Abstract

Drug discovery is a complex and time-consuming process that needs further improvements. The main challenge which is faced by pharmaceutical companies is the failure in drug discovery. One of the reasons for the failure in drug discovery is the failure in disease target identification e.g. If the scientists cannot find the target for a particular disease. In simple words, the disease target is the particular body part e.g. gene that is causing the disease. In this research, we have proposed a solution to this problem. We have utilized hetionet which is a heterogeneous graph developed by using publicly available medical databases. It contains multiple nodes e.g. diseases and genes and relations between these nodes. We have used the Graph neural networks model named as Graph learning model to perform the learning on this graph. Our Graph learning model is performing link prediction e.g. predicting the link between two nodes e.g. disease and gene nodes. After performing the learning, we have done the testing to test the learning of our model by using multiple testing metrics. The testing results tells us that the learning is performed successfully. This framework can be used to give a starting point to work on a general or novel disease.