

BAYESIAN PREDICTIVE DENSITIES WHEN THE DISTRIBUTIONS OF DATA AND TARGET VARIABLES ARE DIFFERENT

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ABSTRACT

Bayesian predictive densities are investigated from the viewpoint of information geometry. The performance of predictive densities is evaluated by the Kullback-Leibler divergence. When the observed data x and the target variable y have different distributions, a new metric, which we call the predictive metric, and the volume element based on it play essential roles corresponding to the Fisher-Rao metric and the Jeffreys prior in the conventional setting.