

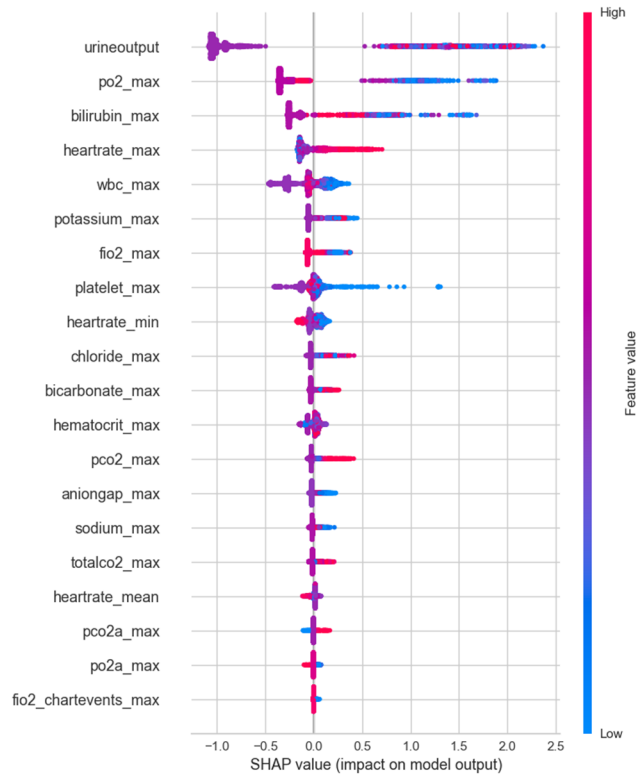
# Early Detection of Late Onset Neonatal Sepsis Using Machine Learning Algorithms

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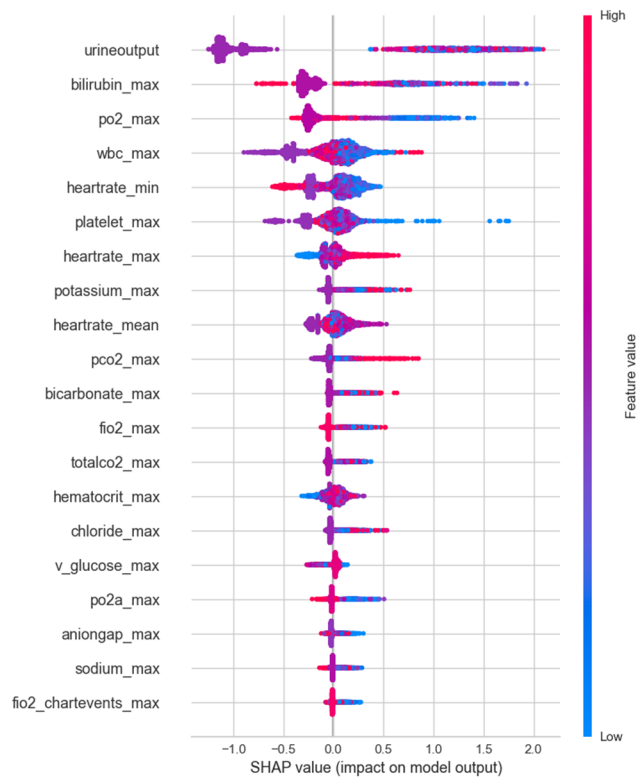
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**Fig. S1** Heatmap for Light Gradient Boosting Machine Classifier without SMOTE



**Fig. S2** Heatmap for Random Forest Classifier with SMOTE

Table S1: Data Analysis without SMOTE Results: Adaptive Boosting (AdaBoost), Light Gradient Boosting Machine (LightGBM), Random Forest (RF), Gradient Boosting (GBC), Extra Trees (ET), Decision Tree (DT), K-Nearest Neighbors (KNN), Quadratic Discriminant Analysis (QDA), Naïve Bayes (NB), Logistic Regression (LR), and Linear Discriminant Analysis (LDA)

Model	TP	FP	FN	TN	Acc.	AUROC	Recall	Prec.	F1	Kappa	MCC
AdaBoost	473	172	182	1523	0.8494	0.9248	0.7221	0.7333	0.7277	0.6236	0.6236
LightGBM	508	202	147	1493	0.8515	0.9245	0.7756	0.7155	0.7443	0.6399	0.6409
RF	521	206	134	1489	0.8553	0.9229	0.7954	0.7166	0.754	0.6519	0.6537
GBC	506	208	149	1487	0.8481	0.9226	0.7725	0.7087	0.7392	0.6323	0.6335
ET	562	289	93	1406	0.8374	0.9167	0.858	0.6604	0.7463	0.6297	0.6414
DT	454	231	201	1464	0.8162	0.9033	0.6931	0.6628	0.6776	0.5491	0.5494
KNN	320	116	335	1579	0.8081	0.9008	0.4885	0.7339	0.5866	0.4681	0.4846
QDA	400	179	255	1516	0.8153	0.8867	0.6107	0.6908	0.6483	0.5237	0.5256
NB	310	123	345	1572	0.8009	0.8822	0.4733	0.7159	0.5699	0.4472	0.4634
LR	520	429	135	1266	0.76	0.8351	0.7939	0.5479	0.6484	0.4753	0.4942
LDA	317	165	338	317	0.786	0.8316	0.484	0.6577	0.5576	0.4207	0.4293

Table S2: Data Analysis with SMOTE Results

Model	TP	FP	FN	TN	Acc.	AUROC	Recall	Prec.	F1	Kappa	MCC
RF	606	298	49	1397	0.8523	0.9238	0.9252	0.6704	0.7774	0.6711	0.6906
AdaBoost	545	265	110	1430	0.8404	0.9236	0.8321	0.6728	0.744	0.63	0.6375
LightGBM	572	261	83	1434	0.8536	0.9221	0.8733	0.6867	0.7688	0.6639	0.6742
GBC	595	301	60	1394	0.8464	0.9218	0.9084	0.6641	0.7672	0.6567	0.6746
ET	540	258	115	1437	0.8413	0.9155	0.8244	0.6767	0.7433	0.63	0.6365
DT	605	361	50	1334	0.8251	0.9112	0.9237	0.6263	0.7465	0.6203	0.6476
KNN	485	225	170	1470	0.8319	0.9014	0.7405	0.6831	0.7106	0.5925	0.5934
QDA	459	206	196	1489	0.8289	0.8856	0.7008	0.6902	0.6955	0.5765	0.5766
NB	356	141	299	1554	0.8128	0.8791	0.5435	0.7163	0.6181	0.4971	0.5054
LR	515	427	140	1268	0.7587	0.8348	0.7863	0.5467	0.645	0.471	0.4889
LDA	518	447	137	1248	0.7515	0.8342	0.7908	0.5368	0.6395	0.4603	0.4804

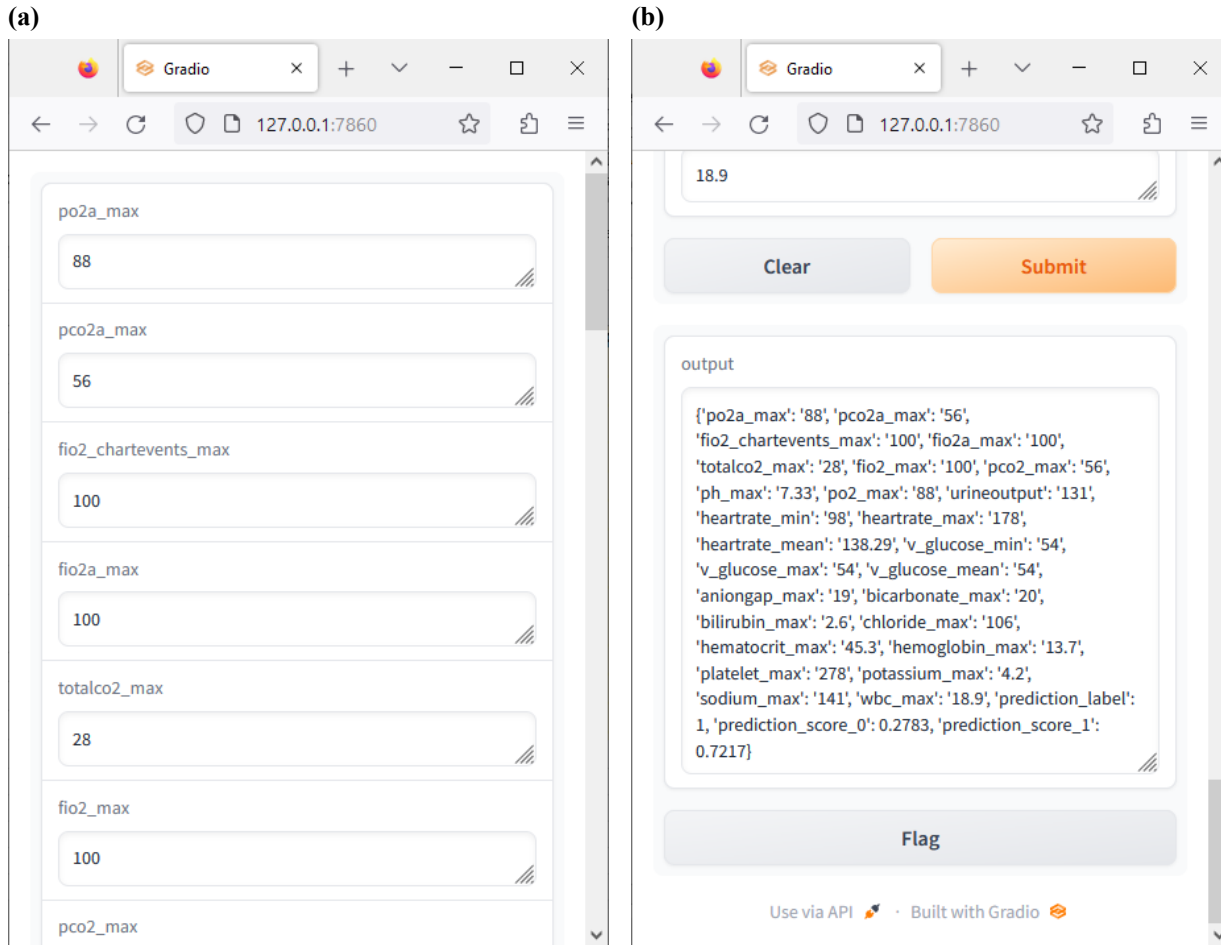


Fig. S3 Web Interface (a) Input; (b) Output;