Higher-Order Network Analysis

XGI-DATA

Data Cleaning

"hypergraph"
"simplicial"
"higher-order"

Network Representations

Adjacency Matrix   **Line Graph**

Node

Node

Incidence Matrix

Node

Group

Generative Models

Hypergraph Chung-Lu Model

Dynamics

Hypergraph Kuramoto model

Sync. Param., R

Time, t

Susceptible-Infected-Recovered model

Fraction of nodes, ρ

Susceptible, S
Infected, I
Recovered, R

Time, t

Structure

Dataset
Chung-Lu

Deg. Assort.   ES   Mean CC