Abstract

The Travelling Salesman Problem (TSP) is a classical problem in the field of combinatorial optimization. Main objective of TSP is to find an optimal tour which starts from an arbitrary city (vertex), visits remaining cities exactly once and returns back to the city at which tour commenced. TSP belongs to the class of NP Complete problems, has been studied for many years and is still being studied; a general solution is yet to be reported.

Proximity of cities plays a vital role while traversing a set of cities. Proximity can be traced to a similar measure called distance measure, used in Pattern Recognition (PR). Newer and newer distance measures are proposed in PR for cluster analysis and classification. The sole aim of these measures is to cluster those sets of vertices, which are highly similar or in other words form group of vertices by taking into account distance as a metric of PR from the given instance of complete graph. The objective of this study is to construct a round tour by utilizing the mutually nearest vertices.


7. Nearest Neighbour chain algorithm, Wikipedia


Index Terms

Computer Science

Algorithms

Keywords

TSP, PR, distance measure, cluster analysis and cluster classification.