

Supporting Information

SSCpred: Single-Sequence-Based Protein Contact Prediction Using Deep Fully Convolutional Network

Ming-Cai Chen¹, Yang Li^{1,2}, Yi-Heng Zhu¹, Fang Ge¹, and Dong-Jun Yu^{1, *}

¹ School of Computer Science and Engineering, Nanjing University of Science and Technology, 200
Xiaolingwei, Nanjing, 210094, P. R. China

² Department of Computational Medicine and Bioinformatics, University of Michigan, 100
Washtenaw, Ann Arbor, MI 48109-2218, USA

* Addresses correspondence to Dong-Jun Yu at njyudj@njust.edu.cn

Tel: +86-025-84316190

Fax: +86-025-84315960

Supporting Figures

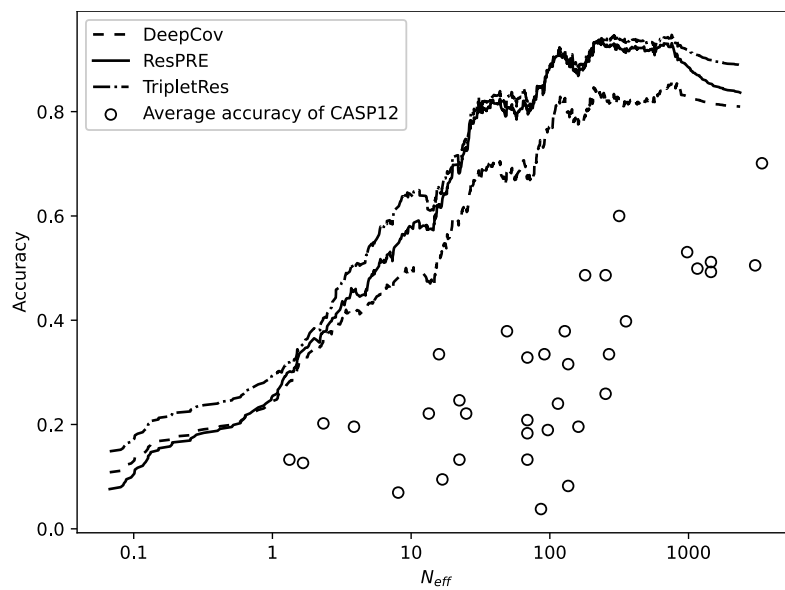


Fig. S1. Accuracy of top- $L/5$ long-range prediction versus alignment depth (logarithmic scale), by ResPRE (solid line), DeepCov (dashed line), TripletRes (dash-dot line) on our test dataset, three lines are smoothed for clear observation, and the average accuracy by the target for all predictors for the FM targets(dot) in CASP12.

Supporting Tables

Table S1: Summary of SSCpred, ResPRE, DeepCov and TripletRes contact-map prediction on CASP11&12 targets.

Target	SSCpred		ResPRE		DeepCov		TripletRes	
	Top-L/5	Top-L/2	Top-L/5	Top-L/2	Top-L/5	Top-L/2	Top-L/5	Top-L/2
T0761	0.093	0.084	0.047	0.037	0.116	0.065	0.279	0.168
T0763	0.308	0.215	0.000	0.015	0.077	0.108	0.231	0.185
T0767	0.327	0.292	0.473	0.350	0.255	0.219	0.491	0.314
T0771	0.361	0.281	0.278	0.146	0.083	0.146	0.194	0.157
T0777	0.174	0.104	0.145	0.133	0.087	0.104	0.174	0.127
T0781	0.182	0.115	0.065	0.058	0.052	0.068	0.117	0.089
T0785	0.217	0.250	0.044	0.071	0.217	0.214	0.000	0.018
T0789	0.093	0.074	0.870	0.741	0.815	0.563	0.870	0.704
T0790	0.038	0.053	0.925	0.782	0.887	0.669	0.943	0.797
T0791	0.310	0.167	0.931	0.826	0.879	0.667	0.966	0.833
T0794	0.419	0.286	0.946	0.909	0.807	0.550	0.978	0.900
T0806	0.269	0.125	0.981	0.938	0.654	0.500	0.981	0.898
T0808	0.300	0.220	0.988	0.900	0.988	0.835	0.900	0.870
T0810	0.456	0.337	0.941	0.899	0.824	0.681	0.941	0.929
T0814	0.125	0.131	1.000	0.940	1.000	0.834	1.000	0.940
T0820	0.111	0.045	0.000	0.015	0.037	0.030	0.000	0.000
T0824	0.364	0.241	0.636	0.482	0.864	0.648	0.864	0.852
T0827	0.188	0.128	0.870	0.645	0.435	0.308	0.913	0.610
T0831	0.099	0.080	0.479	0.330	0.578	0.375	0.268	0.165
T0832	0.024	0.038	0.000	0.019	0.119	0.086	0.000	0.000
T0834	0.000	0.019	0.048	0.058	0.071	0.039	0.000	0.010
T0836	0.195	0.128	0.781	0.500	0.488	0.314	0.854	0.618
T0837	0.200	0.180	0.200	0.148	0.200	0.148	0.320	0.197
T0855	0.042	0.017	0.292	0.150	0.458	0.250	0.250	0.133
T0859	0.652	0.491	0.000	0.070	0.087	0.035	0.348	0.246

T0860	0.750	0.559	0.536	0.294	0.036	0.029	0.000	0.015
T0861	0.175	0.231	1.000	0.974	0.952	0.827	1.000	0.981
T0862	0.421	0.255	0.263	0.255	0.368	0.340	0.579	0.383
T0863	0.017	0.010	0.103	0.072	0.026	0.028	0.051	0.021
T0864	0.020	0.049	0.940	0.797	0.860	0.748	0.960	0.846
T0865	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
T0866	0.565	0.448	1.000	0.948	0.913	0.793	0.957	0.931
T0867	0.095	0.115	0.048	0.096	0.286	0.250	0.000	0.096
T0868	0.000	0.052	0.375	0.259	0.625	0.500	0.083	0.086
T0869	0.191	0.135	0.286	0.231	0.191	0.154	0.190	0.173
T0870	0.160	0.210	0.280	0.242	0.200	0.081	0.200	0.226
T0871	0.047	0.031	1.000	0.969	0.969	0.838	1.000	0.981
T0872	0.444	0.273	0.556	0.409	1.000	0.773	0.889	0.795
T0873	0.409	0.212	1.000	0.944	0.968	0.766	0.978	0.922
T0878	0.464	0.244	0.696	0.541	0.377	0.267	0.681	0.564
T0879	0.250	0.291	1.000	0.964	0.909	0.791	1.000	0.955
T0880	0.564	0.412	0.103	0.072	0.103	0.072	0.000	0.062
T0886	0.087	0.122	0.957	0.904	0.891	0.791	0.957	0.878
T0889	0.833	0.583	1.000	0.975	0.938	0.867	1.000	0.975
T0891	0.435	0.357	0.957	0.911	0.957	0.929	1.000	0.964
T0892	0.590	0.320	0.692	0.619	0.692	0.474	0.692	0.608
T0893	0.449	0.364	0.837	0.769	0.918	0.810	0.898	0.860
T0896	0.100	0.080	0.033	0.022	0.044	0.036	0.011	0.045
T0897	0.453	0.214	0.132	0.122	0.038	0.038	0.094	0.084
T0898	0.364	0.210	0.273	0.161	0.152	0.148	0.121	0.136
T0900	0.762	0.784	0.286	0.216	0.143	0.196	0.048	0.059
T0902	0.200	0.167	0.900	0.860	0.800	0.687	0.933	0.807
T0903	0.314	0.241	0.843	0.707	1.000	0.879	0.914	0.879
T0904	0.159	0.147	0.048	0.090	0.095	0.071	0.127	0.083

T0911	0.012	0.025	0.939	0.902	0.756	0.598	0.927	0.887
T0912	0.717	0.457	1.000	0.957	1.000	0.903	1.000	0.947
T0918	0.043	0.040	0.814	0.783	0.786	0.726	0.814	0.811
T0920	0.759	0.630	0.982	0.948	0.944	0.830	0.981	0.959
T0921	0.464	0.580	0.750	0.551	0.929	0.638	0.500	0.464
T0922	0.267	0.243	0.867	0.703	0.933	0.703	0.800	0.784
T0928	0.754	0.374	0.319	0.292	0.391	0.322	0.188	0.304
T0941	0.044	0.035	0.029	0.029	0.015	0.035	0.014	0.018
T0942	0.269	0.175	0.910	0.758	0.577	0.469	0.936	0.789
T0943	0.186	0.153	0.980	0.914	0.961	0.710	0.961	0.867
T0944	0.059	0.110	0.922	0.882	0.882	0.772	1.000	0.913
T0945	0.040	0.048	0.987	0.899	0.560	0.399	0.973	0.883
T0947	0.457	0.284	1.000	0.909	1.000	0.818	1.000	0.920
