



Analyzing Attribute Based
Multi-Relationships and the Prediction
Problem using Graphical Models
Professor Diganta Mukherjee, Indian Statistical Institute
April 13th, 2017 at 3pm
Lippincott Room 1314 Social Sciences

We study various relationships using the multi-relationship model and graphs, allowing for heterogeneity in the set of individuals. This is achieved using an attribute based network structure and analysis of the interlinkage that exists between the different layers of multigraph data and a prediction strategy for such graphs. The results are noteworthy on several counts. We observe that knowledge about the target relationship/ graph helps in better prediction of the actual network rather than a blind prediction. In terms of effectiveness of alternative node (individual) sampling strategy, at a fixed percentage, random sampling seems to work slightly better than other sampling strategies. This may be attributed to getting better information from “variety of data” rather than “localized or very specific data”. We will primarily focus on a work relationship data but the results are generalizable to social relationships or political / economic ties.