

Figure 1: ml100k embedding loss with fixed $\alpha = 1.0$

Table 1: Results obtained on ML-100K. Settings with fixed α , increasing α and decreasing α

	MAP@1	MAP@5	MAP@10
$\alpha = 1.0, \beta = 0.1$	0.888	0.865	0.842
Increase α	0.819	0.804	0.775
Decrease α	0.8375	0.822	0.794

Table 2: Best parameters for RecNet_p , RecNet_c and $\text{RecNet}_{c,p}$ when prediction is done on all offers; k denotes the dimension of embeddings, λ the regularization parameter. We also report the number of hidden units per layer.

	ML-100K			ML-1M			NETFLIX			KASANDR		
	RecNet_c	RecNet_p	$\text{RecNet}_{c,p}$	RecNet_c	RecNet_p	$\text{RecNet}_{c,p}$	RecNet_c	RecNet_p	$\text{RecNet}_{c,p}$	RecNet_c	RecNet_p	$\text{RecNet}_{c,p}$
k	15	5	8	8	1	1	14	2	4	18	1	18
λ	0.001	0.001	0.001	0.005	0.0001	0.005	0.05	0.05	0.05	0.001	0.01	0.01
# units	32	16	16	64	32	32	64	16	32	64	64	32

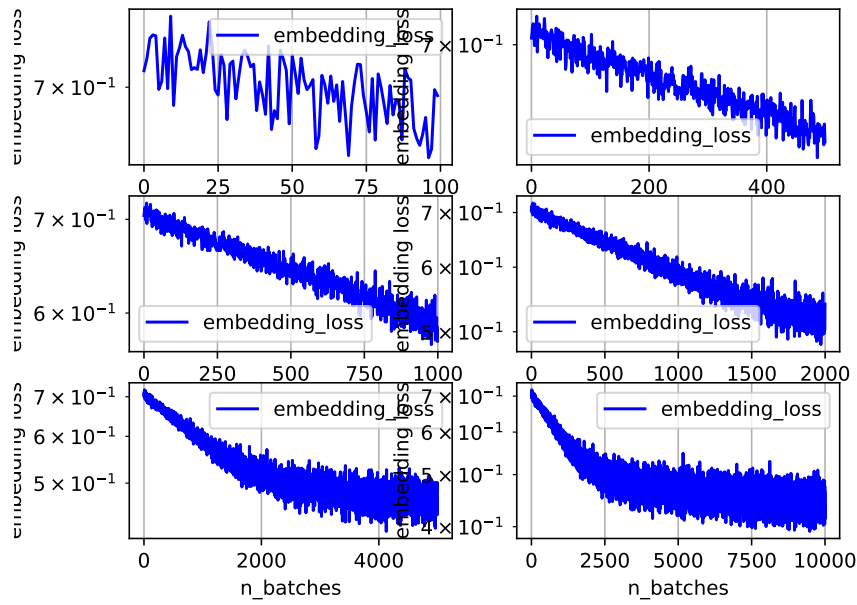


Figure 2: ml100k embedding loss with increasing alpha. embedding loss does not seem to have converged

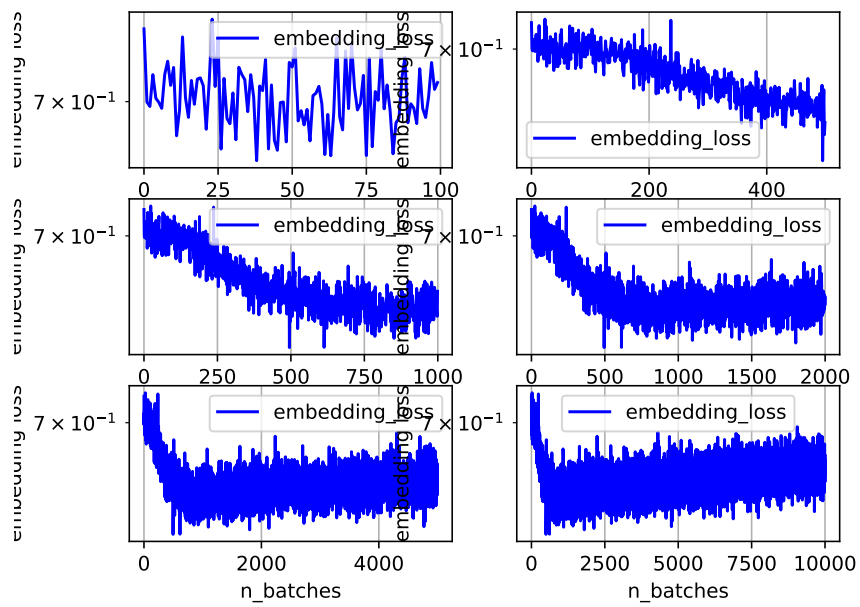


Figure 3: ml100k embedding loss with decreasing alpha.

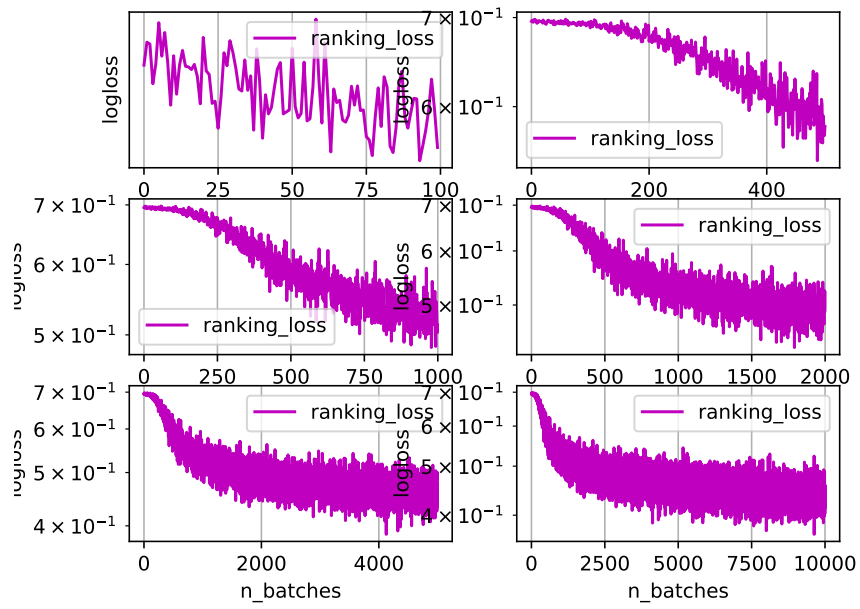


Figure 4: ml100k ranking loss with fixed $\alpha = 1.0$

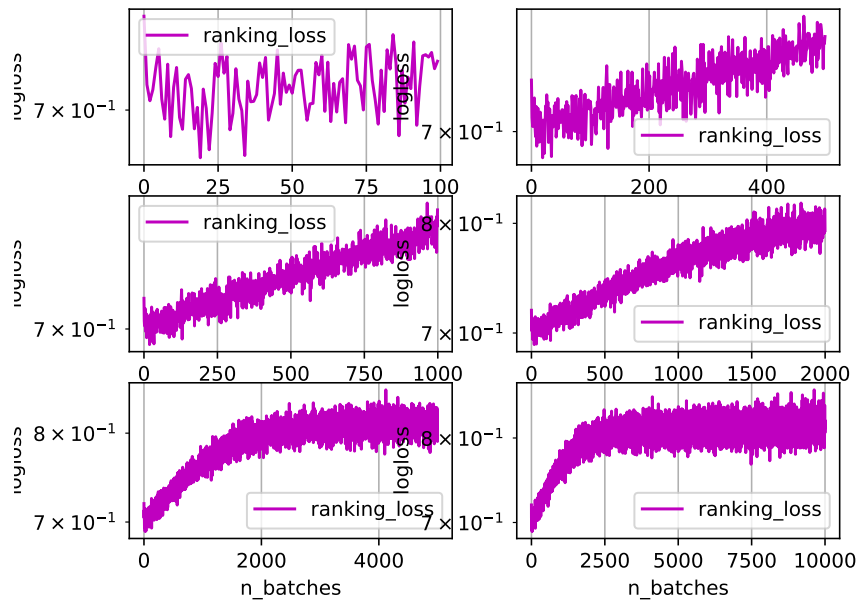


Figure 5: ml100k ranking loss with increasing alpha. ranking loss does not seem to have converged

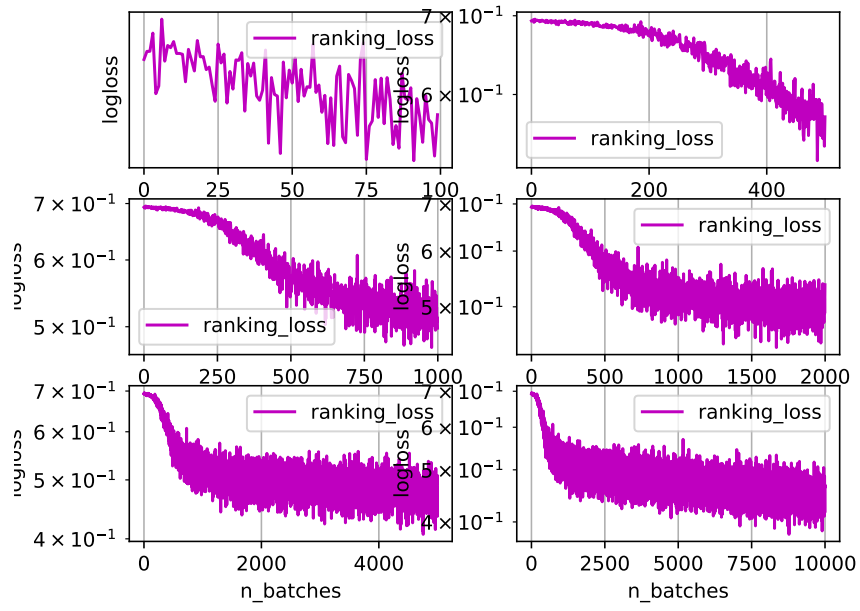


Figure 6: ml100k ranking loss with decreasing alpha.

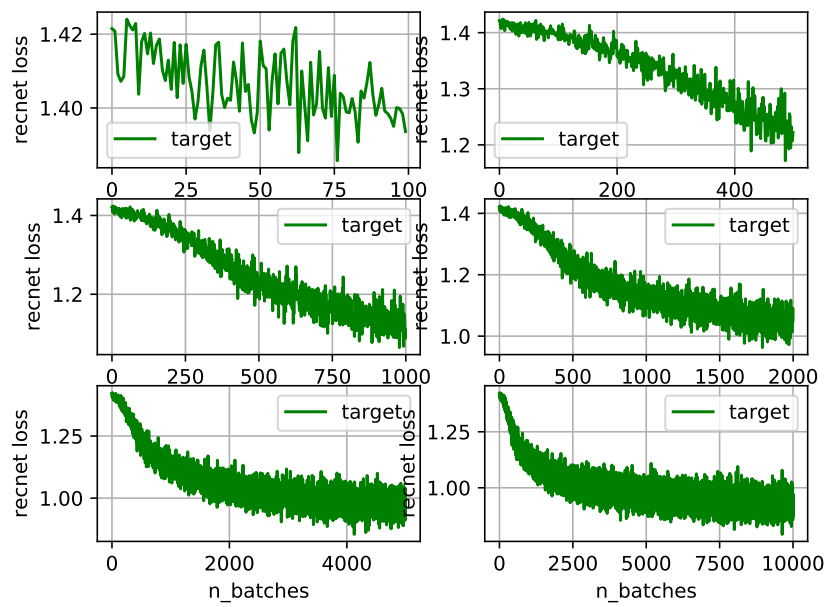


Figure 7: ml100k target loss with fixed $\alpha = 1.0$

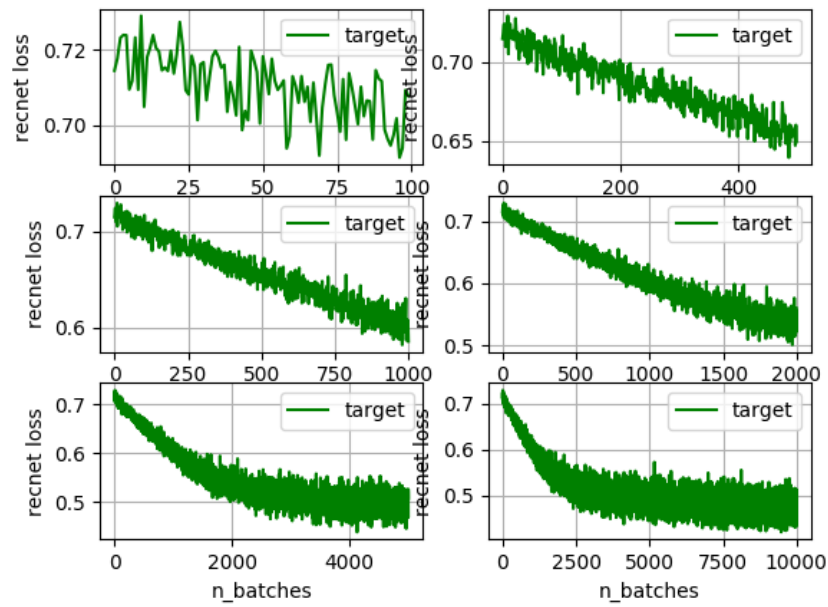


Figure 8: ml100k target loss with increasing alpha. target loss does not seem to have converged

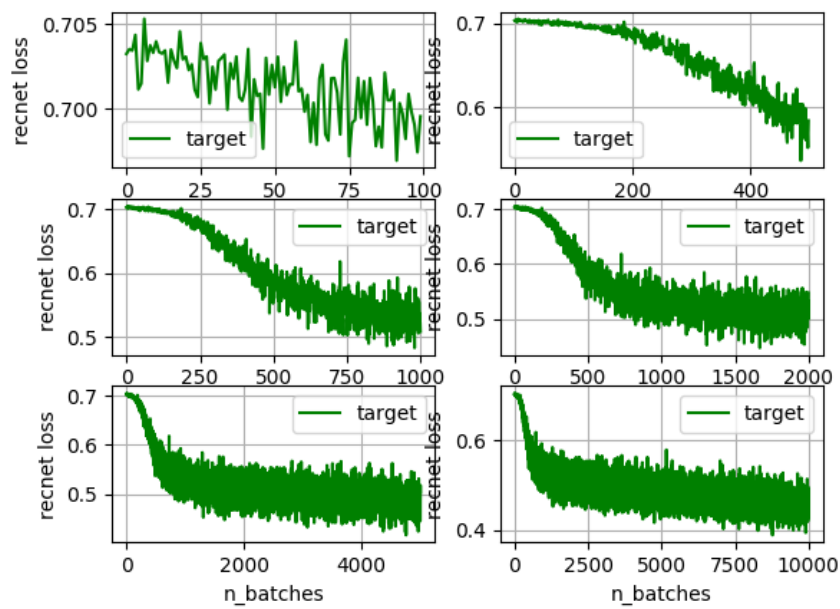


Figure 9: ml100k target loss with decreasing alpha.