



ACM Transactions on the Web

Special Issue on Advanced Graph Mining on the Web: Theory, Algorithms, and Applications

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The rapid development of Web technologies has attracted significant research interest from a vast range of disciplines. Graph mining can take full advantage of the growing and easily accessible big data resources on the Web, such as rich contextual information in social media and user relations in online social networks (OSN). Extracting valuable and representative information from Web graph data to support downstream applications, including, anomaly detection, link prediction and community detection, requires research and development on advanced techniques.

The contemporary graph mining approaches (e.g., conventional machine learning, deep neural networks) have demonstrated an unprecedented capability to learn from different data resources that can be represented as graphs. Meanwhile, the continuous emergence of more complicated and large-scale Web data poses many challenges and opportunities for the development of data mining and analysis in both theoretical foundations and application areas. There are still many open fundamental problems that require further investigation such as the heterogeneous sources of Web information and online learning on dynamic data. Extending the application of current graph mining technologies to more Web fields (e.g., Accessibility, Health, Crowdsourcing, Security, Economics, Mobile, Performance and Scalability) needs more advanced and reliable graph learning theory and algorithms. More scalable and efficient learning strategies are required to further research on massive Web data.

This special issue serves as a forum for researchers and practitioners to present their latest research findings and engineering experiences in the theoretical foundations, empirical studies, and novel applications of Advanced Graph Mining techniques for next-generation intelligent systems on Web.

Topics

Submissions are invited in theory, algorithms, and applications of Advanced Graph Mining on the Web, to establish the latest research in this area. Topics of interest include, but are not limited to:

- Graph Mining Models and Paradigms on the Web
- Safety and Robustness of Graph Mining Techniques (Adversarial Attacks, Threats, Defenses) on the Web
- Explainable Graph Mining on the Web
- Optimization Algorithms for Graph Mining on the Web
- Pre-training Strategies for Graph Mining on the Web
- Distributed Training for Graph Mining on the Web
- Efficient Strategies for Complicated Graphs on the Web
- Graph Anomaly Detection on the Web
- Link Prediction, Clustering, and Community Detection on the Web
- Graph-based Social Recommendation System on the Web

- Analysis of Social Networks, Web of Things, Ubiquitous, Mobile Computing, etc.
- Graph Mining for Natural Language Processing, Text Mining, and the Semantic Web

Important Dates

- Open for submissions: December 15, 2021
- Submission deadline: January 31, 2022
- First-round review decisions: April 30, 2022
- Deadline for revision submissions: June 30, 2022
- Notification of final decisions: August 31, 2022
- Tentative publication: Late 2022

Submission Information

Submitting authors should follow the Style and Author Guidelines for regular TWEB submissions available at <https://dl.acm.org/journal/tweb/author-guidelines>. Please submit manuscripts via Manuscript Central, <https://mc.manuscriptcentral.com/tweb>.

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