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*Communication Complexity of Exact Sampling under Exponential Cost*

Exact sampling is the problem of communicating a message so that, given a shared source of randomness, a receiver can generate a random sample with a prescribed probability distribution. This problem arises naturally in many forms of learned data compression, most notably as a promising alternative to quantization in nonlinear transform coding.

In this talk, I will describe some applications of exact sampling in machine learning and several state-of-the-art sampling algorithms. I will provide an overview of recent work in the exponential cost setting, presenting matching upper and lower bounds and discussing surprising differences in algorithm performance in this generalized setup.