

	INPUTS										OUTPUT											
ID	Acceleration	Uterine cont	Light deceler	Severe decel	Prolonged	cPercentage	cHigh freq.	Histogram m	Histogram m	Histogram m	MODEL for:	PATHOLOGIC STATE										
id_1	0.010398	0	0	0	0	59	0	182	176	163	169	-0.94232433										
id_2	0.014842	0.002782	0	0	0	50	0	171	147	147	148	-1										
id_3	0	0.002227	0	0	0	54	0	148	137	138	139	-1										
id_4	0.004347	0.004347	0.004347	0	0	35	0	195	127	133	131	-1										
id_5	0.002787	0.002787	0.006271	0	0.000696	66	0	210	142	108	147	-0.255635096										
id_6	0	0.005361	0.00268	0	0	51	2	146	138	134	137	-1										
id_7	0.002564	0	0	0	0	29	0	146	131	130	132	-0.889294727										
id_8	0	0.005217	0	0	0	38	18	143	131	129	131	-0.929579095										
id_9	0	0.007936	0.007936	0	0	28	0	137	114	112	116	-0.729961743										
id_10	0.006	0.002	0.01	0	0	16	0	171	136	130	136	-0.985543587										
id_11	0.001697	0.001697	0	0	0	50	12	168	153	155	156	-0.99430573										
id_12	0	0	0	0	0	51	15	130	123	121	123	-0.843811108										
id_13	0.000834	0	0	0	0	52	18	176	142	141	143	-1										
id_14	0.005862	0.0067	0	0	0	42	0	171	148	148	149	-1										
id_15	0.008904	0.003561	0.00089	0	0	52	0	172	144	141	144	-1										
id_16	0.009868	0.008223	0	0	0	58	0	205	179	170	174	-0.979265061										
id_17	0.006956	0.006956	0	0	0	30	0	156	127	134	134	-0.974001195										
id_18	0	0.006144	0	0	0	39	38	166	154	155	156	-0.909337504										
id_19	0	0.007001	0	0	0	54	40	151	144	143	145	-1										
id_20	0	0	0	0	0	53	62	165	161	159	161	-0.40516856										
id_21	0.001763	0.004409	0.005291	0	0	63	1	228	142	121	143	-0.908229563										
id_22	0	0.00139	0	0	0	81	17	174	152	150	151	-0.228159087										
id_23	0.001432	0.00573	0.00573	0	0	28	6	151	143	129	136	-1										
id_24	0.003336	0.001668	0.000834	0	0	46	11	189	125	123	126	-0.925080087										
id_25	0.007744	0.00484	0.000968	0	0	30	0	198	132	132	135	-1										
id_26	0.000834	0.00417	0	0	0	54	9	145	126	128	129	-1										
id_27	0.00161	0.00322	0.000805	0	0	65	0	161	138	130	141	-1										
id_28	0.00606	0.007272	0	0	0	27	0	195	125	124	126	-0.974637449										
id_29	0.012743	0.006706	0.00067	0	0	53	0	169	135	133	140	-1										
id_30	0.004699	0.008458	0.000939	0	0	57	1	171	160	152	156	-1										
id_31	0	0.000898	0	0	0	50	17	167	153	154	155	-0.993025703										
id_32	0.00417	0.00417	0.003336	0	0.000834	21	0	174	143	125	135	-0.821876941										
id_33	0	0	0	0	0	61	7	164	144	143	144	-1										
id_34	0.017391	0.003726	0	0	0	48	0	170	160	150	155	-1										
id_35	0	0.006416	0.005499	0	0.002749	66	0	144	105	85	110	1										
id_36	0.000834	0.010008	0.002502	0	0	37	0	191	129	130	129	-1										
id_37	0.00504	0.006048	0.00504	0	0	56	0	166	135	133	138	-1										
id_38	0.00805	0.004472	0	0	0	46	0	155	133	133	134	-0.968751921										
id_39	0.000923	0.00277	0.000923	0	0	26	0	150	120	118	119	-0.85648373										
id_40	0.005263	0.005263	0.000877	0	0	41	6	179	155	153	154	-0.997668672										
id_41	0.000956	0.004784	0	0	0	59	25	163	142	141	142	-1										
id_42	0.012562	0.002512	0.002512	0	0	31	0	199	133	154	163	-1										
id_43	0	0	0	0	0	38	0	161	144	141	142	-0.950627085										
id_44	0.008978	0.001122	0	0	0	48	0	192	163	167	166	-0.905734507										
id_45	0.003314	0.003314	0.003314	0	0	24	0	157	136	134	136	-1										
id_46	0	0.004065	0	0	0	38	0	162	119	118	120	-0.840880738										
id_47	0	0.001642	0	0	0	84	34	170	144	143	145	0.043734973										
id_48	0	0.004341	0	0	0	60	22	153	146	144	146	-1										
id_49	0.006504	0.004878	0	0	0	26	0	166	131	133	132	-0.993010484										
id_50	0.001455	0.005822	0	0	0	39	12	141	126	126	127	-0.902409667										
id_51	0.008223	0.003289	0.001644	0	0	60	0	180	146	144	151	-1										
id_52	0.003565	0.005347	0	0	0	37	0	181	157	157	159	-0.984866931										
id_53	0	0.006369	0	0	0	65	33	164	150	149	151	-1										
id_54	0.004095	0.002457	0.003276	0	0	56	0	169	124	123	125	-0.942945663										
id_55	0	0.003883	0	0	0	25	0	136	125	122	124	-0.928126601										
id_56	0	0.007974	0.001594	0	0	44	0	144	123	123	121	-0.928047015										
id_57	0	0.003773	0	0	0	46	53	152	141	138	141	-0.756953267										
id_58	0.00335	0.004187	0	0	0	44	6	170	155	155	156	-0.987644045										
id_59	0.011235	0.004815	0.001605	0	0	25	0	178	143	145	147	-1										
...	...	...	...	...	...	...	...	...	...	...	...	...										

DESCRIPTION
This model represents a non-linear classification model which was obtained in an automated way from observational data by self-organizing inductive modeling using our <b>Insights™</b> knowledge mining app. <a href="http://www.knowledgeminer.eu/about.html">see also: http://www.knowledgeminer.eu/about.html</a>
The dataset consists of measurements of fetal heart rate (FHR) and uterine contraction (UC) features on cardiotocograms classified by expert obstetricians. 2126 fetal cardiotocograms (CTGs) were automatically processed and the respective diagnostic features measured. The CTGs were also classified by three expert obstetricians and a consensus classification label assigned to each of them. Classification in this example is with respect to a fetal state (N, S, P).
<a href="http://archive.ics.uci.edu/ml/datasets/Cardiotocography#">http://archive.ics.uci.edu/ml/datasets/Cardiotocography#</a>
INPUT VARIABLES USED BY THE MODEL
Accelerations (SisPorto)
Uterine contractions (SisPorto)
Light decelerations
Severe decelerations
Prolonged decelerations
Percentage of time with abnormal short term variability (SisPorto)
Percentage of time with abnormal long term variability (SisPorto)
High freq. of the histogram
Histogram mode
Histogram mean
Histogram median

	RESULTS				
	Most Likely	Min	Max	Si Total	
S1	0	0	0	0	0.089
S1,6	0.08	0.078	0.082	0	0
S1,7	0.009	0.009	0.009	0	0
S5	0.227	0.218	0.234	0.388	
S5,6	0.017	0.016	0.018	0	
S5,7	0.088	0.088	0.089	0	
S5,10	0.056	0.056	0.057	0	
S6	0.017	0.016	0.018	0.171	
S6,7	0.013	0.011	0.014	0	
S6,10	0.044	0.04	0.052	0	
S7	0.078	0.075	0.081	0.303	
S7,10	0.115	0.109	0.123	0	
S10	0.21	0.208	0.214	0.425	
S	0.955				

Chosen Parameters:  
N 2,000  
Alpha 3  
Beta 4

LEGEND:  
S1: Accelerations (SisPorto)  
S5: Prolonged decelerations  
S6: Percentage of time with abnormal short term variability (SisPorto)  
S7: Percentage of time with abnormal long term variability (SisPorto)  
S10: Histogram mean

NOTE:  
The value of Sensitivities S2, S3, S4, S8, S9, and S11 is below 0.001 and therefore is not listed by Ockham.

