

# Objective Probability and Empirical Similarity

Itzhak Gilboa

Tel-Aviv University

## Abstract

We suggest to define objective probabilities by similarity-weighted empirical frequencies, where more similar cases get a higher weight in the computation of frequencies. This formula is justified intuitively and axiomatically, but raises the question, which similarity function should be used? We propose to estimate the similarity function from the data, and thus obtain objective probabilities. We compare this definition to others, and attempt to delineate the scope of situations in which objective probabilities can be used.