ERM Learning with Unbounded and Non-identical Sampling

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Most literature in learning theory focus on the bounded sample set in which the output space is uniformly bounded, which is a limitation for the application of the algorithms. Non-identical sampling is also an extension for the classical analysis in which the sampling is i.i.d.. In this paper we consider the case that the sampling is non-identical, and the output variable satisfies some moment incremental condition. We derive a learning rate for the empirical risk minimization (ERM) learning algorithm under these conditions.

Keywords and phrases: Learning theory; ERM; Non-identical; Unbounded sampling; Covering number

AMS Subject Classification Numbers. 68T05, 62J02