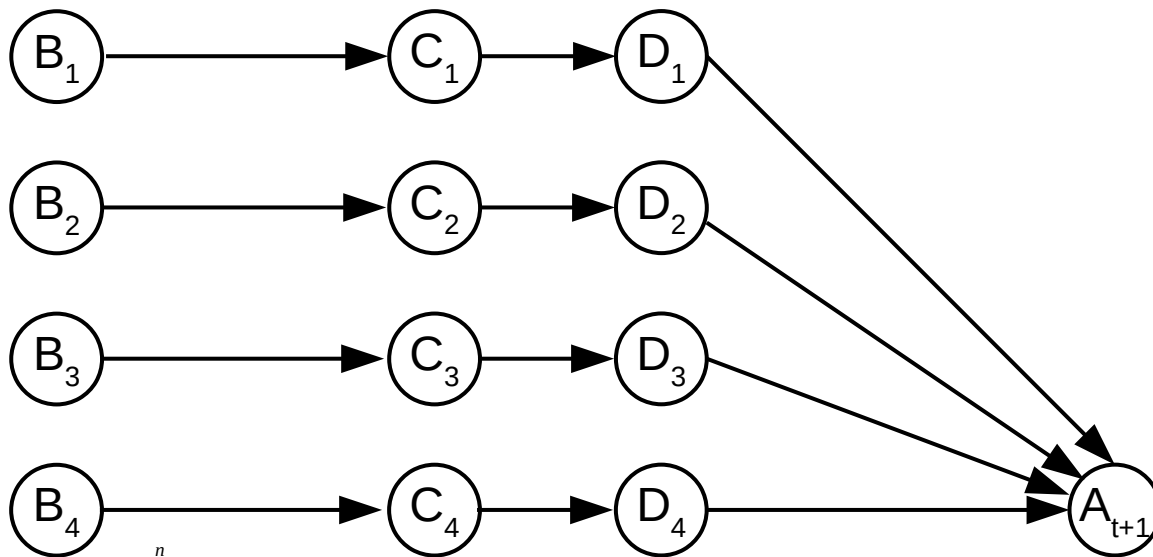


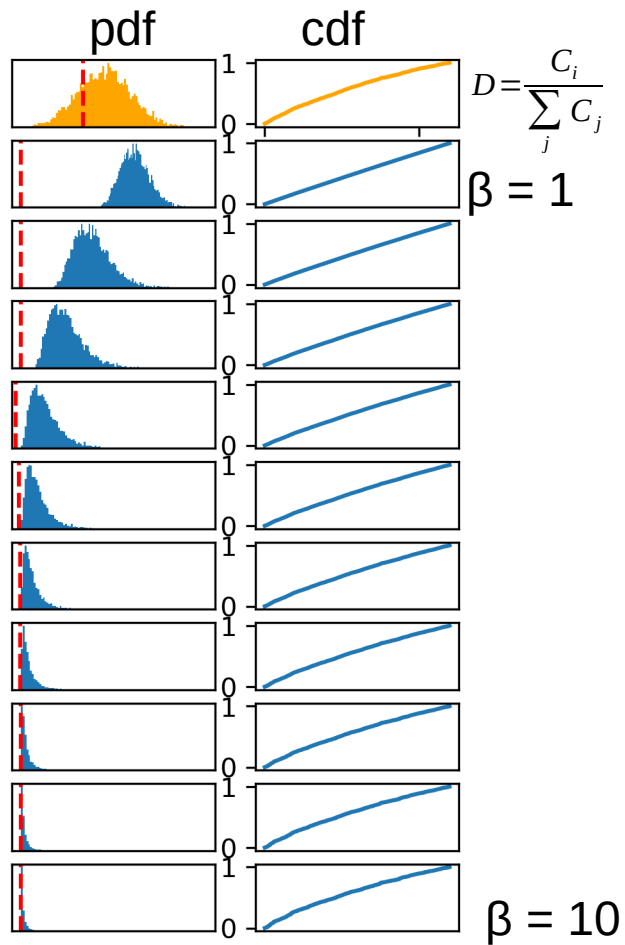
# random-walk model



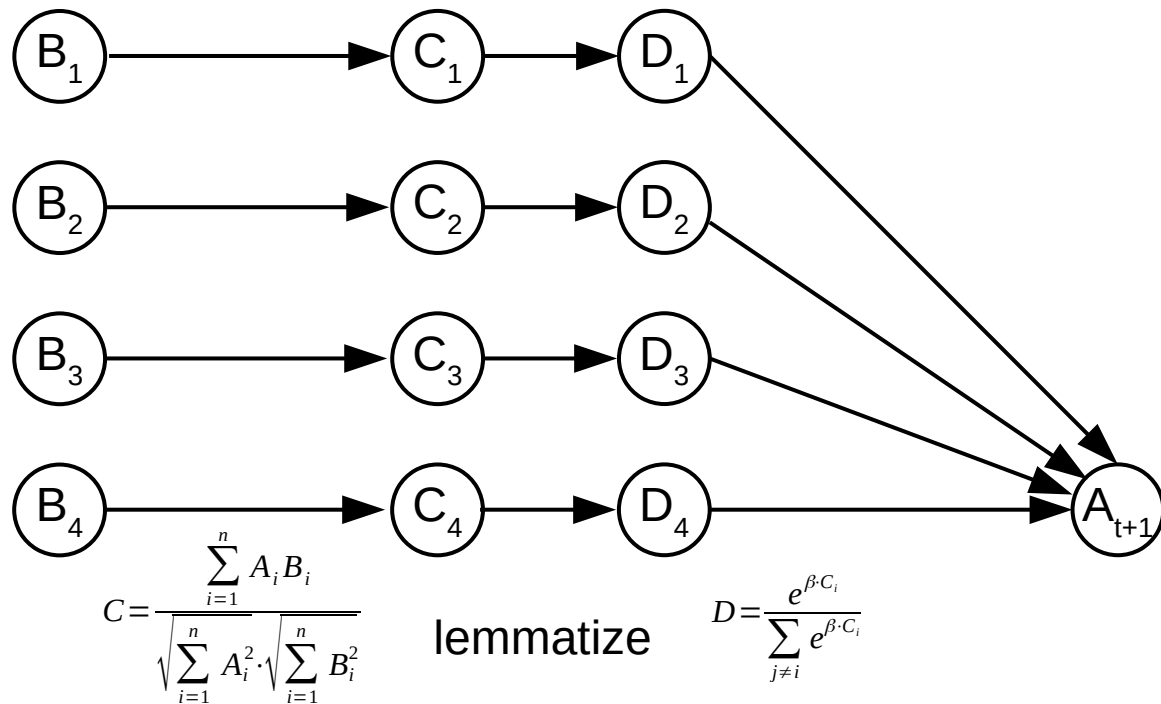
$$C = \frac{\sum_{i=1}^n A_i B_i}{\sqrt{\sum_{i=1}^n A_i^2} \cdot \sqrt{\sum_{i=1}^n B_i^2}}$$

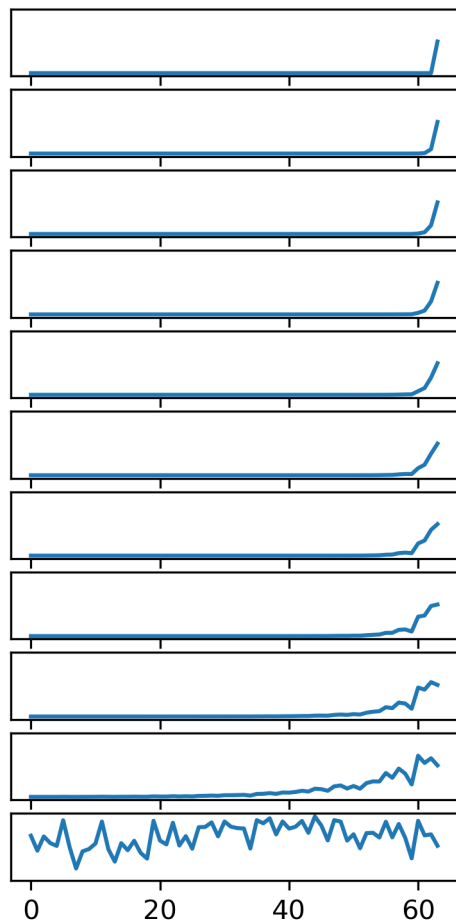
lemmatize

$$D = \frac{e^{\beta \cdot C_i}}{\sum_{j \neq i} e^{\beta \cdot C_j}} \quad \beta=0$$



# markov-walker model



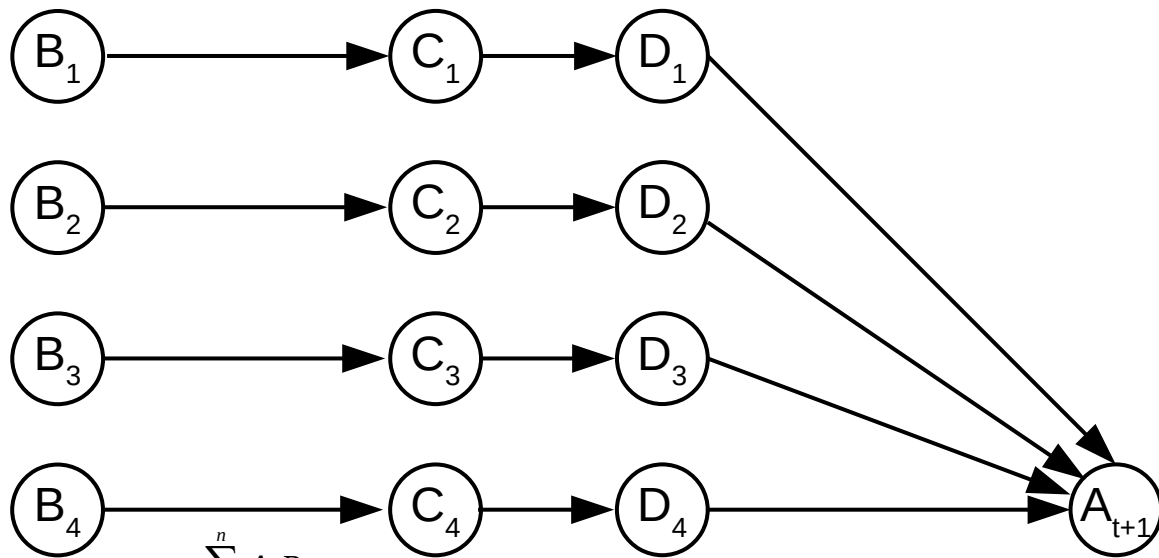


$\gamma = 0$

$\gamma = 1$

Trials back

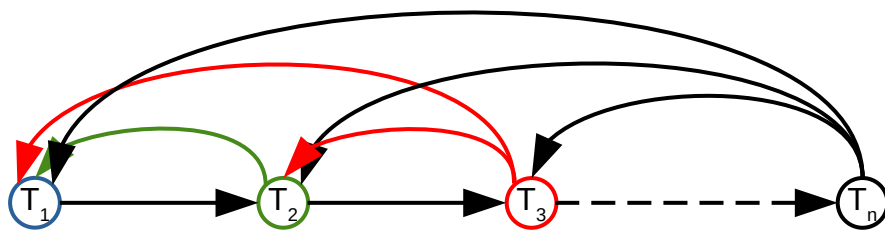
# mem-walker model



$$C = \frac{\sum_{i=1}^n A_i B_i}{\sqrt{\sum_{i=1}^n A_i^2} \cdot \sqrt{\sum_{i=1}^n B_i^2}}$$

lemmatize

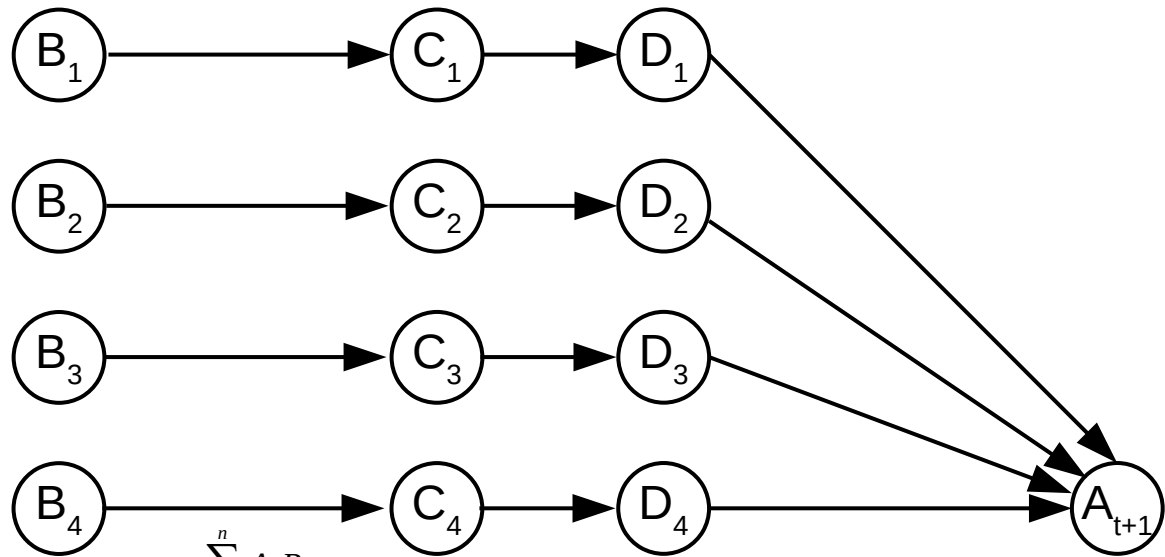
$$D = \frac{e^{\beta \cdot C'_i}}{\sum_{j \neq i} e^{\beta \cdot C'_j}}$$



$$C'_t = \sum_{k=0}^T \gamma^{T-k} \cdot C_t$$

$\gamma \in [0, 1]$

# hybrid-walker model



$$C = \frac{\sum_{i=1}^n A_i B_i}{\sqrt{\sum_{i=1}^n A_i^2} \cdot \sqrt{\sum_{i=1}^n B_i^2}}$$

$$C'_t = \sum_{k=0}^T \gamma^{T-k} \cdot C_t$$

$\gamma \in [0, 1]$

$$M_t = \epsilon \cdot C'_t + (1 - \epsilon) \cdot C_t$$

$\epsilon \in [0, 1]$

lemmatize

$$D = \frac{e^{\beta \cdot M_i}}{\sum_{j \neq i} e^{\beta \cdot M_j}}$$