Random mixture Cox point processes

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Abstract
We introduce and study a new class of Cox point processes, based on random mixture models of exponential family components for the intensity function of the underlying Poisson process. We investigate theoretical properties of the proposed probability distributions of the point process, as well as provide procedures for parameter estimation using a classical and Bayesian approach. We illustrate the richness of the new models through examples, simulations and real data applications.

The online version of this article contains supplementary material.

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