Network and Communication

(CSE 1004)

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Faculty: Prof. Asha S

Project Title

Implementation of Graph Theory in Computer Networking

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Abstract

Graphs and networks are all around us, including technological networks (the internet, power grids, telephone networks, transportation networks etc.), social networks (social graphs, affiliation networks etc.), information networks (World Wide Web, citation graphs, patent networks etc.), biological networks (biochemical networks, neural networks, food web etc.), and many more. Graphs provide a structural model that makes it possible to analyze and understand how many separate systems act together.

The major role of graph theory in computer applications is the development of graph algorithms. Numerous algorithms are used to solve problems that are modeled in the form of graphs. These algorithms are used to solve the graph theoretical concepts which intern used to solve the corresponding computer science application problems.

In this project, we review some of the key routing algorithms in network security. Some algorithms are as follows:

1. Shortest path algorithm in a network
   - Dijkstra
   - Bellman Ford
2. 2. Finding a minimum spanning tree
   - Prims
   - Kruskal
3. Algorithms for searching an element in a data structure.
   - DFS
   - BFS