

# Spatial Normalized Gamma Processes

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Keywords:

- Bayesian nonparametrics
- Dependent Dirichlet Processes
- Topic modelling

Goals:

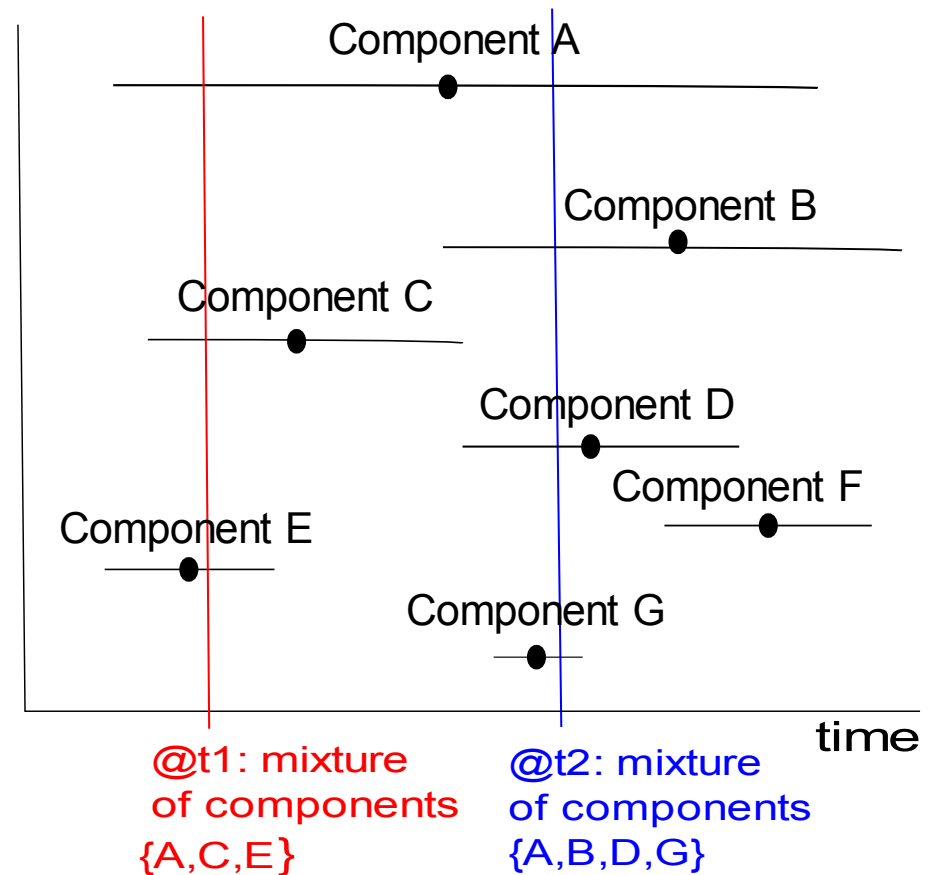
- an unbounded number of mixture components at any location in space or time
- a Dirichlet Process mixture at each location

- different locations in space or time should have different distributions
- nearby locations should have similar distributions

dependent Dirichlet Processes

We formalize these ideas using Spatial Normalized Gamma Processes

Each component has a time-span



At each time  $t$ , we have a mixture of components overlapping  $t$