

BAYESIAN NONPARAMETRICS FOR GENERATIVE MODELLING OF MULTIPLE TIME SERIES

Key problem:

- Clustering and generating multiple time series when the number of clusters or shared features is unknown and changes over time

Important sectors:

- Finance, healthcare, etc.

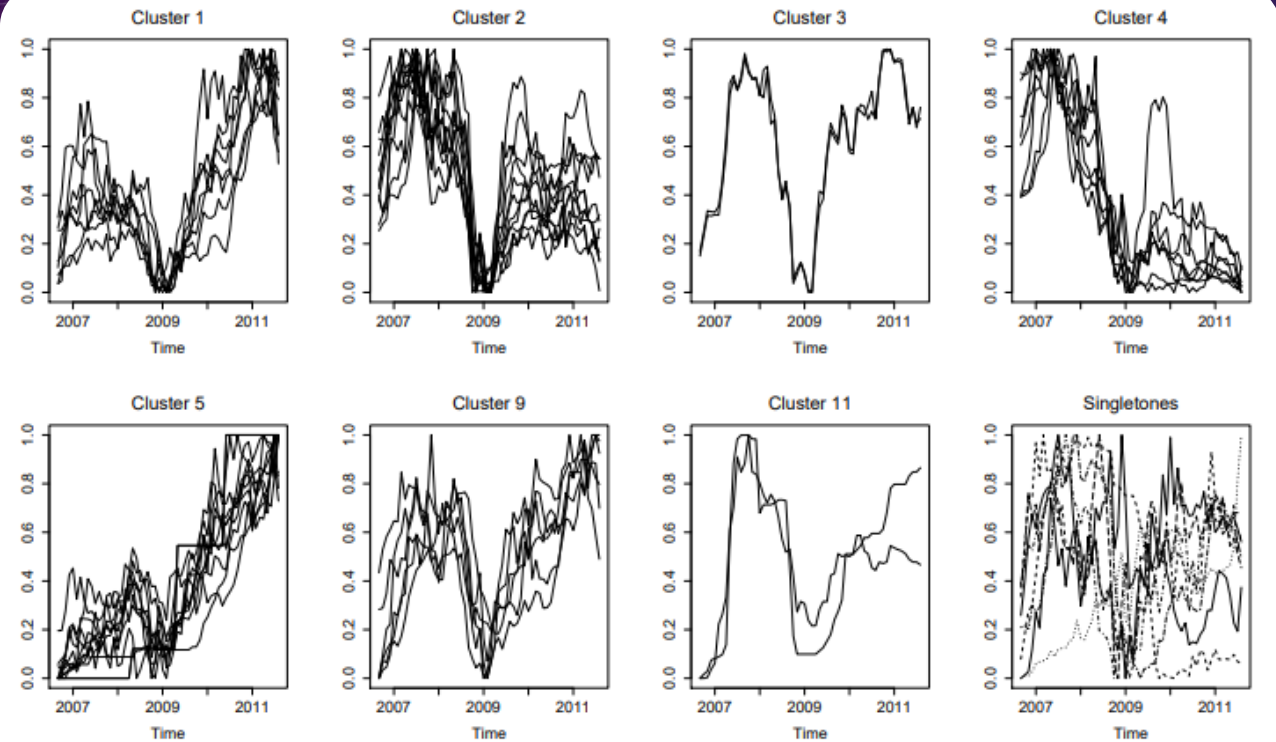
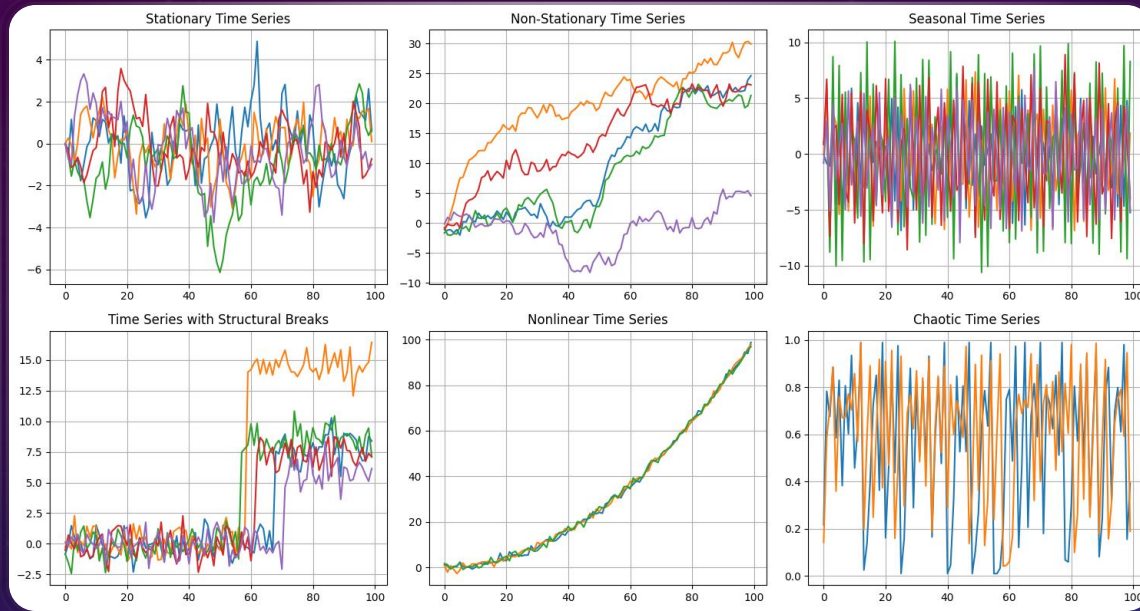


Figure 4: Mexican stock exchange companies. Clustering with 15 groups.

Time series datasets created with TSGM



Data Generation

DPMM Clustering

Model Evaluation

PROGRESS



Literature Review: Studied related research on Bayesian nonparametrics and time series modeling.



Familiarized with TSGM Framework: Gained understanding of Time Series Generative Models (TSGM) for creating synthetic datasets.



Experimentation with State Space Models: Applied State Space Models to synthetic time series data.



Incorporated DPMM for Clustering: Integrated Dirichlet Process Mixture Models (DPMM) to dynamically cluster time series based on behavior.

NEXT STEPS

