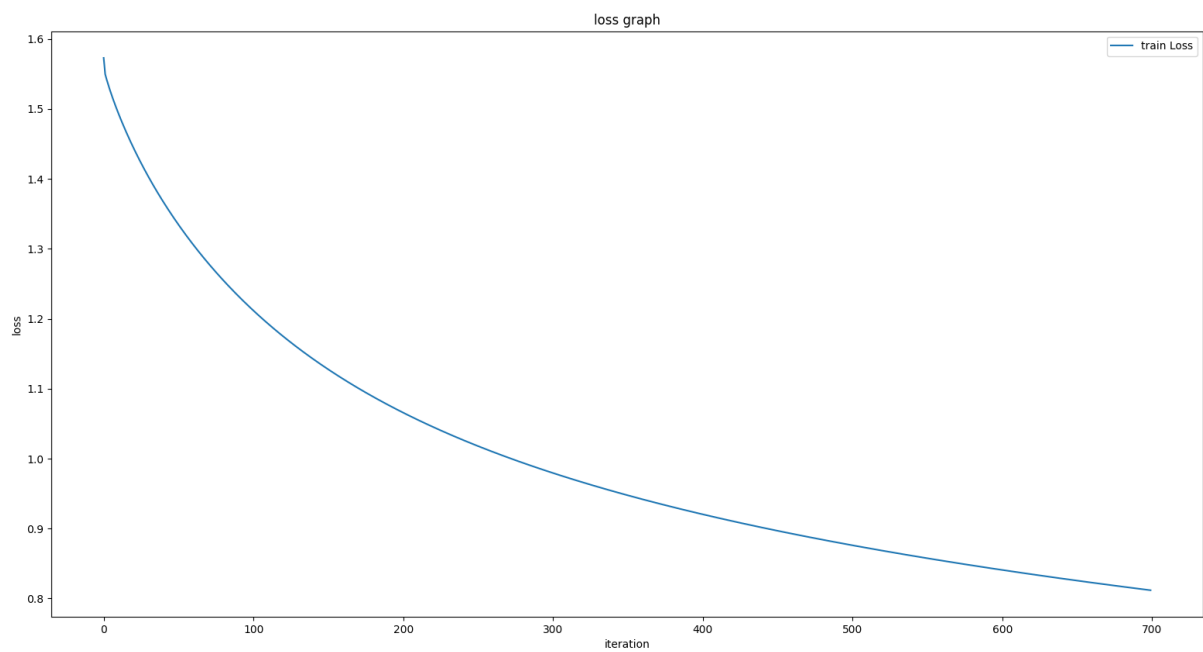
Test Loss: 1.2285836071122365, Test Accuracy: 50.00%



I want to eat 🍷
he did not answer :disappointed:
he got a very nice raise :smile:
she got me a nice present :smile:
ha ha ha it was so funny :smile:
he is a good friend :smile:
I am upset ❤️
We had such a lovely dinner tonight 🍷
where is the food 🍷
Stop making this joke ha ha ha :smile:
where is the ball :disappointed:
work is hard ❤️
This girl is messing with me :smile:
are you serious :disappointed:
Let us go play baseball 🚫
This stupid grader is not working :smile:
work is horrible :disappointed:
Congratulation for having a baby :smile:
stop pissing me off :disappointed:
any suggestions for dinner :disappointed:
I love taking breaks :disappointed:
you brighten my day :smile:
I boiled rice ❤️
she is a bully :smile:
Why are you feeling bad :disappointed:
I am upset ❤️
give me the ball :disappointed:
My grandmother is the love of my life :disappointed:
enjoy your game 🍷
valentine day is near :smile:
I miss you so much :disappointed:
throw the ball 🚫
My life is so boring :smile:
she said yes ❤️
will you be my valentine :disappointed:
he can pitch really well :disappointed:
dance with me ❤️
I am hungry :smile:
See you at the restaurant 🚫
I like to laugh :disappointed:
I will run 🍷
I like your jacket :disappointed:
i miss her ❤️
what is your favorite baseball game 🚫
Good job :smile:
I love you to the stars and back :disappointed:
What you did was awesome :smile:
ha ha ha lol :smile:
I do not want to joke :disappointed:
go away 🚫
yesterday we lost again :disappointed:
family is all I have :disappointed:
you are failing this exercise :disappointed:
Good joke :smile:
You deserve this nice prize :smile:
I did not have breakfast 🍷

(b) LSTM + SGD + 50d (700 epoch)

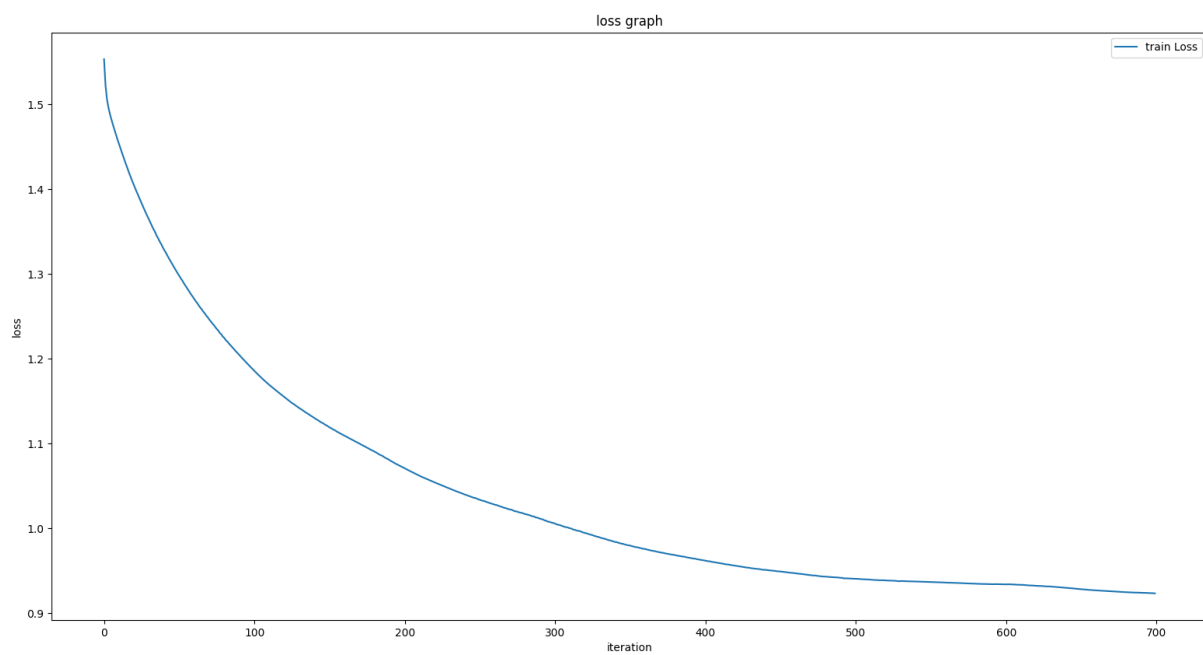
Test Loss: 1.1562799291835033, Test Accuracy: 55.36%



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(c) LSTM + Adam + 50d (700 epoch)

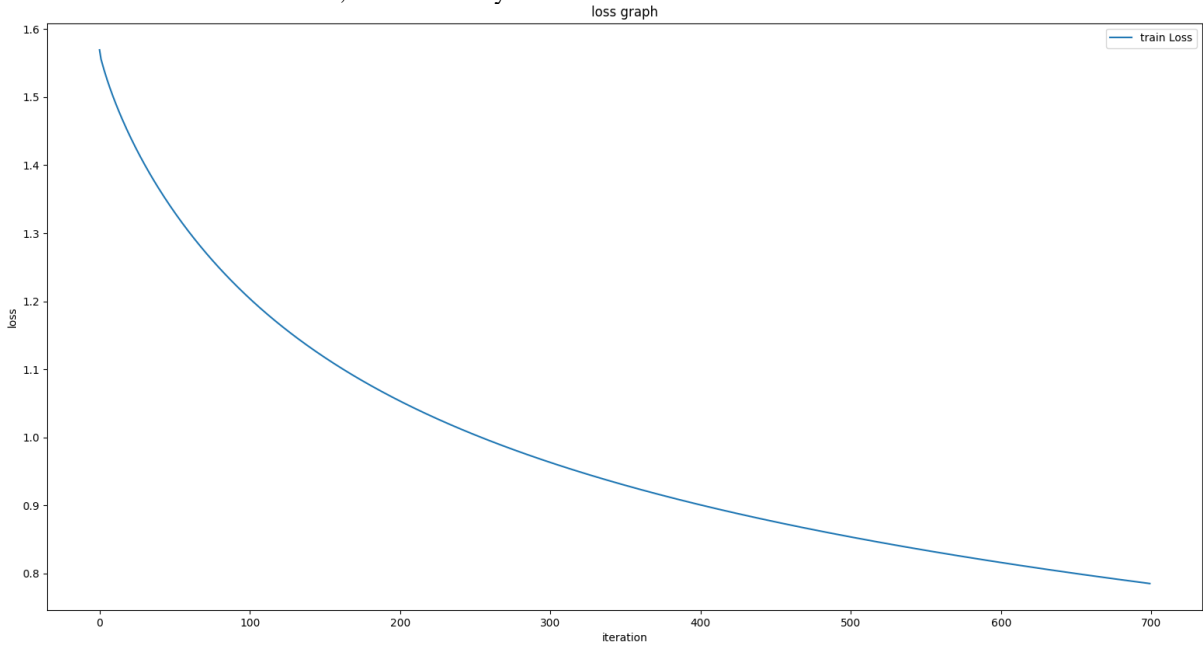
Test Loss: 1.2074795378208287, Test Accuracy: 62.50%



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(d) LSTM + SGD + 100d (700 epoch)

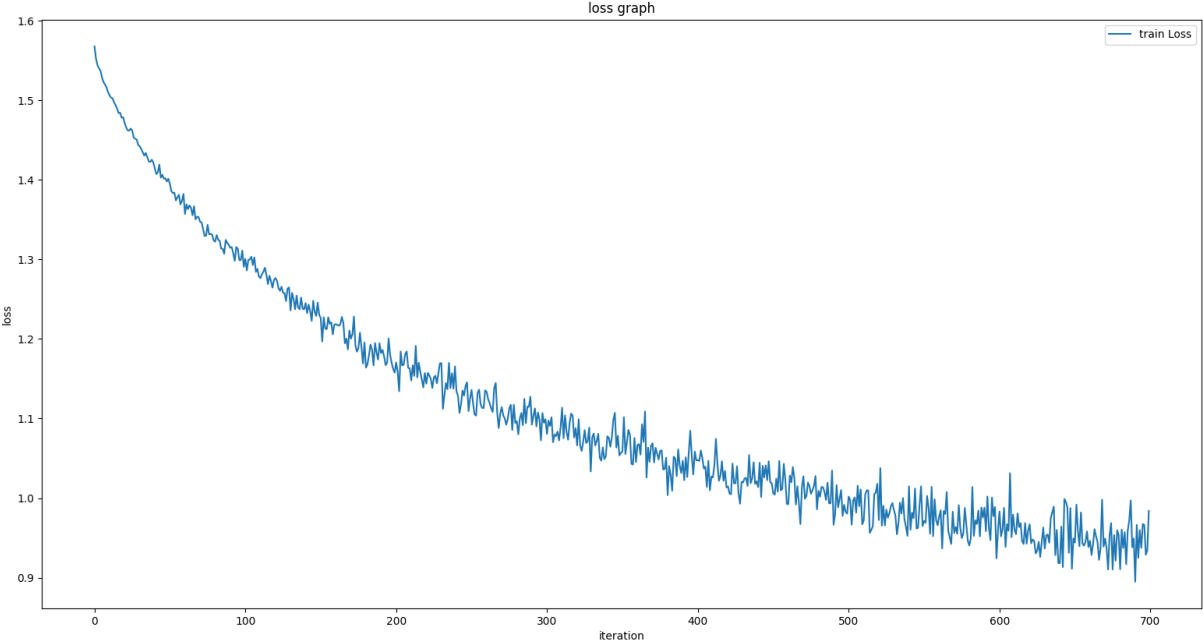
Test Loss: 1.082643276008205, Test Accuracy: 58.93%



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(e) LSTM + SGD + 50d + dropout (700 epoch)

Test Loss: 1.2006120907882258, Test Accuracy: 50.00%



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2. Describe the results comparison

structure

structure	RNN	LSTM
test accuracy	50.00%	55.36%

accuracy 는 LSTM 에서 더 좋게 나왔다. 장기 기억에 대한

optimizer

optimizer	SGD	Adam
test accuracy	55.36%	62.50%

accuracy 는 Adam 에서 더 좋게 나왔다.

length of glove vectors

length of glove vectors	50d	100d
test accuracy	55.36%	58.93%

accuracy 는 100d 에서 더 좋게 나왔다.

Difference between Word2Vec and glove

Word2Vec 과 glove 의 차이를 vector generation 관점에서 살펴보면 다음과 같다.

word embedding	Word2Vec	glove
difference between Word2Vec and glove	인접한 단어사이의 내적 값이 비슷하도록 vector 를 생성해 준다.	단어쌍이 window 내에서 ‘동시 등장’하는 횟수를 미리 저장해 두고, 이를 GT 로 하여 입력 단어와 출력 단어의 내적이 GT 와 가까워지도록 vector 를 생성해 준다.