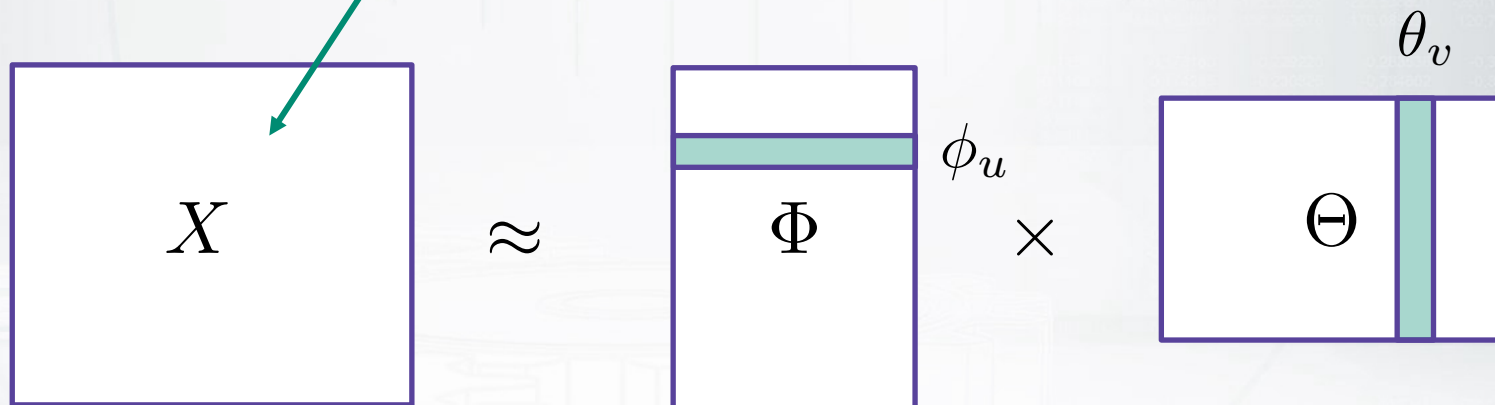


SGNS as implicit matrix factorization

SGNS objective is maximized when $\langle \phi_u, \theta_v \rangle$ is equal to shifted Pointwise Mutual Information:

$$\text{sPMI} = \log \frac{n_{uv}n}{n_u n_v} - \log k$$



Levy and Goldberg. Neural Word Embedding as Implicit Matrix Factorization, 2014.