

Ciampi, A.; Diday, E.; Lebbe, J.; Périnel, E.; Vignes, R.

Tree-growing with probabilistically imprecise data. (English) [Zbl 0902.62006](#)

Diday, Edwin (ed.) et al., Ordinal and symbolic data analysis. Proceedings of the international conference, OSDA 95, Paris, June 20–23, 1995. Berlin: Springer. Studies in Classification, Data Analysis, and Knowledge Organization. 201-212 (1996).

Summary: An algorithm of tree-growing is proposed to treat explicitly imprecise data such as error measurements or subjective probabilistic judgments. These are formally described with probabilistic assertions in the framework of symbolic data analysis. In this context, the recursive partition procedure can be viewed as an iterative search for an organized set of symbolic objects which best fits the initial data. At each step, the best split is obtained under a maximum likelihood criterion. The imprecision induces a mixture distributions problem which is solved through the EM algorithm. A medical example illustrates this approach.

For the entire collection see [\[Zbl 0866.00054\]](#).

MSC:

62-07 Data analysis (statistics) (MSC2010)

Cited in **1** Document

Keywords:

binary segmentation; decision tree; algorithm of tree-growing; imprecise data; symbolic data analysis; recursive partition; maximum likelihood criterion; mixture distributions problem; EM algorithm