

DeepWalk (Perozzi et al., 2014) learns embeddings via the prediction of the local neighborhood of nodes, sampled from random walks on the graph. **LINE (Tang et al., 2015) and node2vec (Grover & Leskovec, 2016) extend DeepWalk with more sophisticated random walk or breadth-first search schemes.** For all these methods, however, a multistep pipeline including random walk generation and semi-supervised training is required where each step has to be optimized separately.

