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**Graph theory for big data analytics.** (English) Zbl 1471.94015 

**Summary:** Big data is a thriving term at the present moment, and it offers researchers numerous opportunities. Big data is a groundbreaking concept in many areas to achieve detailed results and research on human beings' interests. Applications such as the Internet of Things, science research, health care, finance, and e-commerce are applications where tremendous data is generated, and information needs to be obtained properly. Data analysis of big data enables humanity to make more accurate and better decisions for many problems. Analysis of social networks is an implementation of graph theory to explain and identify relationships on social networks. Social media produce vast volumes of data every day that is impossible to manage with conventional data analytics algorithms and methods such as data mining and deep learning. Social network data is helpful for finding interaction between people, analysis of confidence, analysis of effect, the suggestion of any item or place, prediction of connections, identification of crime, etc. In this study, a mathematical graph model of a social network was devised, and edge betweenness centrality, one of the graph-theoretical measurements for social network analytics, was studied.

**MSC:**

- 94A16 Informational aspects of data analysis and big data
- 05C90 Applications of graph theory
- 05C82 Small world graphs, complex networks (graph-theoretic aspects)
- 68T09 Computational aspects of data analysis and big data
- 68M11 Internet topics
- 68R10 Graph theory (including graph drawing) in computer science
- 68P05 Data structures
- 91D30 Social networks; opinion dynamics

**Keywords:**

big data; graph analytics; centrality

**Full Text:** DOI