

Homework 6

Introduction

In this assignment, we are attempting to determine independency and dependency of nodal networks. In the Fino paper, the concept of a connection between a sGFP neuron with a pyramidal neuron was analyzed to determine whether edges were shared in the pyramidal neuron. One way of improving the model would be through the implementation of a stochastic block model. Using this model, we can possibly determine whether certain blocks are independent or dependent on each other. Firstly, a network of triangles displaying connectivity will be generated from our stochastic block model. After calculating the number of triangles that are generated from the model, we can implement an F-test. An F test, will be able to determine if the two types of data have similar variances. Finally, we can implement the usage of principal component analysis to emphasize variation and bring out strong patterns within the pyramidal neuronal data.