

A CLASSIFICATION OF THE MAIN PROBABILITY DISTRIBUTIONS BY MINIMIZING THE WEIGHTED LOGARITHMIC MEASURE OF DEVIATION*

SILVIU GUIASU

*Department of Mathematics, York University, 4700 Keele Street,
North York, Ontario, Canada M3J 1P3*

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Abstract. The paper reanalyzes the following nonlinear program: Find the most similar probability distribution to a given reference measure subject to constraints expressed by mean values by minimizing the weighted logarithmic deviation. The main probability distributions are examined from this point of view and the results are summarized in a table.

Key words and phrases: Probability distribution similar to a reference measure, constraints expressed by mean values, logarithmic measure of deviation, Shannon entropy, Kullback-Leibler number.