

# Generative Model for Text Mining

Modeling of Data Generation:  $P(\text{Data} \mid \text{Model}, \Lambda)$

$$\Lambda = (\{ \theta_1, \dots, \theta_k \}, \{ \pi_{11}, \dots, \pi_{1k} \}, \dots, \{ \pi_{N1}, \dots, \pi_{Nk} \})$$

How many parameters in total?

Parameter Estimation/ Inferences

$$\Lambda^* = \operatorname{argmax}_{\Lambda} p(\text{Data} \mid \text{Model}, \Lambda)$$

$P(\text{Data} \mid \text{Model}, \Lambda)$

