

Package: bayesImageS (via r-universe)

October 1, 2026

Type Package

Title Bayesian Methods for Image Segmentation using a Potts Model

Version 0.7-2

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Encoding UTF-8

Description Various algorithms for segmentation of 2D and 3D images, such as computed tomography and satellite remote sensing. This package implements Bayesian image analysis using the hidden Potts model with external field prior of Moores et al. (2015) [doi:10.1016/j.csda.2014.12.001](https://doi.org/10.1016/j.csda.2014.12.001). Latent labels are sampled using checkerboard updating or Swendsen-Wang. Algorithms for the smoothing parameter include pseudolikelihood, path sampling, the exchange algorithm, approximate Bayesian computation (ABC-MCMC and ABC-SMC), and the parametric functional approximate Bayesian (PFAB) algorithm. Refer to Moores, Pettitt & Mengersen (2020) [doi:10.1007/978-3-030-42553-1_6](https://doi.org/10.1007/978-3-030-42553-1_6) for an overview and also to [doi:10.1007/s11222-014-9525-6](https://doi.org/10.1007/s11222-014-9525-6) and [doi:10.1214/18-BA1130](https://doi.org/10.1214/18-BA1130) for further details of specific algorithms.

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URL <https://bitbucket.org/Azeari/bayesimages>,
<https://mooresm.github.io/bayesImageS/>

BugReports <https://bitbucket.org/Azeari/bayesimages/jira>

LazyData true

Depends R (>= 3.5.0)

Imports Rcpp (>= 1.0.12)

LinkingTo Rcpp, RcppArmadillo

Suggests memcse, coda, PottsUtils, rstan, knitr, rmarkdown, rticles, lattice

VignetteBuilder knitr

RoxygenNote 7.3.3

Repository <https://mooresm.r-universe.dev>

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RemoteUrl <https://bitbucket.org/azeari/bayesimages>

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