Random Forest — Wed Oct 07 20, 16:12:48

Name: Random Forest

Model parameters

Number of trees: 17
Maximal number of considered features: unlimited
Replicable training: No
Maximal tree depth: unlimited
Stop splitting nodes with maximum instances: 5

Data

Data instances: 10599
Features: File Name=00025.jpg, File Name=00026.jpg, File Name=00027.jpg, File Name=00028.jpg, File Name=00030.jpg, File Name=00032.jpg, File Name=00034.jpg, File Name=00036.jpg, File Name=00037.jpg, File Name=00038.jpg, File Name=00039.jpg, File Name=00040.jpg, File Name=00041.jpg, File Name=00042.jpg, File Name=00043.jpg, File Name=00044.jpg, File Name=00045.jpg, File Name=00046.jpg, File Name=00048.jpg, File Name=00051.jpg, File Name=00052.jpg, File Name=00053.jpg, File Name=00055.jpg, File Name=00056.jpg, File Name=00057.jpg, File Name=00058.jpg, File Name=00059.jpg, File Name=00060.jpg, File Name=00061.jpg, File Name=00062.jpg, File Name=00065.jpg, File Name=00066.jpg, File Name=00067.jpg, File Name=00068.jpg, File Name=00069.jpg, File Name=00071.jpg, File Name=00073.jpg, File Name=00074.jpg, File Name=00075.jpg, File Name=00076.jpg, File Name=00078.jpg, File Name=00080.jpg, File Name=00081.jpg, File Name=00082.jpg, File Name=00083.jpg, File Name=00084.jpg, File Name=00085.jpg, ... (total: 1600 features)
Target: Interpolation Method

The Random Forest settings above.

Tree — Wed Oct 07 20, 16:13:51

Name: Tree

Model parameters

Pruning: at least two instances in leaves, at least five instances in internal nodes, maximum depth 100
Splitting: Stop splitting when majority reaches 95% (classification only)
Binary trees: Yes

Data

Data instances: 10599
Features: File Name=00025.jpg, File Name=00026.jpg, File Name=00027.jpg, File Name=00028.jpg, File Name=00030.jpg, File Name=00032.jpg, File Name=00034.jpg, File Name=00036.jpg, File Name=00037.jpg, File Name=00038.jpg, File Name=00039.jpg, File Name=00040.jpg, File Name=00041.jpg, File Name=00042.jpg, File Name=00043.jpg, File Name=00044.jpg, File Name=00045.jpg, File Name=00046.jpg, File Name=00048.jpg, File Name=00051.jpg, File Name=00052.jpg, File Name=00053.jpg, File Name=00055.jpg, File Name=00056.jpg, File Name=00057.jpg, File Name=00058.jpg, File Name=00059.jpg, File Name=00060.jpg, File Name=00061.jpg, File Name=00062.jpg, File Name=00065.jpg, File Name=00066.jpg, File Name=00067.jpg, File Name=00068.jpg, File Name=00069.jpg, File Name=00071.jpg, File Name=00073.jpg, File Name=00074.jpg, File Name=00075.jpg, File Name=00076.jpg, File Name=00078.jpg, File Name=00080.jpg, File Name=00081.jpg, File Name=00082.jpg, File Name=00083.jpg, File Name=00084.jpg, File Name=00085.jpg, ... (total: 1600 features)
Target: Interpolation Method

The Decision Tree settings above.

Test and Score — Wed Oct 07 20, 16:14:24

Settings

Sampling type: No sampling, test on testing data
Target class: Average over classes

Scores

Model	AUC	CA	F1	Precision	Recall
Tree	0.8590020103919056	0.8353148392778512	0.8338001649504719	0.8336955298527845	0.8353148392778512
Random Forest	0.9684844968099829	0.8736239542051959	0.8673640028102454	0.8715709931285958	0.8736239542051959
AdaBoost	0.8743744580917956	0.8516072214883311	0.8499124298564229	0.8491826013790261	0.8516072214883311

Models success rate.

Confusion Matrix — Wed Oct 07 20, 16:15:13

Confusion matrix for Random Forest (showing number of instances)

		Predicted							
		Bicubic	**Bilinear**	**Gaussian**	**Lanczos3**	**Lanczos4**	**Lanczos5**	**MitchelCubic**	**∑**
Actual	**Bicubic**	2353	13	34	0	126	0	1	**2527**
	Bilinear	99	106	14	0	3	0	0	**222**
	Gaussian	10	2	616	0	1	0	0	**629**
	Lanczos3	3	0	1	0	1	0	0	**5**
	Lanczos4	226	4	0	0	879	0	0	**1109**
	Lanczos5	0	0	0	0	0	0	0	
	MitchelCubic	20	6	9	0	1	0	14	**50**
	∑	**2711**	**131**	**674**		**1011**		**15**	**4542**

Random Forest confution matrix.

Confusion Matrix — Wed Oct 07 20, 16:15:42

Confusion matrix for Tree (showing number of instances)

		Predicted							
		Bicubic	**Bilinear**	**Gaussian**	**Lanczos3**	**Lanczos4**	**Lanczos5**	**MitchelCubic**	**∑**
Actual	**Bicubic**	2200	76	28	2	218	0	3	**2527**
	Bilinear	85	115	13	0	9	0	0	**222**
	Gaussian	19	12	595	0	1	0	2	**629**
	Lanczos3	4	0	0	1	0	0	0	**5**
	Lanczos4	244	4	0	0	861	0	0	**1109**
	Lanczos5	0	0	0	0	0	0	0	
	MitchelCubic	14	5	7	0	2	0	22	**50**
	∑	**2566**	**212**	**643**	**3**	**1091**		**27**	**4542**

Decision Tree confution matrix.

Confusion Matrix

Wed Oct 07 20, 16:16:28

Confusion matrix for AdaBoost (showing number of instances)

		Predicted							
		Bicubic	**Bilinear**	**Gaussian**	**Lanczos3**	**Lanczos4**	**Lanczos5**	**MitchelCubic**	**∑**
Actual	**Bicubic**	2243	51	28	2	198	1	4	**2527**
	Bilinear	82	114	10	1	13	1	1	**222**
	Gaussian	16	9	600	0	1	0	3	**629**
	Lanczos3	1	0	1	1	2	0	0	**5**
	Lanczos4	216	9	0	0	884	0	0	**1109**
	Lanczos5	0	0	0	0	0	0	0	
	MitchelCubic	11	7	6	0	0	0	26	**50**
	∑	**2569**	**190**	**645**	**4**	**1098**	**2**	**34**	**4542**

AdaBoost confution matrix.