

model_results.xlsx

Model	Train_Ac curacy	Validation_Ac curacy	Test_Ac curacy	Test_F1 _Macro	Test_F1_ Weighted	Test_Precision _Normal	Test_Recal l_Normal	Test_F1 _Normal	Test_Precision _Abnormal	Test_Recall _Abnormal	Test_F1_ Abnormal	CV_Mean	CV_Std	Overfitting _Gap
LR	0.7407	0.7392	0.7460	0.7448	0.7415	0.6167	0.9995	0.7627	0.9994	0.5711	0.7268	0.7388	0.0043	-0.0054
RF	0.9981	0.9953	0.9970	0.9969	0.9970	0.9953	0.9974	0.9963	0.9982	0.9967	0.9975	0.9933	0.0020	0.0011
SVM	0.7407	0.7392	0.7463	0.7450	0.7417	0.6168	1	0.7630	1	0.5711	0.7270	0.7391	0.0043	-0.0056
KNN	1	0.9630	0.9593	0.9576	0.9592	0.9741	0.9251	0.9490	0.9500	0.9830	0.9662	0.9577	0.0035	0.0407
DT	0.9096	0.9018	0.9116	0.9047	0.9094	0.9980	0.7852	0.8789	0.8707	0.9989	0.9304	0.9081	0.0051	-0.0020
GB	0.9776	0.9733	0.9784	0.9776	0.9784	0.9839	0.9628	0.9733	0.9747	0.9892	0.9819	0.9744	0.0042	-0.0008
NB	0.6487	0.6474	0.6463	0.5263	0.5700	0.8107	0.1750	0.2878	0.6305	0.9718	0.7648	0.5393	0.0116	0.0024
XGB	0.9777	0.9748	0.9790	0.9782	0.9790	0.9924	0.9560	0.9739	0.9704	0.9949	0.9825	0.9786	0.0058	-0.0014
BagRF	0.9951	0.9940	0.9951	0.9949	0.9951	0.9948	0.9932	0.9940	0.9953	0.9964	0.9958	0.9907	0.0021	0.0000
LR_S	0.7807	0.7392	0.7460	0.7448	0.7415	0.6167	0.9995	0.7627	0.9994	0.5711	0.7268	0.7692	0.0053	0.0347
RF_S	0.9967	0.9953	0.9961	0.9960	0.9962	0.9922	0.9984	0.9953	0.9989	0.9946	0.9967	0.9934	0.0016	0.0005
SVM_S	0.7808	0.7392	0.7463	0.7450	0.7417	0.6168	1	0.7630	1	0.5711	0.7270	0.7697	0.0054	0.0345
KNN_S	1	0.9643	0.9621	0.9607	0.9621	0.9601	0.9466	0.9533	0.9635	0.9729	0.9681	0.9741	0.0036	0.0379
DT_S	0.8993	0.9097	0.9247	0.9205	0.9238	0.9609	0.8502	0.9022	0.9042	0.9761	0.9388	0.8956	0.0064	-0.0254
GB_S	0.9720	0.9673	0.9705	0.9696	0.9705	0.9506	0.9785	0.9644	0.9849	0.9649	0.9748	0.9799	0.0046	0.0015
NB_S	0.5911	0.6592	0.6588	0.5503	0.5908	0.8340	0.2053	0.3296	0.6392	0.9718	0.7711	0.5321	0.0277	-0.0677
XGB_S	0.9811	0.9792	0.9805	0.9800	0.9806	0.9610	0.9927	0.9766	0.9948	0.9722	0.9834	0.9792	0.0033	0.0005
BagRF_S	0.9872	0.9829	0.9842	0.9837	0.9842	0.9650	0.9974	0.9809	0.9981	0.9750	0.9865	0.9797	0.0031	0.0030
LR_A	0.7829	0.7392	0.7463	0.7450	0.7417	0.6168	1	0.7630	1	0.5711	0.7270	0.7709	0.0060	0.0366
RF_A	0.9909	0.9887	0.9884	0.9881	0.9885	0.9725	1	0.9861	1	0.9805	0.9901	0.9868	0.0017	0.0025
SVM_A	0.7829	0.7392	0.7463	0.7450	0.7417	0.6168	1	0.7630	1	0.5711	0.7270	0.7711	0.0060	0.0366
KNN_A	1	0.9600	0.9557	0.9545	0.9559	0.9255	0.9696	0.9470	0.9783	0.9461	0.9619	0.9704	0.0008	0.0443
DT_A	0.9010	0.9003	0.9099	0.9065	0.9098	0.8970	0.8806	0.8887	0.9186	0.9302	0.9243	0.8933	0.0062	-0.0089
GB_A	0.9725	0.9694	0.9756	0.9749	0.9757	0.9567	0.9848	0.9706	0.9893	0.9693	0.9792	0.9701	0.0053	-0.0031

NB_A	0.5912	0.6551	0.6596	0.5772	0.6114	0.7265	0.2672	0.3907	0.6478	0.9306	0.7638	0.5498	0.0183	-0.0684
XGB_A	0.9689	0.9653	0.9690	0.9682	0.9691	0.9336	0.9948	0.9632	0.9962	0.9512	0.9732	0.9716	0.0110	0.0000
BagRF_A	0.9645	0.9566	0.9617	0.9609	0.9619	0.9143	1	0.9552	1	0.9353	0.9665	0.9630	0.0027	0.0028
LR_SE	0.8001	0.7392	0.7460	0.7448	0.7415	0.6167	0.9995	0.7627	0.9994	0.5711	0.7268	0.7925	0.0038	0.0540
RF_SE	0.9957	0.9741	0.9728	0.9721	0.9729	0.9442	0.9921	0.9676	0.9944	0.9595	0.9766	0.9896	0.0025	0.0228
SVM_SE	0.8001	0.7392	0.7463	0.7450	0.7417	0.6168	1	0.7630	1	0.5711	0.7270	0.7928	0.0040	0.0538
KNN_SE	1	0.9572	0.9521	0.9502	0.9520	0.9522	0.9293	0.9406	0.9520	0.9678	0.9598	0.9953	0.0007	0.0479
DT_SE	0.9089	0.9056	0.9178	0.9136	0.9171	0.9405	0.8528	0.8945	0.9045	0.9627	0.9327	0.9029	0.0046	-0.0089
GB_SE	0.9801	0.9553	0.9596	0.9585	0.9597	0.9241	0.9817	0.9520	0.9868	0.9443	0.9651	0.9794	0.0039	0.0206
NB_SE	0.5965	0.6504	0.6504	0.5343	0.5769	0.8190	0.1849	0.3017	0.6333	0.9718	0.7668	0.5328	0.0277	-0.0539
XGB_SE	0.9865	0.9683	0.9694	0.9686	0.9695	0.9376	0.9911	0.9636	0.9936	0.9544	0.9736	0.9837	0.0031	0.0171
BagRF_SE	0.9831	0.9469	0.9512	0.9503	0.9515	0.8966	0.9953	0.9434	0.9965	0.9208	0.9571	0.9765	0.0022	0.0319
LR_U	0.7803	0.7392	0.7460	0.7448	0.7415	0.6167	0.9995	0.7627	0.9994	0.5711	0.7268	0.7688	0.0081	0.0342
RF_U	0.9964	0.9936	0.9944	0.9942	0.9944	0.9901	0.9963	0.9932	0.9975	0.9931	0.9953	0.9929	0.0021	0.0020
SVM_U	0.7803	0.7392	0.7463	0.7450	0.7417	0.6168	1	0.7630	1	0.5711	0.7270	0.7691	0.0080	0.0340
KNN_U	1	0.9653	0.9617	0.9603	0.9617	0.9572	0.9487	0.9529	0.9648	0.9707	0.9677	0.9629	0.0028	0.0383
DT_U	0.9015	0.9110	0.9251	0.9207	0.9241	0.9687	0.8439	0.9020	0.9010	0.9812	0.9394	0.8988	0.0034	-0.0236
GB_U	0.9806	0.9775	0.9775	0.9769	0.9776	0.9528	0.9942	0.9731	0.9959	0.9660	0.9807	0.9782	0.0027	0.0031
NB_U	0.5791	0.6483	0.6478	0.5292	0.5725	0.8138	0.1786	0.2930	0.6315	0.9718	0.7655	0.5116	0.0137	-0.0688
XGB_U	0.9849	0.9816	0.9835	0.9830	0.9835	0.9717	0.9885	0.9800	0.9919	0.9801	0.9860	0.9805	0.0034	0.0014
BagRF_U	0.9869	0.9827	0.9846	0.9841	0.9846	0.9670	0.9963	0.9814	0.9974	0.9765	0.9868	0.9793	0.0042	0.0023

(Abbreviations: S: SMOTE, A: ADASYN, SE: SMOTEENN, U: UnderSampling)