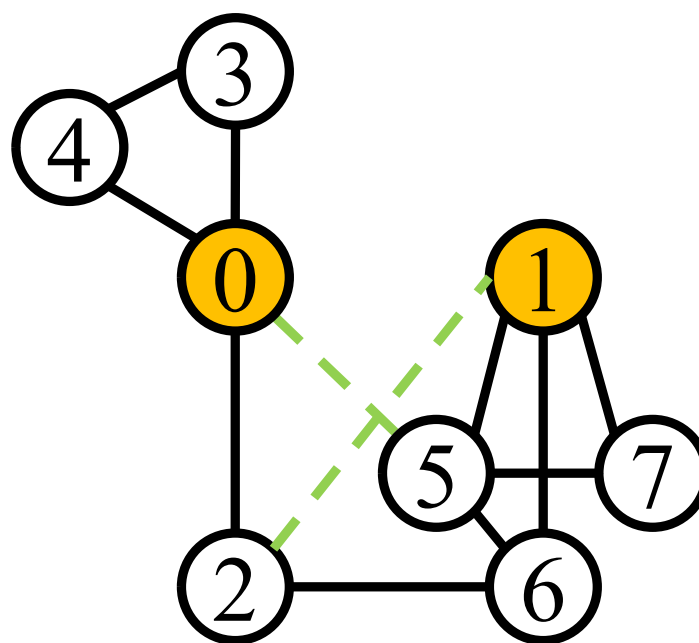
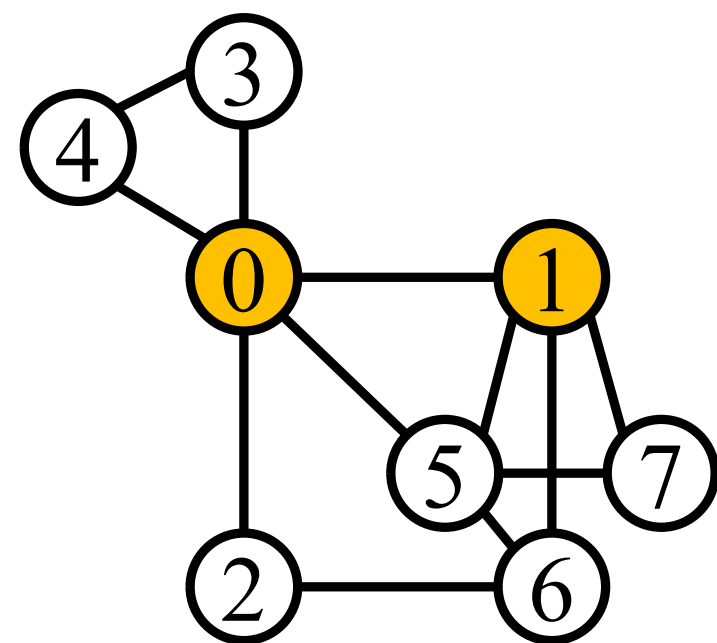


Observed Graph
Prediction: 0.1737



Graph After Completion
Prediction: 0.5999



Full Graph
Ground Truth: 1

Figure 5. Visualization of how NCNC works. The example is from the Cora dataset, a citation graph. The target link is (0, 1). Models should produce high link existence probability. However, in the observed graph, link (0, 5) is missing, and (0,1) thus has no common neighbor. So NCN predicts that the link is not likely to exist. However, for NCNC, it first completes common neighbors (see green lines). Therefore, NCNC predicts that (0, 1) is more likely to exist. Note that NCNC completes common neighbors by probability, and we only plot completion with probability > 0.5 here. And the two completions are with about 0.95 probability. Though the common neighbor 2 completed by the model does not exist in the full graph, the full graph here only means a graph with all training, validation, and test edges, and the citation relation in the graph may still need to be completed.