RESEARCH

Metagraphs:
Approximation algorithms for exact count and log-scaled count
Branching and Converging Random Walks
   As a method for approximating subgraph isomorphism
   Uniform sampling: tensor estimation of transition probabilities
Proofs:
   Correctness for uniform sampling transition tensor
   Convergence to correct isomorphism counts
   Probabilistic error bounds

Target submission ICDM, deadline June 3.
525 Graph Sample Project

Motivation: Online computation of expensive algorithms

Sampling using knowledge about networks

- Preserve structures
- Preserve properties: densification, shrinking diam., centralities

Approximation with multiple samples

- 95-100% accuracy for SSSP, APSP, Diameter, (PageRank)
- Fully covers 100% of query space

Connection to Metagraph, Metapath:

Applications for approximate query
GRADUATION

Thanks for all the help and discussion