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BAYESIAN INFERENCE OF INTERACTIONS IN CASE-CONTROL STUDIES

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I will discuss a Bayesian approach to detect multi-locus interactions (Epistasis) for both case-control association studies and an un-supervised scenario. Existing methods are either of low power or computationally infeasible when facing a large number of genetic markers, and sometimes also many quantitative traits. Aided with MCMC sampling techniques, our Bayesian method can efficiently detect interactions among many thousands of markers. This method can be generalized to deal with classification problems. I will also discuss its extensions to unsupervised situations.