

Resumo: Graph generative models are recently gaining significant interest in current application domains. They are commonly used to model social networks, knowledge graphs, molecules and proteins. In this talk we will present the potential of graph generative models and our recent relevant efforts in the biomedical domain. More specifically we present a novel architecture that generates medical records as graphs with privacy guarantees. We capitalize and modify the graph Variational autoencoders (VAEs) architecture. We train the generative model with the well known MIMIC medical database and achieve generated data that are very similar to the real ones yet provide privacy guarantees. We achieve there as well promising results with potential for future application in broader biomedical related tasks. Finally we present ongoing research directions for multi modal generative models involving graphs and applications to protein function text generation – the prot2text model.