Works Cited: <https://arxiv.org/pdf/1611.07308.pdf>

The aim of this paper is to extend the method of a variational autoencoder to graph neural network structures. The authors construct a graph of data with a given adjacency matrix A. They also define a matrix Z of latent variables, which are optimized by two graph convolution layers. Downsampling happens by removing edges selectively. After creating the latent variable matrix, they reconstruct the adjacency matrix by penalizing KL divergence of the distribution given by P(A | Z). On test datasets, this model achieves 89% accuracy on edge vs. non-edge classification tasks.