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On the Ziv-Merhav theorem beyond Markovianity

In 1993, Ziv and Merhav proposed a “new notion of empirical informational divergence”, or relative-entropy estimator which has met great practical application, yet has seen no significant development in the mathematical literature until recently. In this talk, I will compare their algorithm with more conventional universal entropic estimators and discuss a recent generalization of the Ziv-Merhav Theorem. This extension encompasses a broader class of decoupled measures including the the class of multi-level Markov measures covered by the original result as well as suitably regular g-measures amongst other examples.

Joint work with R. Grondin, G. Pozzoli, and R. Raquépas.