

Probabilities: Frequencies Viewed in Perspective

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Abstract

A decision maker is asked to quantify her beliefs over a state space by a probability vector. We focus on the relationship between her data base and her beliefs. We show that, if beliefs given a union of two databases are a convex combination of beliefs given each of the databases, the belief formation process follows a simple formula: beliefs are normalized similarity-weighted aggregation of the beliefs induced by each past case. This formula coincides with the projection defined by perspective. We also provide a behavioral derivation of this formula, and discuss its applications to game theory, as well as its limitations.