



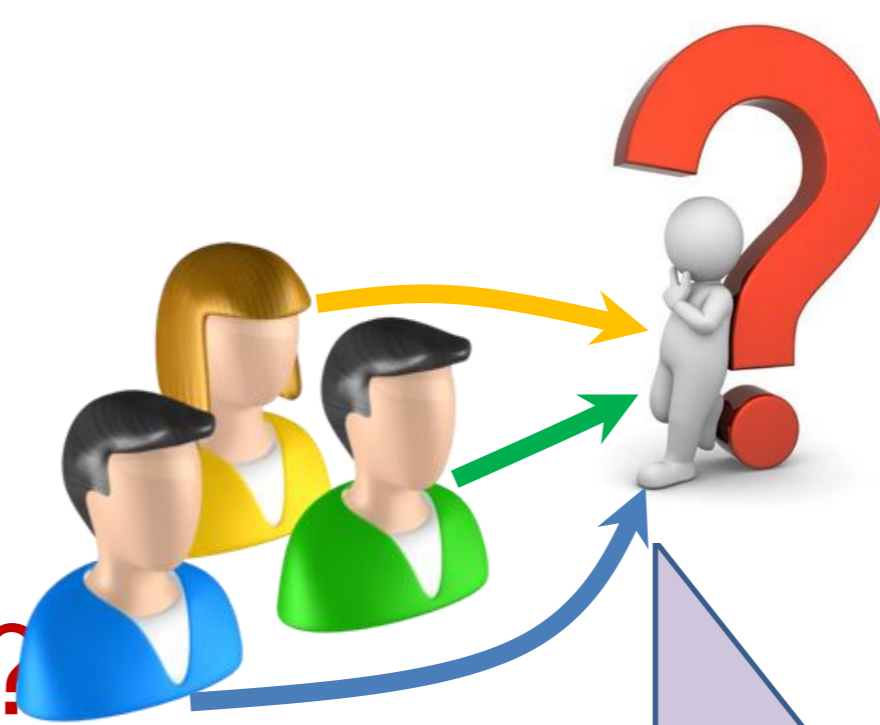
DIVa: Decentralized Identity Validation for Social Networks

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Online Identity Validation

How can OSN users establish authenticity of their online peers?



DIVa

1. DiVa is a decentralized identity validation model to extract the hidden dependencies among profile attributes.
2. DiVa provides users with fine-grained community-based association rules better than the global rules generated by centralized approach.

Goal

Develop an identity validation mechanism that detects claimed and fake identities without disclosure of users' confidentialities.

Requirements

1. Privacy Preservation,
2. Decentralized environment,
3. Efficient community-aware validation,
4. Scalability

Approach

Decentralized collaborative learning with limited view of the social network structure.

Step (1)

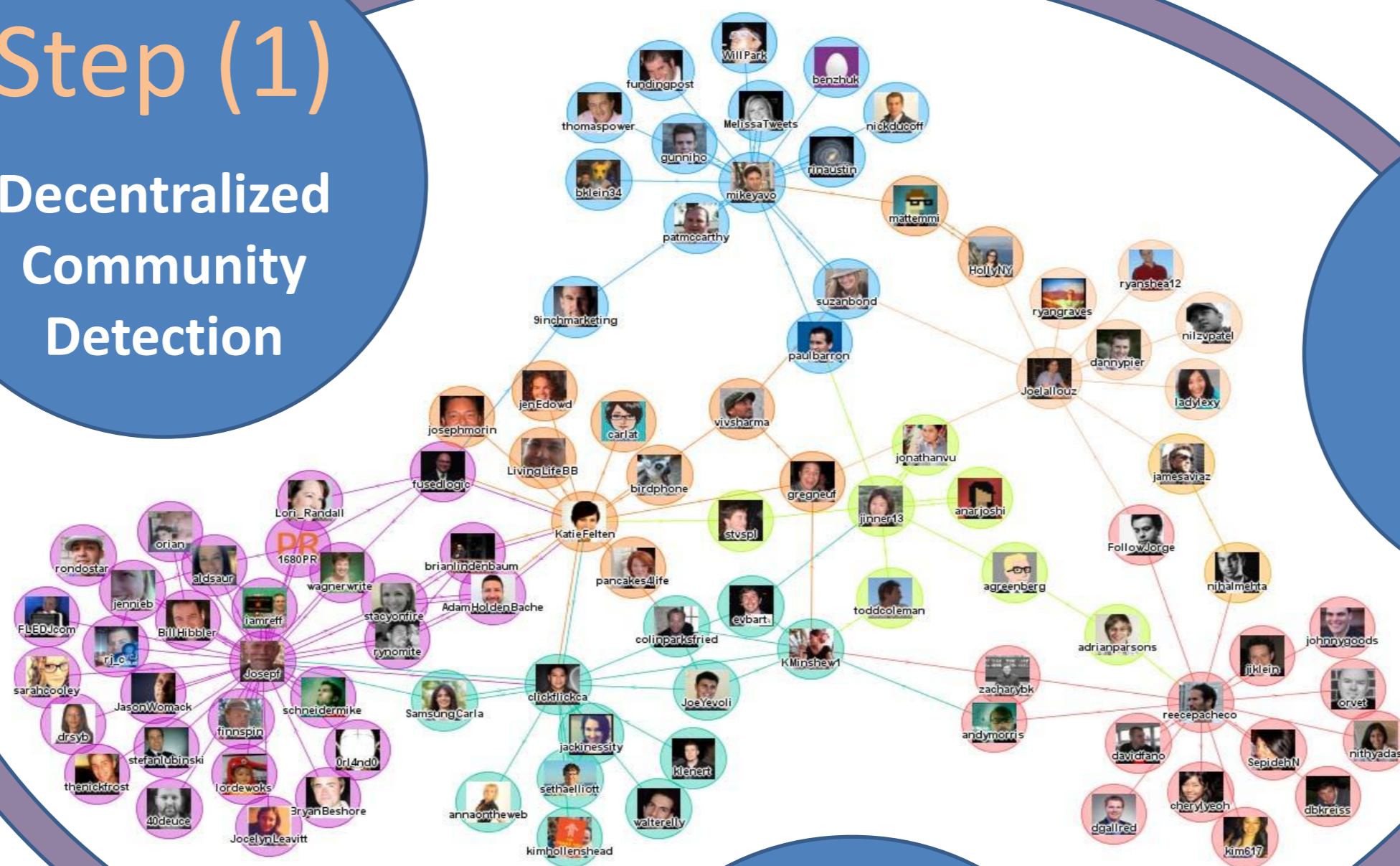
Decentralized Community Detection

Step (2)

Association Rule Mining using Local Data

Step (3)

Aggregating Correlated Attributes Sets



facebook

NaCuD dataset:

No. of nodes: 588K
No. of edges: 34 K

Correlated Attributes Set

- {Interest, Job}
- {Education, Interest}
- {Education, Job},
- {Gender, First Name}
- {Gender, Interest}
- {Gender, First Name}

