

DATASET -> Descobrir qual monstro de acordo com:

- Comprimento do osso (Bone_Length)**
- Podridao da carne(Rotting_flesh)**
- Tamanho do cabelo(Hair_Length)**
- Sua cor(Color)**
- Sua alma(Has_Soul)**

Para prever :

- O seu tipo(Type)**

**Tipos: Ghoul(Canibal), Goblin(Duende) e
Ghost(Fantasma)**

Previsao da Accuracy com
Random Forest

Accuracy : 77%

Reference			
Prediction	Ghost	Ghoul	Goblin
Ghost	18	1	2
Ghoul	0	18	2
Goblin	3	6	11

Overall Statistics

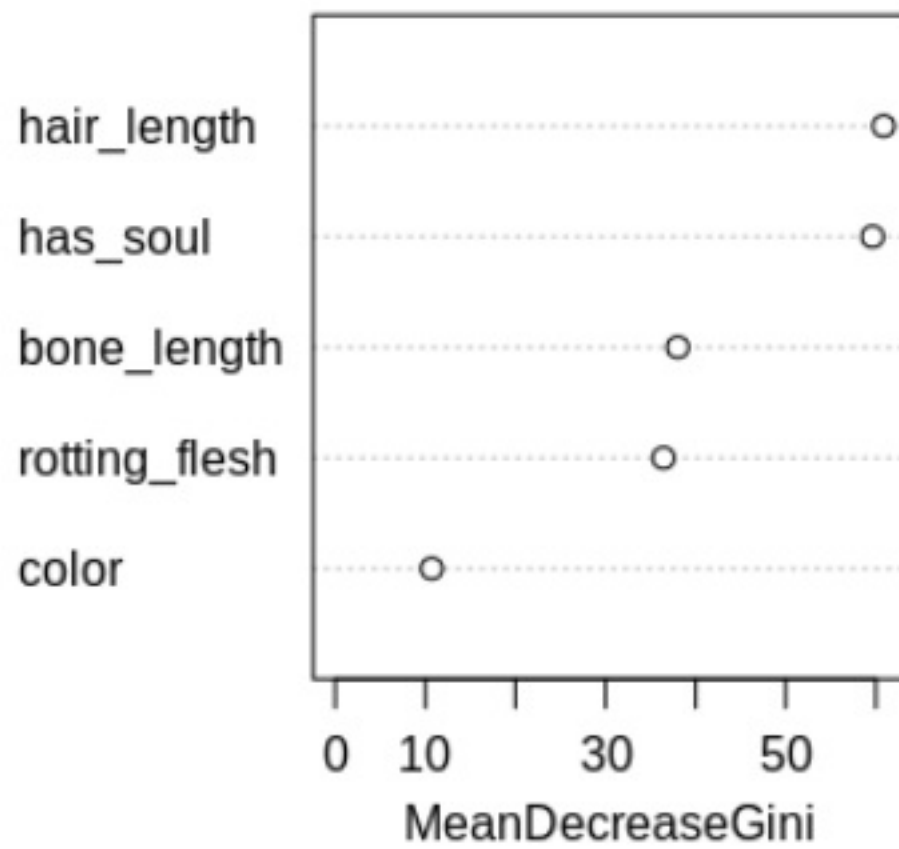
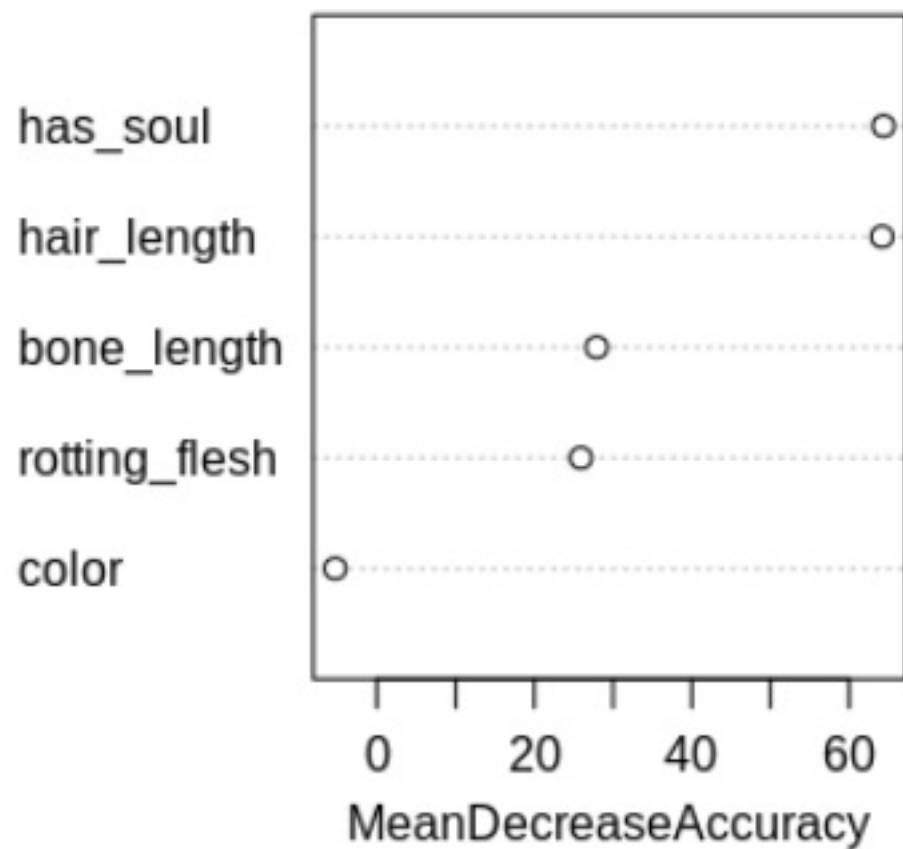
Accuracy : 0.7705
95% CI : (0.645, 0.8685)
No Information Rate : 0.4098
P-Value [Acc > NIR] : 1.083e-08

Kappa : 0.6556
McNemar's Test P-Value : 0.3618

Statistics by Class:

	Class: Ghost	Class: Ghoul	Class: Goblin
Sensitivity	0.8571	0.7200	0.7333
Specificity	0.9250	0.9444	0.8043
Pos Pred Value	0.8571	0.9000	0.5500
Neg Pred Value	0.9250	0.8293	0.9024
Prevalence	0.3443	0.4098	0.2459
Detection Rate	0.2951	0.2951	0.1803
Detection Prevalence	0.3443	0.3279	0.3279
Balanced Accuracy	0.8911	0.8322	0.7688

rfMonstros



RF sem 'COLOR'

Accuracy : 75%

Prediction	Reference		
	Ghost	Ghoul	Goblin
Ghost	20	1	3
Ghoul	0	15	3
Goblin	3	5	11

Overall Statistics

Accuracy : 0.7541
95% CI : (0.6271, 0.8554)
No Information Rate : 0.377
P-Value [Acc > NIR] : 2.348e-09

Kappa : 0.6293
McNemar's Test P-Value : 0.6823

Statistics by Class:

	Class: Ghost	Class: Ghoul	Class: Goblin
Sensitivity	0.8696	0.7143	0.6471
Specificity	0.8947	0.9250	0.8182
Pos Pred Value	0.8333	0.8333	0.5789
Neg Pred Value	0.9189	0.8605	0.8571
Prevalence	0.3770	0.3443	0.2787
Detection Rate	0.3279	0.2459	0.1803
Detection Prevalence	0.3934	0.2951	0.3115
Balanced Accuracy	0.8822	0.8196	0.7326

Previsao da Accuracy com
SVM

Accuracy : 80%

Accuracy : 0.8059
95% CI : (0.762, 0.8449)
No Information Rate : 0.3396
P-Value [Acc > NIR] : <2e-16

Kappa : 0.7088
McNemar's Test P-Value : 0.6881

Statistics by Class:

	Class: Ghost	Class: Ghoul	Class: Goblin
Sensitivity	0.8843	0.8175	0.7177
Specificity	0.9600	0.8939	0.8543
Pos Pred Value	0.9145	0.7984	0.7120
Neg Pred Value	0.9449	0.9050	0.8577
Prevalence	0.3261	0.3396	0.3342
Detection Rate	0.2884	0.2776	0.2399
Detection Prevalence	0.3154	0.3477	0.3369
Balanced Accuracy	0.9221	0.8557	0.7860

Previsao da Accuracy com TUNE.SVM

Accuracy : 90%

Accuracy : 0.9057
95% CI : (0.8712, 0.9334)
No Information Rate : 0.3342
P-Value [Acc > NIR] : <2e-16

Kappa : 0.8585
McNemar's Test P-Value : 0.2624

Statistics by Class:

	Class: Ghost	Class: Ghoul	Class: Goblin
Sensitivity	0.9268	0.9194	0.8710
Specificity	0.9879	0.9393	0.9312
Pos Pred Value	0.9744	0.8837	0.8640
Neg Pred Value	0.9646	0.9587	0.9350
Prevalence	0.3315	0.3342	0.3342
Detection Rate	0.3073	0.3073	0.2911
Detection Prevalence	0.3154	0.3477	0.3369
Balanced Accuracy	0.9574	0.9293	0.9011

Rede Neural NNET

Accuracy : 76%

Accuracy : 0.7671
95% CI : (0.6535, 0.8581)
No Information Rate : 0.3425
P-Value [Acc > NIR] : 1.455e-13

Kappa : 0.6502
McNemar's Test P-Value : NA

Statistics by Class:

	Class: Ghost	Class: Ghoul	Class: Goblin
Sensitivity	0.8696	0.8400	0.6000
Specificity	0.9600	0.8333	0.8542
Pos Pred Value	0.9091	0.7241	0.6818
Neg Pred Value	0.9412	0.9091	0.8039
Prevalence	0.3151	0.3425	0.3425
Detection Rate	0.2740	0.2877	0.2055
Detection Prevalence	0.3014	0.3973	0.3014
Balanced Accuracy	0.9148	0.8367	0.7271

Overall Statistics

Accuracy : 0.7945
95% CI : (0.6838, 0.8802)
No Information Rate : 0.3425
P-Value [Acc > NIR] : 3.163e-15

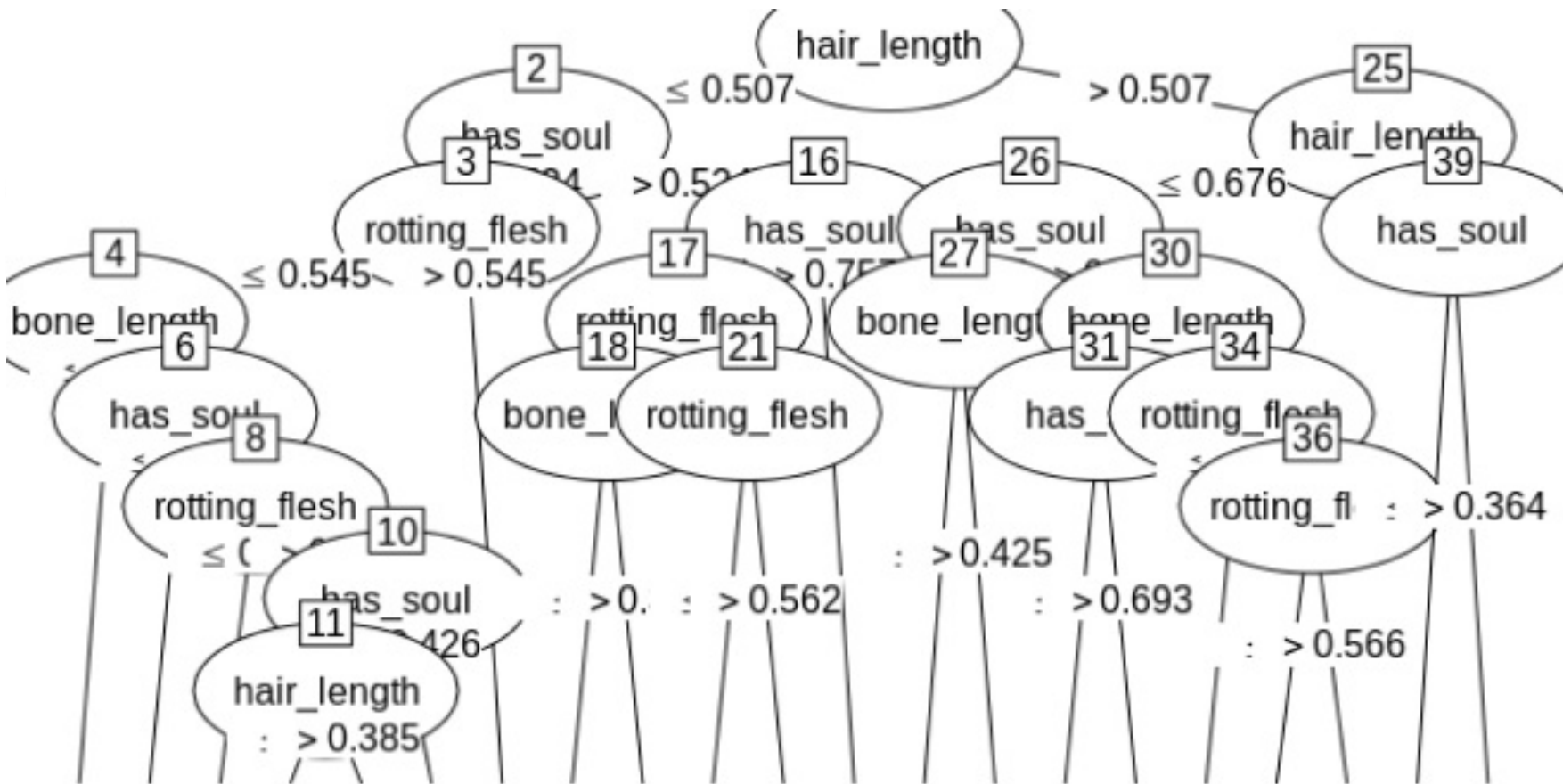
Kappa : 0.6917
McNemar's Test P-Value : NA

Statistics by Class:

	Class: Ghost	Class: Ghoul	Class: Goblin
Sensitivity	0.8261	0.8800	0.6800
Specificity	0.9000	0.9375	0.8542
Pos Pred Value	0.7917	0.8800	0.7083
Neg Pred Value	0.9184	0.9375	0.8367
Prevalence	0.3151	0.3425	0.3425
Detection Rate	0.2603	0.3014	0.2329
Detection Prevalence	0.3288	0.3425	0.3288
Balanced Accuracy	0.8630	0.9087	0.7671

Previsao da Accuracy com KNN

Accuracy : 79%



Arvores C50

Accuracy: 70%

Caret : MLP
Accuracy : 83%

Overall Statistics

Accuracy : 0.8356
95% CI : (0.7305, 0.9121)
No Information Rate : 0.3425
P-Value [Acc > NIR] : < 2.2e-16

Kappa : 0.7535
McNemar's Test P-Value : NA

Statistics by Class:

	Class: Ghost	Class: Ghoul	Class: Goblin
Sensitivity	0.9130	0.7600	0.8400
Specificity	0.9200	1.0000	0.8333
Pos Pred Value	0.8400	1.0000	0.7241
Neg Pred Value	0.9583	0.8889	0.9091
Prevalence	0.3151	0.3425	0.3425
Detection Rate	0.2877	0.2603	0.2877
Detection Prevalence	0.3425	0.2603	0.3973
Balanced Accuracy	0.9165	0.8800	0.8367

Caret:RF

Accuracy: 72%

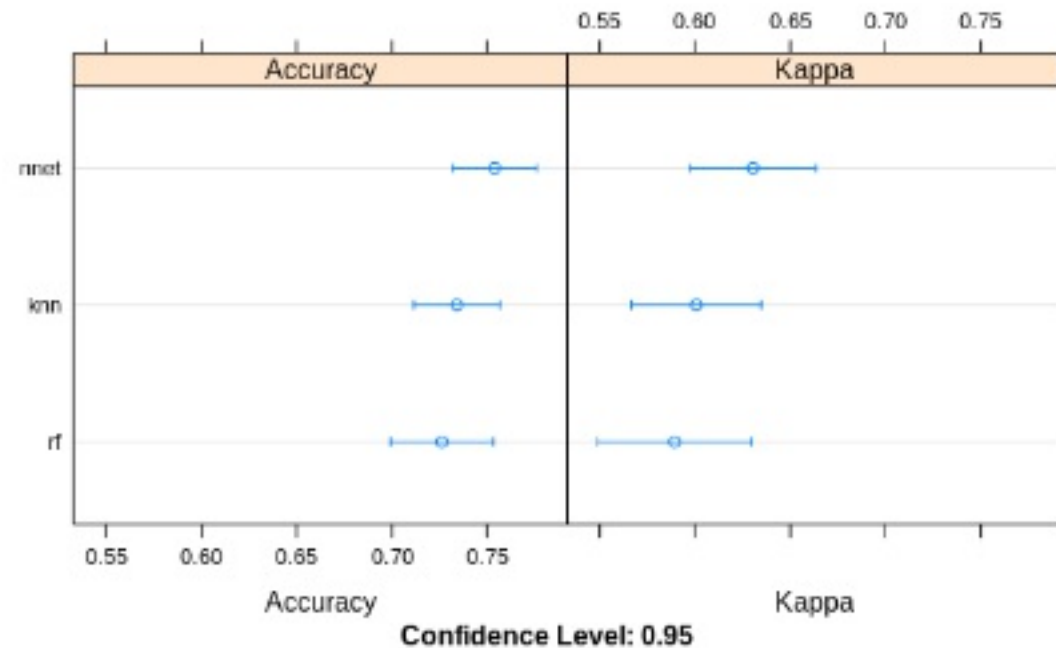
Overall Statistics

Accuracy : 0.726
95% CI : (0.6091, 0.8239)
No Information Rate : 0.3425
P-Value [Acc > NIR] : 2.617e-11

Kappa : 0.589
McNemar's Test P-Value : 0.6797

Statistics by Class:

	Class: Ghost	Class: Ghoul	Class: Goblin
Sensitivity	0.7826	0.8400	0.5600
Specificity	0.8800	0.8750	0.8333
Pos Pred Value	0.7500	0.7778	0.6364
Neg Pred Value	0.8980	0.9130	0.7843
Prevalence	0.3151	0.3425	0.3425
Detection Rate	0.2466	0.2877	0.1918
Detection Prevalence	0.3288	0.3699	0.3014
Balanced Accuracy	0.8313	0.8575	0.6967



Models: rf, knn, nnet
Number of resamples: 30

Accuracy

	Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
rf	0.5945946	0.6623400	0.7332859	0.7262460	0.7894737	0.8378378	0
knn	0.6315789	0.6965090	0.7398649	0.7341328	0.7631579	0.8648649	0
nnet	0.6486486	0.7222222	0.7567568	0.7539421	0.7837838	0.9166667	0

Kappa

	Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
rf	0.3887665	0.4935543	0.5998661	0.5893025	0.6843198	0.7549669	0
knn	0.4475597	0.5437284	0.6100930	0.6007490	0.6451361	0.7973713	0
nnet	0.4714286	0.5818798	0.6358665	0.6304945	0.6753495	0.8750000	0

CaretStack com metodo
"rf"

Accuracy: 79%