

Extending local mixture models

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Abstract Local mixture models have proved useful in many statistical applications. This paper looks at ways in which the local assumption, which is used in an asymptotic approximation, can be relaxed in order to generate a much larger class of models which still have the very attractive geometric and inferential properties of local mixture models. The tool used to develop this large class of models is the Karhunen–Loève decomposition. Computational issues associated with working with these models are also briefly considered.

Keywords Local mixture models · Information geometry · Karhunen-Loève decomposition · Posterior approximations