

Abstract:

This paper applies our work in [1] on the Value of Information, (VoI), based on the Shannon/Stratonovich approach [4,5]. Contrary to [1] that looks at a circular setting and [2] that looks at strategic interaction, we here focus on a non-strategic linear setting. Standard economically motivated utility functions such as the linear, the quadratic, the constant absolute and relative risk aversion (CARA and CRRA) are employed for various priors of the stochastic environment and the implied specific VoI forms are investigated. These forms will determine whether an efficient decision making process warrants further acquisition of costly information. Application of VoI to Bayesian hypothesis testing using boolean utility functions will be touched upon. This is a joint work with Roman V. Belavkin (Middlesex University).

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2. S. Behringer, The Value of Information in Zero-Sum Games, mimeo, (2024).
4. Shannon C.E. 1948. A Mathematical Theory of Communication. Bell System Technical Journal, 27 (3), 379-423.
5. Stratonovich R.L. 2020. Theory of Information and its Value. In: Belavkin, R.V., Pardalos, P.M., 233 Principe, J.C. (Eds.), original 1975.