Persistent Roles in Online Social Networks
ECML-PKDD 2016, M. Revelle, C. Domeniconi, and A. Johri

Contents
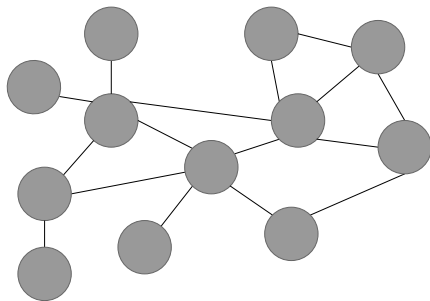
Motivation

Applications

graph mining Targeted advertisement

What is a Social Network?

Methodology

The Approach

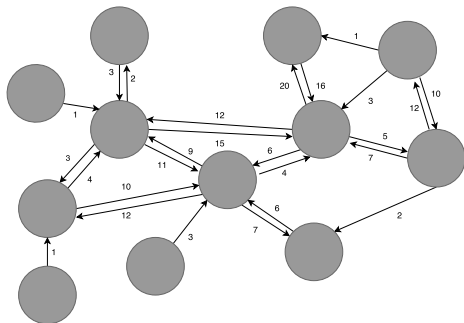Split into snapshots → Feature extraction

Role Tracking ← Role Assignment
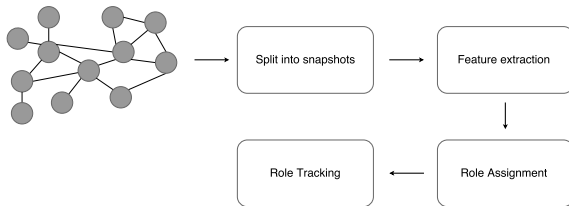
Data Format

- Facebook - wall posts
- Scratch - ?

Directed, timestamps.

Snapshot Split-up

Feature Selection

Feature Example
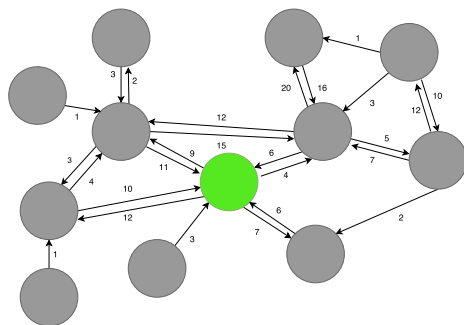
In-degree	
Out-degree	
Weighted in-degree	
Weighted out-degree	
Reciprocity	
New activity	
Social strategy	
Betweenness centrality	
PageRank	
Weighted PageRank	
Transitivity	
Weighted transitivity	

Role Assignment

NMF NNDSVD feature size of 6 (based on RMSE)

Tracing Roles

The sim between snapshots.

Results

Persistent Roles

Role Transition

Conclusion

Conclusion