

Flight classification

----- Logistic Regression -----

Acurácia...: 75.0000
Precision...: 50.8869
Recall.....: 52.0833
F1-Score....: 49.3633

	precision	recall	f1-score	support
Exomalopsis_analis	0.09	0.25	0.13	4
Others	0.93	0.79	0.85	48
accuracy			0.75	52
macro avg	0.51	0.52	0.49	52
weighted avg	0.86	0.75	0.80	52

Predicted	Exomalopsis_analis	Others	All
True			
Exomalopsis_analis	1	3	4
Others	10	38	48
All	11	41	52

----- Support Vector Machine -----

Acurácia...: 90.3846
Precision...: 67.8723
Recall.....: 71.8750
F1-Score....: 69.5906

	precision	recall	f1-score	support
Exomalopsis_analis	0.40	0.50	0.44	4
Others	0.96	0.94	0.95	48
accuracy			0.90	52
macro avg	0.68	0.72	0.70	52
weighted avg	0.91	0.90	0.91	52

Predicted	Exomalopsis_analis	Others	All
True			
Exomalopsis_analis	2	2	4
Others	3	45	48
All	5	47	52

----- Random Forest -----

Acurácia...: 88.4615
Precision...: 59.3750
Recall.....: 59.3750
F1-Score....: 59.3750

	precision	recall	f1-score	support
Exomalopsis_analis	0.25	0.25	0.25	4
Others	0.94	0.94	0.94	48
accuracy			0.88	52
macro avg	0.59	0.59	0.59	52
weighted avg	0.88	0.88	0.88	52

Predicted	Exomalopsis_analis	Others	All
True			
Exomalopsis_analis	1	3	4
Others	3	45	48
All	4	48	52

----- Decision Tree -----

Acurácia...: 63.4615
Precision...: 52.2329
Recall.....: 57.2917
F1-Score....: 46.9673

	precision	recall	f1-score	support
Exomalopsis_analis	0.11	0.50	0.17	4
Others	0.94	0.65	0.77	48
accuracy			0.63	52
macro avg	0.52	0.57	0.47	52
weighted avg	0.88	0.63	0.72	52

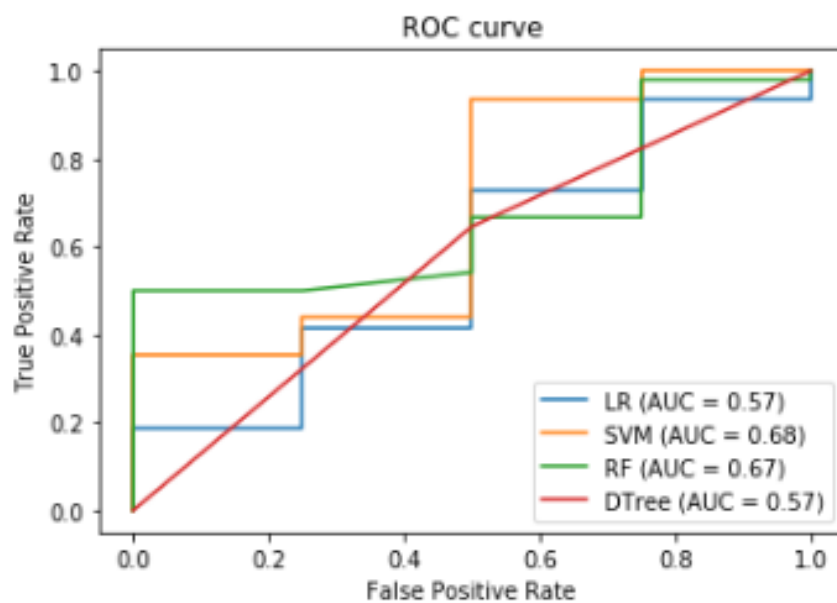
Predicted	Exomalopsis_analis	Others	All
True			
Exomalopsis_analis	2	2	4
Others	17	31	48
All	19	33	52

----- Ensemble -----

Acurácia...: 90.3846
Precision...: 63.6054
Recall.....: 60.4167
F1-Score....: 61.7084

	precision	recall	f1-score	support
Exomalopsis_analis	0.33	0.25	0.29	4
Others	0.94	0.96	0.95	48
accuracy			0.90	52
macro avg	0.64	0.60	0.62	52
weighted avg	0.89	0.90	0.90	52

Predicted	Exomalopsis_analis	Others	All
True			
Exomalopsis_analis	1	3	4
Others	2	46	48
All	3	49	52



Sonication classification

----- Logistic Regression -----

Acurácia...: 88.0734
Precision...: 85.8627
Recall.....: 83.5021
F1-Score....: 84.5592

	precision	recall	f1-score	support
Exomalopsis_analis	0.81	0.73	0.77	30
Others	0.90	0.94	0.92	79
accuracy			0.88	109
macro avg	0.86	0.84	0.85	109
weighted avg	0.88	0.88	0.88	109

Predicted	Exomalopsis_analis	Others	All
True			
Exomalopsis_analis	22	8	30
Others	5	74	79
All	27	82	109

----- Support Vector Machine -----

Acurácia...: 91.7431
Precision...: 89.9784
Recall.....: 89.1350
F1-Score....: 89.5427

	precision	recall	f1-score	support
Exomalopsis_analis	0.86	0.83	0.85	30
Others	0.94	0.95	0.94	79
accuracy			0.92	109
macro avg	0.90	0.89	0.90	109
weighted avg	0.92	0.92	0.92	109

Predicted	Exomalopsis_analis	Others	All
True			
Exomalopsis_analis	25	5	30
Others	4	75	79
All	29	80	109

----- Random Forest -----

Acurácia...: 85.3211
 Precision...: 84.0125
 Recall.....: 77.4684
 F1-Score....: 79.7961

	precision	recall	f1-score	support
Exomalopsis_analis	0.82	0.60	0.69	30
Others	0.86	0.95	0.90	79
accuracy			0.85	109
macro avg	0.84	0.77	0.80	109
weighted avg	0.85	0.85	0.85	109

Predicted	Exomalopsis_analis	Others	All
True			
Exomalopsis_analis	18	12	30
Others	4	75	79
All	22	87	109

----- Decision Tree -----

Acurácia...: 73.3945
 Precision...: 65.6218
 Recall.....: 63.0380
 F1-Score....: 63.8536

	precision	recall	f1-score	support
Exomalopsis_analis	0.52	0.40	0.45	30
Others	0.79	0.86	0.82	79
accuracy			0.73	109
macro avg	0.66	0.63	0.64	109
weighted avg	0.72	0.73	0.72	109

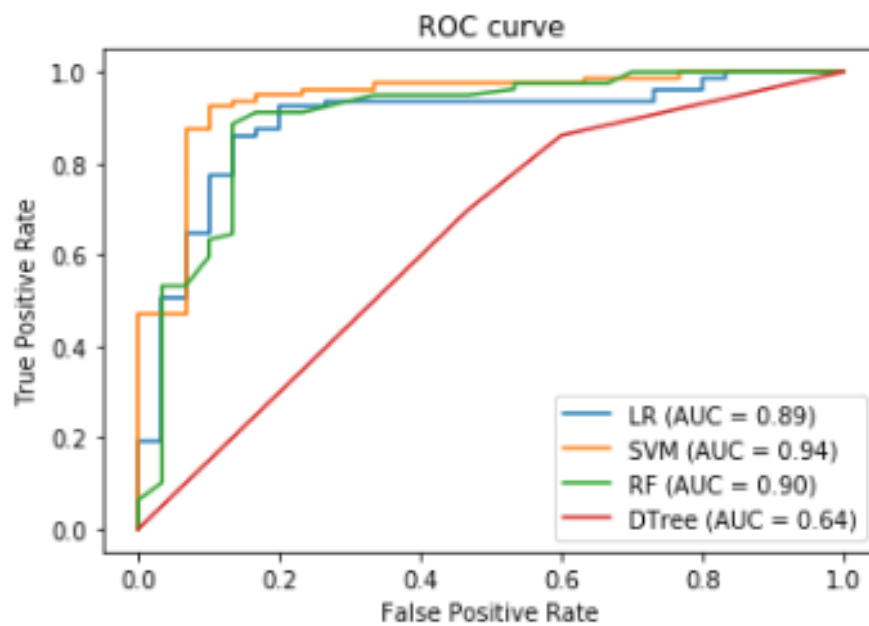
Predicted	Exomalopsis_analis	Others	All
True			
Exomalopsis_analis	12	18	30
Others	11	68	79
All	23	86	109

----- Ensemble -----

Acurácia...: 87.1560
 Precision...: 84.9629
 Recall.....: 81.8354
 F1-Score....: 83.1790

	precision	recall	f1-score	support
Exomalopsis_analis	0.81	0.70	0.75	30
Others	0.89	0.94	0.91	79
accuracy			0.87	109
macro avg	0.85	0.82	0.83	109
weighted avg	0.87	0.87	0.87	109

Predicted	Exomalopsis_analis	Others	All
True			
Exomalopsis_analis	21	9	30
Others	5	74	79
All	26	83	109



Flight + Sonication classification

----- Logistic Regression -----

Acurácia...: 81.9876
Precision...: 78.3903
Recall.....: 70.2541
F1-Score....: 72.6719

	precision	recall	f1-score	support
Exomalopsis_analis	0.73	0.46	0.57	41
Others	0.84	0.94	0.89	120
accuracy			0.82	161
macro avg	0.78	0.70	0.73	161
weighted avg	0.81	0.82	0.81	161

Predicted	Exomalopsis_analis	Others	All
True			
Exomalopsis_analis	19	22	41
Others	7	113	120
All	26	135	161

----- Support Vector Machine -----

Acurácia...: 87.5776
Precision...: 83.9533
Recall.....: 82.8354
F1-Score....: 83.3678

	precision	recall	f1-score	support
Exomalopsis_analis	0.77	0.73	0.75	41
Others	0.91	0.93	0.92	120
accuracy			0.88	161
macro avg	0.84	0.83	0.83	161
weighted avg	0.87	0.88	0.87	161

Predicted	Exomalopsis_analis	Others	All
True			
Exomalopsis_analis	30	11	41
Others	9	111	120
All	39	122	161

----- Random Forest -----

Acurácia...: 80.7453
Precision...: 77.3708
Recall.....: 67.0122
F1-Score....: 69.4123

	precision	recall	f1-score	support
Exomalopsis_analis	0.73	0.39	0.51	41
Others	0.82	0.95	0.88	120
accuracy			0.81	161
macro avg	0.77	0.67	0.69	161
weighted avg	0.80	0.81	0.79	161

Predicted	Exomalopsis_analis	Others	All
True			
Exomalopsis_analis	16	25	41
Others	6	114	120
All	22	139	161

----- Decision Tree -----

Acurácia...: 78.8820
Precision...: 72.0635
Recall.....: 69.7764
F1-Score....: 70.7210

	precision	recall	f1-score	support
Exomalopsis_analis	0.60	0.51	0.55	41
Others	0.84	0.88	0.86	120
accuracy			0.79	161
macro avg	0.72	0.70	0.71	161
weighted avg	0.78	0.79	0.78	161

Predicted	Exomalopsis_analis	Others	All
True			
Exomalopsis_analis	21	20	41
Others	14	106	120
All	35	126	161

----- Ensemble -----

Acurácia...: 87.5776
Precision...: 86.1663
Recall.....: 79.6240
F1-Score....: 82.1111

	precision	recall	f1-score	support
Exomalopsis_analis	0.84	0.63	0.72	41
Others	0.88	0.96	0.92	120
accuracy			0.88	161
macro avg	0.86	0.80	0.82	161
weighted avg	0.87	0.88	0.87	161

Predicted	Exomalopsis_analis	Others	All
True			
Exomalopsis_analis	26	15	41
Others	5	115	120
All	31	130	161

