

Seminário

Grupo de Probabilidades e Estatística

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14:30

Sala Sousa Pinto

Modelling Count Time Series with Censoring and Missing Data

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Abstract

Time series data often exhibit irregularities such as missing values and censoring due to detection limits. Censored data arise when certain values are only partially observed, while missing data lead to gaps in the series—both of which can bias estimations if not properly addressed. In this work, we propose Bayesian estimation methods to address these challenges, as they offer a flexible framework for incorporating prior knowledge and managing uncertainty. Specifically, we focus on Poisson first-order integer-valued autoregressive (PoINAR) models and implement two approaches: Approximate Bayesian Computation (ABC) and the Gibbs Sampler with Data Augmentation (GDA). Through performance comparisons on both synthetic and real-world datasets, we demonstrate the effectiveness of these methods in recovering underlying model parameters and enhancing inference accuracy.

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