

Table 1: Performance Comparison of SRecsys: Standard Training vs. CPFT. This table contrasts the performance of various sequential recommendation models, where 'SR' denotes models trained via standard methods, and 'SR_{CPFT}' signifies models fine-tuned with our proposed loss combined with Cross-Entropy (CE) loss. The highest performance results are highlighted in bold. Improvements exceeding 7%, 5%, and 3% are denoted in red, orange, and blue, respectively. “*” denotes that the improvements are significant at the level of 0.01 with paired *t*-test. R@10_{Avg-Improv}=4.391%,N@10_{Avg-Improv}=4.460%,R@50_{Avg-Improv}=5.501%,and N@50_{Avg-Improv}=5.183%

	Scientific				Pantry				Instruments				Arts				Office			
	R@10	N@10	R@50	N@50	R@10	N@10	R@50	N@50	R@10	N@10	R@50	N@50	R@10	N@10	R@50	N@50	R@10	N@10	R@50	N@50
SASRec	0.1048	0.0536	0.2056	0.0756	0.0499	0.0221	0.1367	0.0408	0.1166	0.0691	0.2124	0.0898	0.1117	0.0621	0.2038	0.0821	0.1177	0.0757	0.1811	0.0895
SASRec _{CPFT}	0.1131*	0.0551*	0.2198*	0.0809*	0.0525*	0.0232*	0.1454*	0.0422*	0.1231*	0.0704*	0.2269*	0.0929*	0.1158*	0.0663*	0.2131*	0.0861*	0.1192	0.0774*	0.1831*	0.0928
S ³ -Rec\$	0.0713	0.0419	0.1631	0.0601	0.0428	0.0195	0.1107	0.0397	0.1013	0.0446	0.1845	0.0783	0.0829	0.0485	0.1866	0.0680	0.1024	0.0750	0.1588	0.0861
S ³ -Rec _{CPFT}	0.0724*	0.0434*	0.1702*	0.0623*	0.0441*	0.0203*	0.1143	0.0426*	0.1131*	0.458	0.1901*	0.0812	0.0899*	0.0461	0.1932*	0.0673	0.1049*	0.0745	0.1641*	0.0860
FDSA	0.0859	0.0583	0.1636	0.0750	0.0379	0.0206	0.1113	0.0363	0.1085	0.0817	0.1925	0.0998	0.1008	0.0723	0.1783	0.0892	0.1123	0.0875	0.1661	0.0992
FDSA _{CPFT}	0.0903*	0.0599*	0.1727*	0.0798*	0.0413*	0.0224*	0.1251*	0.0401*	0.1113*	0.0831*	0.1987*	0.1031	0.1041	0.0732*	0.1841*	0.0921*	0.1141	0.0881	0.1693*	0.1013*
UnisRec	0.1275	0.0654	0.2413	0.0901	0.0746	0.0331	0.1886	0.0571	0.1299	0.0729	0.2431	0.0975	0.1168	0.0653	0.2218	0.0881	0.1190	0.0755	0.1933	0.0917
UnisRec _{CPFT}	0.1313*	0.0711*	0.2538*	0.0934*	0.0779	0.0342*	0.1917*	0.0599*	0.1354*	0.0774*	0.2501*	0.1010*	0.1194	0.0693*	0.2309*	0.0921*	0.1252*	0.0794*	0.2007*	0.0959*

Table 2: Comparative Performance Analysis of CPFT with and without Validation Data: Averaged Results from Ten Iterations Using SASRec as the Base Model

	Scientific				Pantry				Instruments				Arts				Office			
	R@10	N@10	R@50	N@50	R@10	N@10	R@50	N@50	R@10	N@10	R@50	N@50	R@10	N@10	R@50	N@50	R@10	N@10	R@50	N@50
CPFT-w/o-valid	0.1129	0.0546	0.2213	0.0811	0.0519	0.0221	0.1431	0.0412	0.1221	0.0713	0.2224	0.0931	0.1163	0.0653	0.2112	0.0845	0.1187	0.0763	0.1836	0.0912
CPFT-wth-valid	0.1131	0.0551	0.2198	0.0809	0.0525	0.0232	0.1454	0.0422	0.1231	0.0704	0.2269	0.0929	0.1158	0.0663	0.2131	0.0861	0.1192	0.0774	0.1831	0.0928

Table 3: Performance Comparison of SASRec: Fine-Tuning with Versus Without Including Validation Data

	Scientific				Pantry				Instruments				Arts				Office			
	R@10	N@10	R@50	N@50	R@10	N@10	R@50	N@50	R@10	N@10	R@50	N@50	R@10	N@10	R@50	N@50	R@10	N@10	R@50	N@50
SASRec-w/o-valid	0.1048	0.0536	0.2056	0.0756	0.0499	0.0221	0.1367	0.0408	0.1166	0.0691	0.2124	0.0898	0.1117	0.0621	0.2038	0.0821	0.1177	0.0757	0.1811	0.0895
SASRec-w/th-valid	0.1010	0.0526	0.1958	0.0733	0.0432	0.0201	0.1281	0.0399	0.1153	0.0647	0.2162	0.0910	0.1071	0.0607	0.2048	0.0814	0.1085	0.0723	0.1756	0.0887

Table 4: Performance Comparison of DCRec versus CPFT. In alignment with the experimental setup described in the DCRec paper, which sampled 100 negative items for each positive item in the test set, based on item popularity. “*” denotes that the improvements are significant at the level of 0.01 with paired *t*-test. Due to time constraints, we were unable to perform multiple runs on the Arts and Office datasets. Training: 114,300 sec, Fine-tuning: 11,600 sec for Arts; Training: 164,300 sec, Fine-tuning: 17,200 sec for Office prohibited us from averaging results across several iterations.

	Scientific				Pantry				Instruments				Arts				Office			
	R@10	N@10	R@50	N@50	R@10	N@10	R@50	N@50	R@10	N@10	R@50	N@50	R@10	N@10	R@50	N@50	R@10	N@10	R@50	N@50
DCRec	0.3282	0.1945	0.7309	0.2818	0.1856	0.0964	0.5916	0.1828	0.2998	0.1836	0.7191	0.2732	0.4522	0.2816	0.8041	0.3588	0.2945	0.6581	0.1994	0.2767
DCRec _{CPFT}	0.3313*	0.1984*	0.7412*	0.2871	0.1898*	0.0997*	0.6001	0.1853*	0.3112*	0.1912*	0.7231*	0.2801	0.4552	0.2821	0.8118	0.3631	0.2991	0.6602	0.2019	0.2813