



**AMRITA**  
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DEEMED TO BE UNIVERSITY

# 19CSE337 Social Networking Security

Lecture 2

A vertical sidebar on the left side of the slide, featuring a dark blue background with a grid of various white and light blue icons. These icons represent different concepts related to technology, communication, and science, such as a television, a camera, a lightbulb, a camera, a hand, a speech bubble, a padlock, a shopping cart, a smartphone, a person, a magnifying glass, a Twitter bird, and a lowercase 't' for Tumblr.

## Topics to Discuss

- Introduction to Network Science
- Introduction to Complex Networks
- Examples of Complex Networks

- What is Network Science?
  - Network Science is an academic field which studies complex networks.
- Why is it important?
  - To identify the structure of relationships among people/object/business etc.
  - To understand behaviour or pattern.

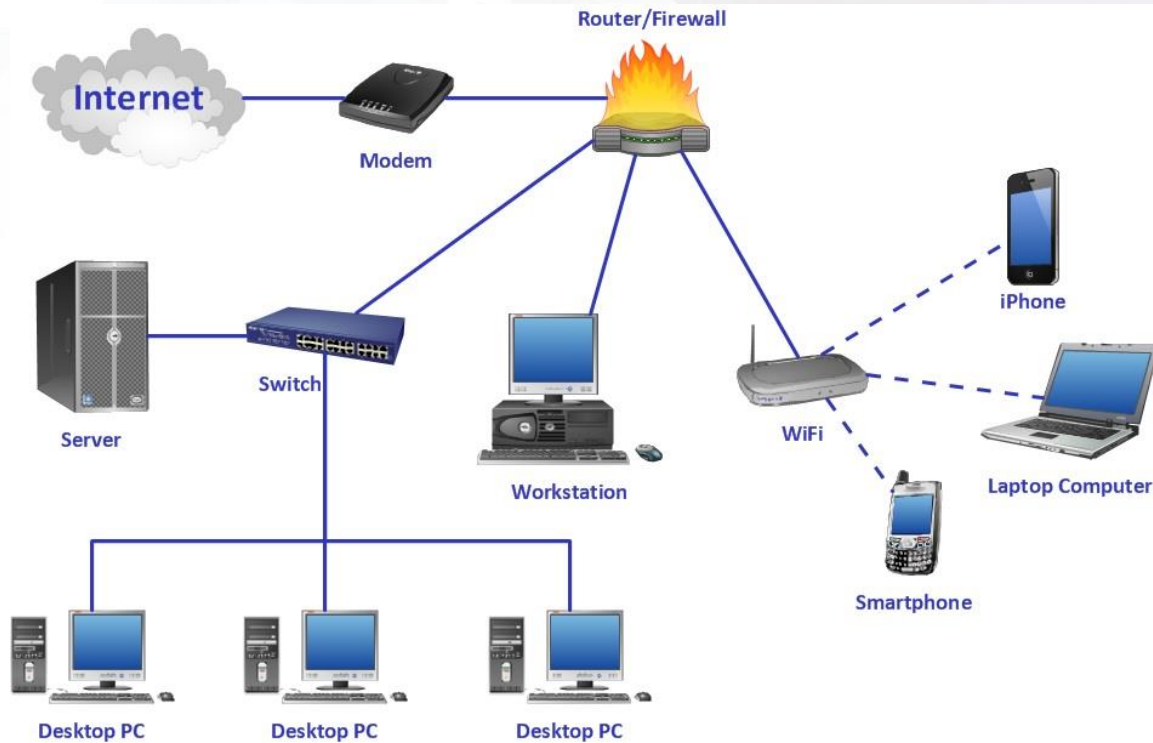
- What is Complex Network?
  - A **Complex Network** is a network with non-trivial topological features, with patterns of connection between their elements that are neither purely regular nor purely random.



# Complex Networks Examples

- Computer Networks/Internet
- Social Networks
- Biological Networks
- Economic Networks
- Communication Networks
- Transportation Networks
- Geo-Social Networks

# Computer Network





# Social Network



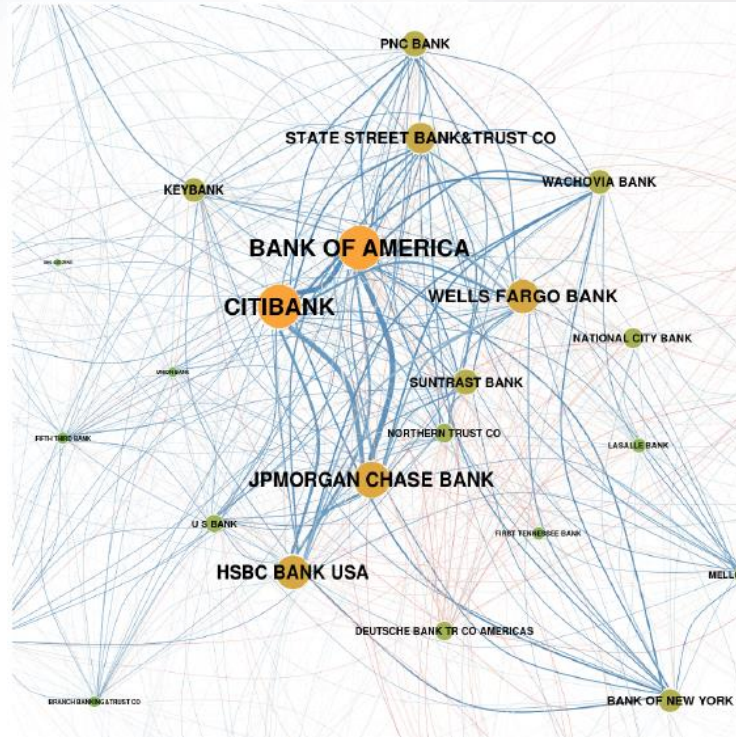
# Brain Network







# Economic Network

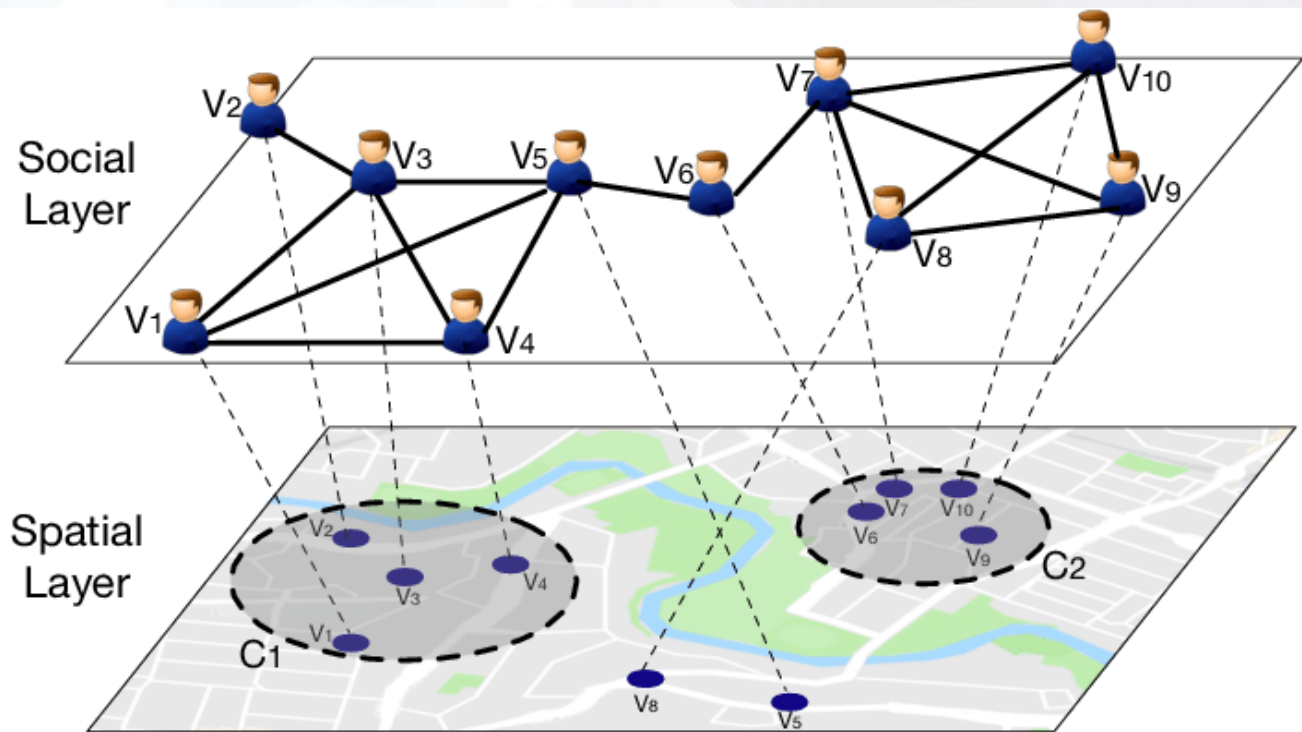


# Transportation Network

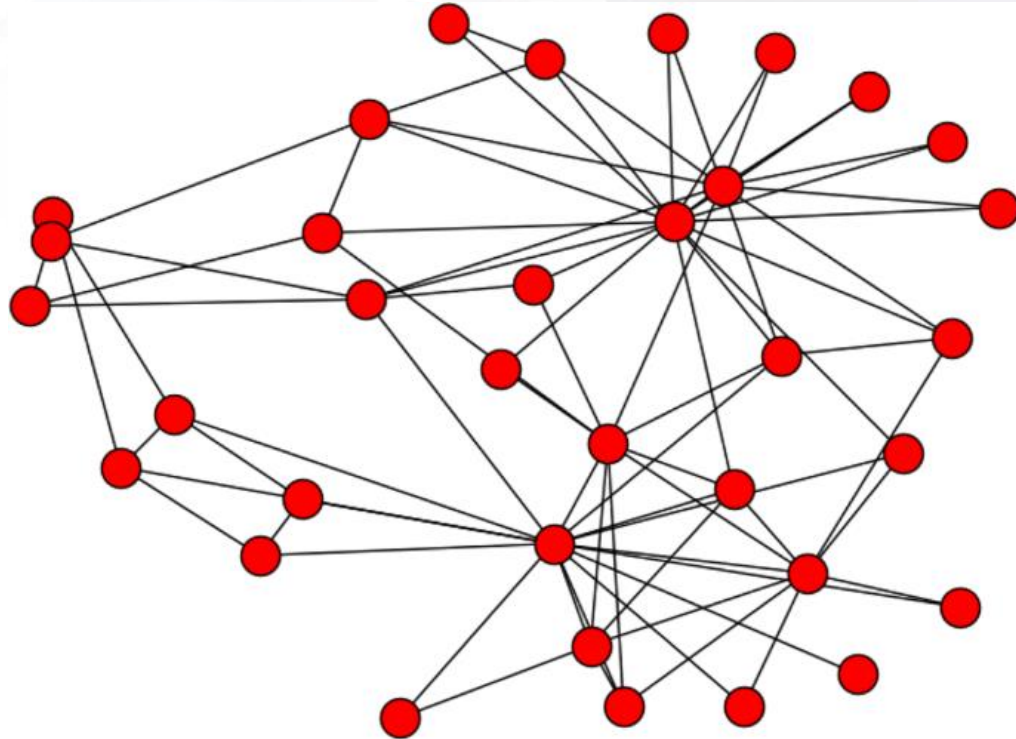




# Geo-Social Network



# Complex Network





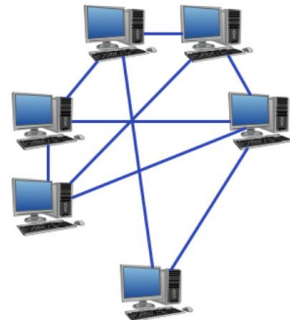
# Complex Network



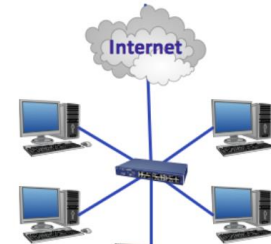
# Network Topology



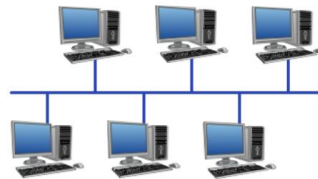
Fully Connected Network Topology



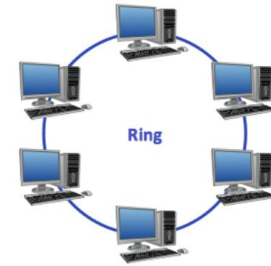
Mesh Network Topology



Star Network Topology

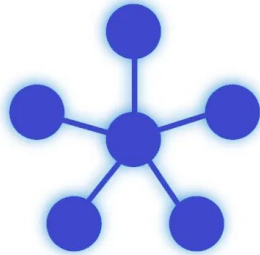


Common Bus Topology

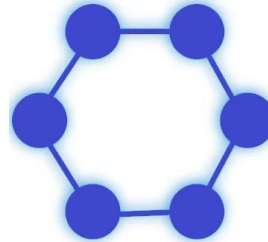


Ring Network Topology

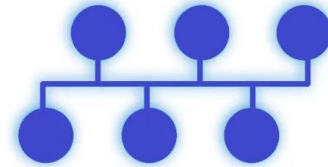
# Network Topology



**Star**



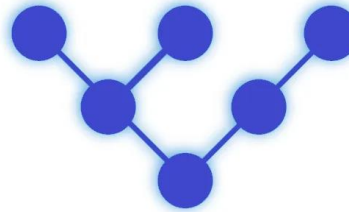
**Ring**



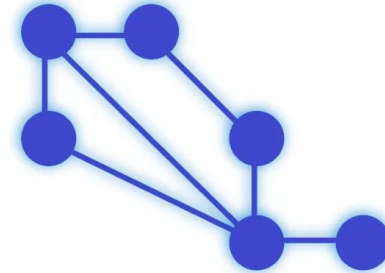
**Bus**



**Line**



**Tree**



**Mesh**



Thanks.....