

Topics for the seminar „Algorithms for Compressed Graphs“ - WS 2018/2019:

Graph compression:

1. Sebastian Maneth, Fabian Peternek:
Compressing graphs by grammars," 2016 IEEE 32nd International Conference on Data Engineering (ICDE), Helsinki, Finland, 2016.
2. A. Sadri, F. D. Salim, Y. Ren, M. Zameni, J. Chan, and T. Sellis. Shrink: Distance Preserving Graph Compression. Information Systems, 2017.
Can be downloaded e.g. from
<https://github.com/cruiserresearchgroup/Graph-Compression-Shrink-/blob/master/paper/1-s2.0-S0306437916306573-main.pdf>

Succinct encoding of graphs:

3. J  r  my Barbay, Luca Castelli Aleardi, Meng He, J. Ian Munro:
Succinct Representation of Labeled Graphs, ISAAC 2007.
Can be downloaded e.g. from J  r  my Barbay's website (the 13 pages version)
4.   lvarez-Garc  a, S.; Freire C., Borja; Ladra, S.; Pedreira, O.:
Compact and Efficient Representation of General Graph Databases for Knowledge and Information Systems,
to appear in Knowledge and Information Systems.
Can be downloaded e.g. from the web page of Susana Ladra:
http://lbd.udc.es/ShowResearcherInformation.do?lang=en_US&id=113
5. Laxman Dhulipala, Igor Kabiljo, Brian Karrer, Giuseppe Ottaviano, Sergey Pupyrev, Alon Shalita:
Compressing Graphs and Indexes with Recursive Graph Bisection. KDD 2016.

Queries on graph databases and subgraph matching:

6. M. Sarwat, S. Elnikety, Y. He, and M. F. Mokbel.
Horton+: A Distributed System for Processing Declarative Reachability Queries over Partitioned Graphs. Proc. VLDB Endow., 6(14):1918-1929, Sept. 2013.
7. Miao Qiao, Hao Zhang, Hong Cheng:
Subgraph Matching: on Compression and Computation.
VLDB 2018. Rio de Janeiro, Brasil, 2018.
8. Paolo Ferragina, Francesco Piccinno, Rossano Venturini:
Compressed indexes for string searching in labeled graphs. WWW 2015: Proceedings of the 24th International Conference on World Wide Web, 2015.
9. Wenfei Fan, Jianzhong Li, Xin Wang, Yinghui Wu:
Query Preserving Graph Compression. SIGMOD'12, Scottsdale, Arizona, USA, 2012.

10. Anurag Khandelwal, Zongheng Yang, Evan Ye, Rachit Agarwal, Ion Stoica:
ZipG: A Memory-efficient Graph Store for Interactive Queries.
SIGMOD '17, Chicago, IL, USA, 2017.

Graph databases and their applications:

11. P. Yuan, P. Liu, B. Wu, H. Jin, W. Zhang, and L. Liu:
TripleBit: A Fast and Compact System for Large Scale RDF Data. Proc. VLDB
Endow., 6(7):517-528, May 2013.
12. Manuel Then, Timo Kersten:
Automatic Algorithm Transformation for Efficient MultiSnapshot Analytics on
Temporal Graphs. Proceedings of the VLDB Endowment, Vol. 10, No. 8., 2017.
13. B. Shao, H. Wang, and Y. Li.
Trinity: a distributed graph engine on a memory cloud. In Proceedings of the ACM
International Conference on Management of Data (SIGMOD), pages 505-516. ACM,
2013.
14. Wenfei Fan, Jingbo Xu, Yinghui Wu, Wenyuan Yu, Jiaxin Jiang:
GRAPE: Parallelizing Sequential Graph Computations. Proceedings of the VLDB
Endowment, Vol. 10, No. 12., 2017.
15. Arijit Khan, Charu Aggarwal:
Query-Friendly Compression of Graph Streams. IEEE/ACM ASONAM 2016, August 18-
21, 2016, San Francisco, California, USA.