

Universal Estimation of Information Measures

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Abstract— In this presentation I will give an overview of the state of the art in universal estimation of:

- Entropy
- Divergence
- Mutual Information

with emphasis on recent algorithms we have proposed with H. Cai, S. Kulkarni and Q. Wang. These algorithms converge to the desired quantities without any knowledge of the statistical properties of the observed data, under several conditions such as stationary-ergodicity in the case of discrete processes, and memorylessness in the case of analog data. A sampling of the literature in this topic is given below.

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