

Experiment Space

Segmentation Methods	Representation Model	Pre-processing (opt.)	Post-processing (opt.)	Initialization Methods	Performance Measures	
K-Means	Color	Average blur *	Average blur *	Forgy	Iterations	
EM	Spatial-Color	Median blur	Median blur *	Naive K-Means	Time per iteration	
			Max Pool *	Bradley-Fayyad	Distortion/Loglihood	
				Ilea-Whelan Heuristic	Quality (Yes/No)	
				Ilea-Whelan Quantization		

cow.jpg - em

Initialization\Performance	Avg iterations to conv	Avg time per iteration	Avg quality	Log-likelihood
Forgy	29.5	1s 615ms	8	511536.72184
Naive K-Means	28.2	1s 766ms	8.5	511536.72184
Bradley-Fayyad	29	1s 656ms	9	511536.72184
Ilea-Whelan Heuristic	26.4	1s 666ms	9.15	511536.72184
Ilea-Whelan Quantization	27	1s 610ms	9.15	511536.72184
Ilea-Whelan Quantization + Spatial Relations	33.2	2s 566ms	9.5	1154515.5008

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Initialization\Performance	Avg iterations to conv	Avg time per iteration	Avg quality	Log-likelihood
Forgy	50.5	18s 657ms	5.7	5279379.3040
Naive K-Means	-	-	-	-
Bradley-Fayyad	48.9	18s 806ms	4.6	5279379.3040
Ilea-Whelan Heuristic	52.6	19s 561ms	5.35	5279379.3040
Ilea-Whelan Quantization	56.1	20s 603ms	5.5	5279379.3040
Ilea-Whelan Quantization + Spatial Relations	63.8	30s 262ms	7.65	1154515.5008

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Initialization\Performance	Avg iterations to conv	Avg time per iteration	Avg quality	Log-likelihood
Forgy	48.3	1s 554ms	5	328366.1596
Naive K-Means	49.2	1s 591ms	6	328366.1596
Bradley-Fayyad	49.8	1s 643ms	6.5	328366.1596
Ilea-Whelan Heuristic	44.2	1s 480ms	6.5	328366.1596
Ilea-Whelan Quantization	48.2	1s 592ms	6.5	328366.1596
Ilea-Whelan Quantization + Spatial Relations	41.2	1s 879ms	6.8	1154515.5008

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Initialization\Performance	Avg iterations to conv	Avg time per iteration	Avg quality	Log-likelihood
Forgy	42.5	8s 995ms	7.85	2902252.3974
Naive K-Means	47.3	9s 961ms	8	2902252.3974
Bradley-Fayyad	35.8	7s 938ms	8.05	2902252.3974
Ilea-Whelan Heuristic	46.1	9s 755ms	8	2902252.3974
Ilea-Whelan Quantization	45.7	9s 679ms	8.5	2902252.3974
Ilea-Whelan Quantization + Spatial Relations	33.2	2s 566ms	9.5	1154515.5008