

# The EM algorithm for a Poisson mixture model

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## **Abstract**

In this paper we model the distribution of the random variable *number or claims* that affects a policy or a policy portfolio in a determined period of time, using a Poisson mixture. The parameters of the mixture are estimated using two methods: the moments method and the Expectation-Maximization (EM) algorithm used to evaluate maximum likelihood estimators of the model parameters. The methods are illustrated by simulated numerical data.

**Keywords:** Poisson distribution, mixed Poisson distribution, moments method, EM algorithm, frequency of damages.