SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

An Autonomous Institution

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Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF COMPUTER SCIENCE AND TECHNOLOGY

COURSE NAME :19CS731-SOCIAL NETWORK ANALYSIS

III YEAR /V SEMESTER

Unit 1- INTRODUCTION

Topic 4 :Development of Social Network Analysis

Recall previous topic

1.7 Key concepts and measures in network analysis

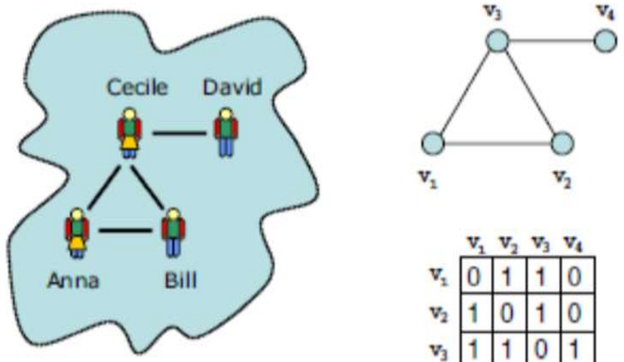
- Social Network Analysis has developed a set of concepts and methods specific to the analysis of social networks.

1.7.1 The global structure of networks

- A Social network can be represented as a Graph G = (V,E) where V denotes finite set of vertices and E denoted finite set of Edges.

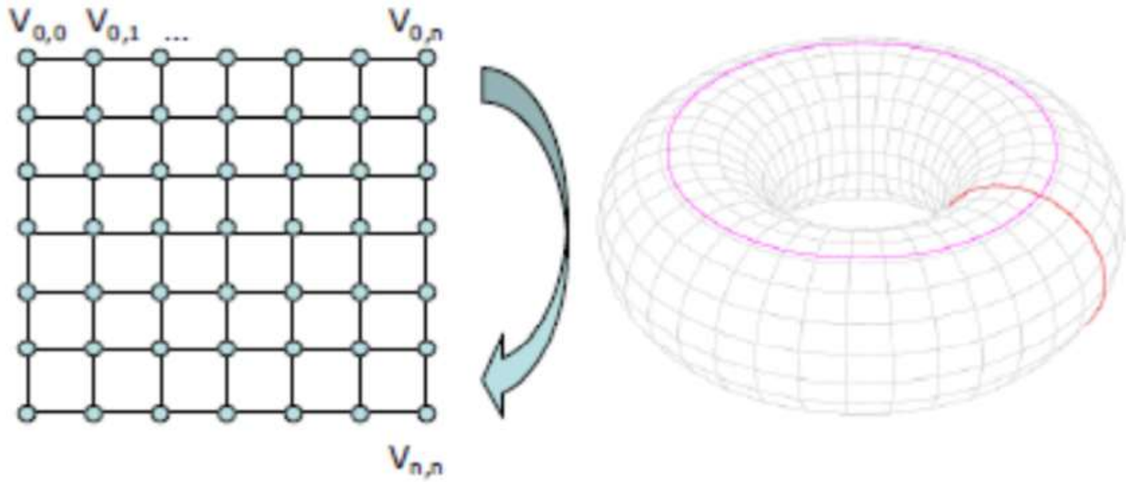
Each graph can be associated with its characteristic matrix $M: =(m_{i,j})_{n*n}$ where n =|V|

$$m_{i,j} = \left\{ \begin{matrix} 1 \\ 0 \end{matrix} \middle| \begin{matrix} (v_i, v_j) \in E \\ otherwise \end{matrix} \right\}.$$



	v1	v2	v3	v4
v1	0	1	1	0
v2	1	0	1	0
v3	1	1	0	1
v4	0	0	1	0

Figure 1.7.a Most network analysis methods work on an abstract, graph based representation of real world networks.



- Figure 1.7.b The 2D lattice model of networks (left). By connecting the nodes on the opposite borders of the lattice we get a toroidal lattice (right).

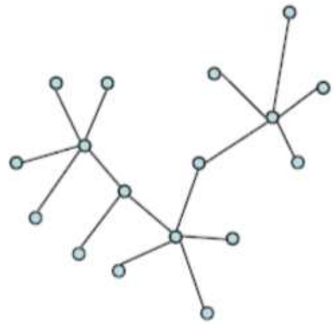


Figure 1.7.c A tree is a connected graph where there are no loops and paths leading from a vertex to itself.

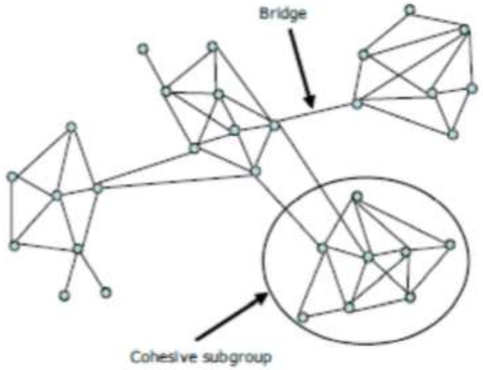


Figure 1.7.d Most real world networks show a structure where densely connected subgroups are linked together by relatively few bridges

REFERENCES

1. Dion Goh and Schubert Foo ,Social information retrieval systems:Emerging technologies and applications for searching the web effectively, IGI Global snippet,2008

Thank You