

Lesson 5

Graph Network Organization— Applications In Analytics

Graph Data Store Nodes

- Advantages are easy to navigate through a traversal of paths
- Path traversals can be optimized for faster traversing
- Scaling up and adding new relationships or associations easy in the Graph Data Stores

Network Organization

- Means where the persons or entities interconnect with others who have areas of common interest, business or study
- A graph data store models a network organization also
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Examples of Graph networks

- Entities Network
- Web-links network
- Social network, such as Twitter, LinkedIn
- Business network
- Students network

Network Graph

- Consists of vertices \mathcal{V}
- Interconnected by directed or undirected edges \mathcal{E}

Applications of Graph model of a network organization

1. Detecting patterns
2. Finding organization inherent in the network
3. Finding communities and micro-communities, for example, finding the groups where new trends are emerging, and the groups of similar interests

... Applications of Graph network organization

4. Finding connections. For example, finding the student-specific connected groups showing preference for programming language subjects
5. Modeling communication. For example, finding the specific events which create active interest in the specific community-groups

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6. Modeling distances between set of entities. For example, finding how much distance a path-traversal takes place on an average when searching a common-interest entity
7. Making discoveries and providing the previously unknown information after the search and analysis

8. Modeling Communication Network Examples

- Launching a new luxury car model which creates interest in managers and chief executive officers
- Starting a new course on Python which creates deep interest in postgraduate Computer-Science students

9. Graph Network Modeling collaborations

- For example, finding the collaborating and sharing communities which have similar interests,
- Finding community sharing new techniques and algorithms and that community has interest in Big Data Analytics

10. Graph Network Modeling Influences

- For example, finding the persons (nodes) with high degrees of interconnections to large number of entities compared to the others

Distance Between Nodes

- Distance in a graph consisting (\mathcal{V} and \mathcal{E}) refers to the number of edges connecting the two vertices v_1 and v_2 on the path traversal between them.

Summary

We learnt:

- Graph model of network organization
- Models social network, web-links network,
- Models influences, collaborations and communications in network
- Distances, communities, micro-communities



End of Lesson 5 on
**Graph Network Organization—
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