AN ADABOOST-BASED ITERATED MRF MODEL WITH LINEAR TARGET PRIOR FOR SYNTHETIC APERTURE RADAR IMAGE CLASSIFICATION

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ABSTRACT:

A supervised classification method based on AdaBoost posterior probability and Markov Random Fields (MRF) model with Linear Targets Prior (LTP) is proposed in this paper. Firstly in contrast with most existing regions (superpixels) based models, this approach captures contiguous image regions called superpixels from ratio response maps of original images. Secondly, Adaboost classifier is employed to get likelihood probability for Markov Random Filed (MRF). Meanwhile, linear targets prior information (LTP) is introduced into MRF model combining with Potts prior model to engage better edges in classification results. Finally, iterative strategy in MRF model improves the performance of classification. Compared with traditional MRF model, the proposed approach has effective improvement in SAR images classification in the experiments of this paper.

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