Geometric Labelling 7

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Abbreviation:	geo-surf-7
Number of instances:	300
Number of variables:	29-1133
Number of labels:	7
Number of factors:	64-3987
Order:	2 and 3
Function type:	(Shared) Dense Factor Tables

Description   This dataset is the same as geo-surf-3, except that each variable can now take 7 states – ground, sky, vertical-left, vertical-right, vertical-center, vertical-porous, vertical-solid.

Objective / Learning   The objective function still consists of unary, pairwise and triplet terms.

$$J(x) = \sum_{v \in V} \varphi_i(x_i) + w_p \sum_{(i,j) \in E} \varphi_{ij}(x_i, x_j) \tag{1}$$

$$+ w_t \sum_{(i,j,k) \in T} \varphi_i(x_i, x_j, x_k) \tag{2}$$

The unary terms are again based on outputs of classifiers trained for each of the 7 classes. Edge and triplet terms are also analogous to geo-surf-3.

References