

Cover letter

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- What is the main claim of the paper? Why is this an important contribution to the machine learning/data mining literature?

We propose a novel index structure to solve k-truss community queries on large-scale graph. Our contributions can be summarized as follows.

1. We categorize the local k-truss community queries into the community-level query and the edge-level query based on the information required to answer each type of query.
 2. We develop a 2-level index structure that can efficiently process both the community-level and the edge-level k-truss community query. The top level index contains a super-graph for locating target communities of a given query. The bottom level index preserves the edge level triangle connectivity for detailed search of inner-community structures.
 3. We perform extensive experiments on our 2-level index on large-scale real-world graphs and compare it with state-of-the-art index structures.
- What is the evidence provided to support claims? Be precise.

We prove our index is optimal to for k-truss community queries and shows in experiments on real-world graphs:

1. We compared with state-of-the-art methods for single-vertex k-truss community search and showed that our method has the best performance.
 2. Our index supports new types of queries that are not supported in previous works.
- Report 3-5 most closely related contributions in the past 7 years (authored by researchers outside the authors' research group) and briefly state the relation of the submission to them.

Recent works on K-truss community search are:

1. Huang et al. (2014) introduced k-truss community model based on triangle connectivity.
2. Huang et al. (2014) proposed the TCP index for k-truss community search.

3. Akbas and Zhao (2017) proposed the Equitruss index for k-truss community search.
- Who are the most appropriate reviewers for the paper? Authors are required to suggest up to four candidate reviewers (especially if external to the Guest Editorial Board), including a brief motivation for each suggestion.

The suggested reviewers are:

1. Xin Huang (xhuang @se.cuhk.edu.hk), author of key reference Huang et al. (2014)
2. Esra Akbas (akbas@cs.fsu.edu), author of key reference Akbas and Zhao (2017)
3. Jeffrey Xu Yu (yu @se.cuhk.edu.hk), author of key reference Huang et al. (2014)
4. Peixiang Zhao (zhao@cs.fsu.edu), author of key reference Akbas and Zhao (2017)

Reference:

Huang X, Cheng H, Qin L, Tian W, Yu JX (2014) Querying k-truss community in large and dynamic graphs. In: Proceedings of the 2014 ACM SIGMOD international conference on Management of data, ACM, pp 1311-1322

Akbas E, Zhao P (2017) Truss-based community search: a truss-equivalence based indexing approach. Proceedings of the VLDB Endowment 10(11):1298-1309