TABLE I: Performance comparison of transformer models on all the aspects using CLAA and baseline. Here, P = precision, R = recall, F1 = F1-score, STD = standard deviation over F1-score.

Model	Aspects	CLAA						Baseline (without contrastive learning)					
		P	R	F1	STD	MCC	AUC	P	R	F1	STD	MCC	AUC
BERT	Performance	0.977	0.975	**0.976**	0.007	0.834	0.923	0.963	0.962	0.962	0.008	0.735	0.863
	Usability	0.859	0.856	**0.856**	0.018	0.672	0.837	0.799	0.795	0.795	0.025	0.532	0.766
	Security	0.988	0.976	**0.980**	0.022	0.789	0.903	0.986	0.974	0.978	0.024	0.773	0.894
	Community	0.969	0.979	0.972	0.004	0.184	0.554	0.976	0.981	0.976	0.005	0.331	0.592
	Compatibility	0.973	0.972	0.970	0.007	0.271	0.603	0.973	0.981	0.975	0.010	0.299	0.587
	Portability	0.998	0.998	**0.998**	0.002	0.938	0.977	0.991	0.990	0.990	0.001	0.693	0.840
	Documentation	0.997	0.997	**0.997**	0.008	0.972	0.997	0.964	0.964	0.964	0.002	0.654	0.818
	Bug	0.996	0.996	**0.996**	0.006	0.948	0.975	0.974	0.974	0.974	0.003	0.664	0.810
	Legal	0.998	0.998	**0.998**	0.002	0.921	0.969	0.996	0.995	0.995	0.002	0.788	0.889
	OnlySentiment	0.995	0.995	**0.995**	0.010	0.962	0.980	0.946	0.948	0.947	0.003	0.612	0.784
	General Features	0.982	0.982	**0.982**	0.025	0.961	0.979	0.812	0.808	0.808	0.008	0.594	0.792
RoBERTa	Performance	0.991	0.990	**0.990**	0.029	0.935	0.976	0.966	0.965	0.965	0.006	0.761	0.875
	Usability	0.949	0.948	**0.948**	0.027	0.882	0.943	0.804	0.795	0.797	0.014	0.544	0.778
	Security	0.965	0.967	0.964	0.021	0.479	0.749	0.983	0.985	0.983	0.021	0.757	0.866
	Community	0.995	0.995	**0.995**	0.002	0.879	0.919	0.976	0.981	0.976	0.003	0.352	0.624
	Compatibility	0.959	0.979	0.969	0.001	0.000	0.500	0.964	0.980	0.971	0.002	0.074	0.523
	Portability	0.997	0.997	**0.997**	0.006	0.902	0.963	0.992	0.992	0.992	0.002	0.746	0.883
	Documentation	0.978	0.977	**0.978**	0.003	0.789	0.896	0.960	0.961	0.960	0.007	0.616	0.794
	Bug	0.991	0.990	**0.990**	0.013	0.886	0.952	0.962	0.980	0.970	0.007	0.549	0.712
	Legal	0.997	0.996	**0.996**	0.000	0.852	0.936	0.996	0.995	0.995	0.003	0.784	0.869
	OnlySentiment	0.987	0.986	**0.986**	0.009	0.906	0.950	0.951	0.952	0.951	0.006	0.647	0.801
	General Features	0.942	0.941	**0.941**	0.021	0.874	0.930	0.814	0.812	0.812	0.012	0.601	0.798
BERT Overflow	Performance	0.902	0.916	**0.909**	0.012	0.172	0.563	0.882	0.923	0.898	0.010	0.149	0.545
	Usability	0.737	0.739	0.738	0.037	0.410	0.700	0.747	0.742	0.742	0.035	0.412	0.707
	Security	0.929	0.964	0.946	0.020	0.000	0.500	0.930	0.964	0.947	0.021	0.000	0.500
	Community	0.959	0.979	0.969	0.000	0.000	0.500	0.959	0.979	0.969	0.000	0.000	0.500
	Compatibility	0.959	0.979	0.969	0.000	0.000	0.500	0.960	0.980	0.970	0.000	0.000	0.500
	Portability	0.969	0.985	0.977	0.000	0.000	0.500	0.969	0.985	0.977	0.000	0.000	0.500
	Documentation	0.915	0.944	**0.929**	0.008	0.167	0.577	0.908	0.944	0.924	0.007	0.120	0.540
	Bug	0.918	0.958	0.938	0.000	0.000	0.500	0.919	0.959	0.938	0.000	0.000	0.500
	Legal	0.978	0.989	0.983	0.000	0.000	0.500	0.978	0.989	0.983	0.000	0.000	0.500
	OnlySentiment	0.917	0.931	**0.922**	0.009	0.400	0.669	0.917	0.927	0.920	0.007	0.402	0.670
	General Features	0.732	0.740	**0.736**	0.040	0.407	0.707	0.718	0.716	0.716	0.036	0.388	0.684
XLNet	Performance	0.963	0.963	0.963	0.011	0.738	0.862	0.966	0.966	0.966	0.010	0.759	0.868
	Usability	0.794	0.785	**0.787**	0.027	0.521	0.766	0.794	0.784	0.785	0.027	0.518	0.764
	Security	0.982	0.973	0.975	0.018	0.710	0.864	0.986	0.976	0.979	0.016	0.774	0.893
	Community	0.972	0.980	0.974	0.004	0.252	0.575	0.972	0.980	0.974	0.004	0.269	0.591
	Compatibility	0.961	0.974	0.967	0.005	0.028	0.514	0.960	0.980	0.972	0.004	0.107	0.538
	Portability	0.978	0.984	**0.981**	0.006	0.279	0.641	0.962	0.980	0.970	0.002	0.049	0.512
	Documentation	0.959	0.955	0.956	0.012	0.601	0.804	0.962	0.961	0.961	0.008	0.632	0.813
	Bug	0.969	0.968	0.968	0.010	0.603	0.790	0.974	0.974	0.974	0.007	0.667	0.814
	Legal	0.990	0.992	0.990	0.004	0.507	0.709	0.995	0.995	0.995	0.002	0.753	0.849
	OnlySentiment	0.966	0.966	**0.965**	0.010	0.754	0.866	0.948	0.951	0.948	0.007	0.624	0.780
	General Features	0.873	0.871	**0.868**	0.026	0.722	0.847	0.798	0.797	0.795	0.035	0.565	0.775
ALBERT	Performance	0.984	0.983	**0.984**	0.008	0.887	0.938	0.927	0.926	0.925	0.010	0.843	0.919
	Usability	0.932	0.932	**0.932**	0.020	0.843	0.920	0.783	0.779	0.779	0.030	0.496	0.748
	Security	0.986	0.977	**0.979**	0.019	0.762	0.874	0.981	0.975	0.975	0.018	0.681	0.821
	Community	0.990	0.990	**0.989**	0.005	0.735	0.832	0.962	0.980	0.970	0.007	0.049	0.512
	Compatibility	0.962	0.980	**0.970**	0.002	0.032	0.505	0.959	0.979	0.969	0.002	0.000	0.500
	Portability	0.998	0.997	**0.997**	0.002	0.915	0.956	0.981	0.985	0.983	0.002	0.375	0.667
	Documentation	0.982	0.983	**0.982**	0.007	0.826	0.886	0.950	0.955	0.948	0.012	0.482	0.685
	Bug	0.983	0.983	**0.982**	0.006	0.779	0.875	0.966	0.965	0.964	0.010	0.557	0.739
	Legal	0.978	0.989	0.983	0.000	0.000	0.500	0.983	0.990	0.986	0.000	0.526	0.709
	OnlySentiment	0.974	0.975	**0.974**	0.009	0.812	0.878	0.947	0.951	0.948	0.007	0.620	0.774
	General Features	0.927	0.926	**0.925**	0.015	0.843	0.919	0.798	0.789	0.789	0.033	0.563	0.782
ELECTRA	Performance	0.860	0.924	0.891	0.015	0.054	0.528	0.940	0.951	0.943	0.032	0.571	0.774
	Usability	0.955	0.954	**0.954**	0.007	0.896	0.953	0.804	0.792	0.794	0.035	0.541	0.777
	Security	0.989	0.979	**0.982**	0.023	0.825	0.922	0.983	0.972	0.975	0.025	0.724	0.861
	Community	0.961	0.979	0.969	0.002	0.033	0.506	0.968	0.980	0.973	0.005	0.188	0.553
	Compatibility	0.960	0.979	0.970	0.002	0.031	0.510	0.962	0.979	0.970	0.003	0.032	0.505
	Portability	0.988	0.986	**0.986**	0.006	0.590	0.838	0.983	0.984	0.983	0.007	0.428	0.725
	Documentation	0.985	0.984	**0.984**	0.006	0.853	0.930	0.954	0.959	0.956	0.018	0.562	0.772
	Bug	0.988	0.987	**0.987**	0.006	0.839	0.923	0.974	0.967	0.968	0.016	0.644	0.819
	Legal	0.978	0.989	0.983	0.000	0.000	0.500	0.992	0.993	0.992	0.004	0.621	0.789
	OnlySentiment	0.983	0.982	**0.982**	0.007	0.876	0.942	0.934	0.942	0.937	0.022	0.534	0.753
	General Features	0.957	0.956	**0.956**	0.007	0.907	0.947	0.802	0.800	0.795	0.027	0.567	0.767
T5	Performance	0.924	0.933	**0.919**	0.007	0.393	0.618	0.914	0.929	0.911	0.011	0.320	0.593
	Usability	0.708	0.724	0.696	0.022	0.301	0.623	0.706	0.720	0.701	0.018	0.305	0.632
	Security	0.971	0.969	**0.964**	0.012	0.481	0.664	0.963	0.967	0.958	0.010	0.353	0.596
	Community	0.960	0.980	**0.970**	0.002	0.000	0.500	0.959	0.979	0.969	0.002	0.000	0.500
	Compatibility	0.959	0.979	0.969	0.002	0.000	0.500	0.960	0.980	0.970	0.002	0.000	0.500
	Portability	0.969	0.984	0.977	0.000	0.000	0.500	0.969	0.984	0.977	0.000	0.000	0.500
	Documentation	0.926	0.944	**0.926**	0.007	0.207	0.547	0.924	0.943	0.925	0.006	0.199	0.546
	Bug	0.958	0.963	**0.951**	0.006	0.345	0.579	0.950	0.961	0.946	0.005	0.255	0.553
	Legal	0.978	0.989	0.983	0.000	0.000	0.500	0.978	0.989	0.984	0.001	0.000	0.500
	OnlySentiment	0.919	0.930	**0.910**	0.007	0.324	0.581	0.914	0.929	0.909	0.011	0.302	0.580
	General Features	0.703	0.708	**0.697**	0.031	0.356	0.665	0.696	0.702	0.688	0.029	0.339	0.654