

3 Algorithms, Tools, and Plugins

Compartmental Modeling

- [Create a compartmental model](#)
- [Edit a compartmental model](#)

Networks

Modeling

- [Random Graph](#)
- [Watts-Strogatz Small World](#)
- [Barabási-Albert Scale-Free](#)
- [Can](#)
- [Chord](#)
- [Hypergrid](#)
- [PRU](#)
- [TARL \(Topics, Aging and Recursive Linking\)](#)
- [Discrete Network Dynamics \(DND\)](#)
- [Evolving Network \(weighted\)](#)

Preprocessing

- [Extract Timestamp](#)
- [Extract Top Nodes](#)
- [Extract Nodes Above or Below Value](#)
- [Remove Node Attributes](#)
- [Delete High Degree Nodes](#)
- [Delete Random Nodes](#)
- [Delete Isolates](#)
- [Extract Top Edges](#)
- [Extract Edges Above or Below Value](#)
- [Remove Edge Attributes](#)
- [Remove Self Loops](#)
- [Trim By Degree](#)
- [Snowball Sampling \(N nodes\)](#)
- [Node Sampling](#)
- [Edge Sampling](#)
- [Symmetrize](#)
- [Dichotomize](#)
- [Multipartite Joining](#)
- [Lowercase, Tokenize, Stem, and Stopword Text](#)
- [Slice Table by Time](#)

Analysis

- [Network Analysis Toolkit \(NAT\)](#)
- [Unweighted and Undirected](#)
 - [Node Degree](#)
 - [Degree Distribution](#)
 - [Watts-Strogatz Clustering Coefficient](#)
 - [Watts Strogatz Clustering Coefficient over K](#)
 - [Diameter](#)
 - [Average Shortest Path](#)
 - [Shortest Path Distribution](#)
 - [Node Betweenness Centrality](#)
 - [Global Connected Components](#)
 - [HITS](#)
 - [Weak Component Clustering](#)
 - [Blondel Community Detection](#)
 - [MST-Pathfinder Network Scaling](#)
 - [Extract K-Core](#)
 - [Annotate K-Coreness](#)
- [Weighted and Undirected](#)
 - [Clustering Coefficient](#)
 - [Nearest Neighbor Degree](#)
 - [Strength vs Degree](#)
 - [Degree & Strength](#)
 - [Average Weight vs End-point Degree](#)
 - [K-Nearest Neighbor \(Java\)](#)
 - [Strength Distribution](#)

- Weight Distribution
 - Randomize Weights
 - PageRank
 - HITS
 - MST-Pathfinder Network Scaling
 - Fast Pathfinder Network Scaling
 - Blondel Community Detection
- Unweighted and Directed
 - Node Indegree
 - Node Outdegree
 - Indegree Distribution
 - Outdegree Distribution
 - K-Nearest Neighbor
 - Single Node In-Out Degree
 - PageRank
 - HITS
 - Dyad Reciprocity
 - Arc Reciprocity
 - Adjacency Transitivity
 - Weak Component Clustering
 - Strong Component Clustering
 - Blondel Community Detection
 - Extract K-Core
 - Annotate K-Coreness
- Weighted and Directed
 - PageRank
 - HITS
 - Fast Pathfinder Network Scaling
 - Blondel Community Detection
- Search
 - Can
 - Chord
 - K Random-Walk
 - Random Breadth First
- Discrete Network Dynamics
 - Extract and Annotate Attractors

Simulation

Single Population

- Stochastic
- Exact

Network

- Stochastic

Visualization

- GUESS
- GnuPlot
- DrL (VxOrd)
- Specified (prefuse beta)
- Circular (JUNG)
- Radial Tree/Graph (prefuse alpha)
- Radial Tree/Graph with Annotation (prefuse beta)
- Tree Map (prefuse beta)
- Tree View (prefuse beta)
- Balloon Graph (prefuse alpha)
- Force Directed with Annotation (prefuse beta)
- Kamada-Kawai (JUNG)
- Fruchterman-Reingold (JUNG)
- Fruchterman-Reingold with Annotations (prefuse beta)
- Spring (JUNG)
- Small World (prefuse alpha)
- Parallel Coordinates (demo)
- LaNet
- Circular Hierarchy
- Line Graph

R

- [Create R Instance](#)
- [Run Rgui](#)
- [Import Table Into R](#)
- [Export Table from R](#)