

# Ranked modelling on feature vectors with missing values<sup>1</sup>

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**Abstract:** Ranked models can reflect regularities in a given set of feature vectors enriched by a priori knowledge in the form of ranked relations between selected objects or events represented by these vectors. Ranked regression models have the form of linear transformations of multivariate feature vectors on the line which preserve in the best possible way given set of ranked relations. We pay attention to the situations when particular objects or events can be represented by feature vectors with different dimensionality. Different dimensionality of feature vectors might appear when values are missing or when successive changing of feature space occurs. The linear ranked transformations can be designed on the basis of feature vectors of different dimensionality via minimization of the convex and piecewise linear (*CPL*) criterion functions.

**Key words:** feature vectors with missing values, ranked relations, ranked linear transformations, convex and piecewise linear criterion functions

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