

Silence is Golden in Grid too

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In this work we formulate the inference disclosure problem in terms of mutual information and present a heuristic algorithm to solve it. We propose an entropy-based algorithm to bound information leakage about a variable Y when releasing information X^{\sim} about another variable X (dependent with Y). A step-wise decomposition of the joint distribution matrix of $(X; Y)$ is described that allows progressive control over mutual information between X^{\sim} and each of X and Y , by letting X^{\sim} be an accurate rendition of X in (as large as possible) an event, and providing probabilistic partial information about X in its complement. These inference disclosure issues, of interest in the information sharing era we experience, are analyzed in the context of several related problems and illustrated on bi-variate Gaussian and other examples.

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