

“Combining the Kernel Trick and Information Criteria for Variable Selection and Clustering”

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Abstract

Genetic Algorithms in combination information criterion offer a novel approach to analyzing complex multivariate data to determine patterns and the number of data clusters. In this presentation, Bozdogan's Information Complexity criterion (ICOMP) is combined with the Mercer's kernel trick to determine the best subset variable selection for both regression and classification models. Using a genetic search algorithm, ICOMP performs as a fitness function to control model complexity and decide the optimal choice of kernel function.