Abstract

A graph is a symbolic representation of data and its relationships. It is used in many domains like bioinformatics, semantic web and chemical structures applications. Subgraph matching is a technique to retrieve set of subgraphs from dataset which are similar to query/input graph. Subgraph matching is a NP-hard. Graph $S(V_S, E_S)$ is subgraph of graph $G(V_G, E_G)$ if $V_S \subseteq V_G$ and $E_S \subseteq E_G$. Work here aims to fetch all subgraphs $S(V_S, E_S)$ from graph $G(V_G, E_G)$ which are similar to query graph $Q(V_Q, E_Q)$ using subgraph matching algorithm. Work carried out in two phases, offline phase and online phase. Offline phase generates index over data graph $G$. Online phase retrieves set of subgraphs from data graph $G$ which are similar to query graph $Q$. A cost function is introduced for checking similarity of query node with data graph node which efficiently reduces intermediate results by converting vertices into vector points and extracts similar subgraphs by calculating nearest distance of these vector points.
Subgraph Matching Algorithm for Graph Database

References

- Nar Singh Deo, "Graph theory with applications to engineering and computer science."

Index Terms

Computer Science Algorithms

Keywords

Graph Database Offline Phase Online Phase Subgraph Matching