Convergence rate of importance weighted orthogonal greedy algorithm

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Abstract: This paper studies a variable selection problem under the covariate shift when the number of covariates is larger than the sample size. The orthogonal greedy algorithm (OGA) is an effective variable selection procedure for such a high-dimensional situation. However, its validity may lose under the covariate shift. Thus, by considering the covariate shift, we propose an importance weighted OGA as an extension of OGA, and derive its convergence rate with respect to prediction error.