The Minimax Rate of HSIC Estimation*

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Abstract

Kernel techniques (such as Hilbert-Schmidt independence criterion - HSIC; also called distance covariance) are among the most powerful approaches in data science and statistics to measure the statistical independence of $M \geq 2$ random variables. Despite various existing HSIC estimators designed since its introduction close to two decades ago, the fundamental question of the rate at which HSIC can be estimated is still open; this forms the focus of the talk for translation-invariant kernels on $\mathbb{R}^d$.

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