

# **Applications of Graph Theory in Networking and Social Media**

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**Abstract:** *Graph theory, a branch of discrete mathematics, has emerged as a powerful tool for modeling, analyzing, and optimizing complex networks. This abstract explores the diverse applications of graph theory in the field of network science, encompassing communication networks, social networks, transportation networks, and more. This paper explains the use of graphs in various networks such as GPS, transportation networks, communication networks, social networks etc. Also this paper delves into the use of Dijkstra's algorithm to find the shortest path in GPS.*

**Keywords:** Directed and undirected graph, GPS, Dijkstra's algorithm

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