

Google PageRank

$\exists A$  has citations from  $T_1, \dots, T_n$

$$d \approx 0.85 | d \in (0, 1)$$

$$PR(A) = (1 - d) + d \sum_{i=1}^n \frac{PR(T_i)}{C(T_i)}$$

$$R(u) = c \sum_{v \in B_u} \frac{R(v)}{N_v}$$

$$if |B_u|=1, \exists v_\sigma \in B_u, \quad then \quad u \in F_{v_\sigma}, R_u = \frac{cR_{v_\sigma}}{|F_{v_\sigma}|}$$

$$A_{u,v} = \left\{ \begin{array}{l} \frac{1}{|F_u|}, u \rightarrow v \\ 0, u \nrightarrow v \end{array} \right.$$

$$R_i=cA_{u,v}R_{i-1}$$

$$R'(u) = c \sum_{v \in B_u} \frac{R'(v)}{N_v} + cE(u)$$

$$R_i' = c(A + E \times 1)R_{i-1}'$$

Markov Chains