

SNoMaN Tutorial: Spatial Social Network Mapping and Visual Analytics

Overview

This tutorial is designed for May 19th SNoMaN workshop to introduce how to use our visual analytic tool to analyze SSNs by visualizing, combining, computing, and comparing network and geographic metrics.

Tool Access and Data Format

Tool Link: <https://snoman.herokuapp.com/>

Prepare your datasets:

If you are working with a small SSN dataset, please prepare a clean dataset with a node and an edge table. Each row of the node table should represent attributes of a node, including at least a unique node ID and the node's longitude and latitude. Each row of the edge table should represent attributes of an edge, including at least a source and target column corresponding to the node ID.

Required attributes for nodelist.csv

<u>ID (unique node ID field)</u>	<u>LonX (node longitude)</u>	<u>LatY (node latitude)</u>
"APL"	67.2391	-102.3472
"FWL"	87.2139	-121.2323

Required attributes for edgelist.csv. The ID/label name in the source and target column corresponds to the node ID in the nodelist.csv file.

<u>Source</u>	<u>Target</u>
"APL"	"FWL"

We also provide example datasets, you can download them by clicking the following links: [US_airport_nodes.csv](#), [US_flight_edgelist.csv](#). The dataset includes a US flight network below, where nodes represent airports and nodes represent direct flights between airports. The data is maintained by the OurAirports website (<https://ourairports.com/data/>). It was collected by assembling government datasets and individual contributions.

■ Software Demo

To get a sense of how the software will facilitate spatial social network analysis, you are welcome to watch a video of the software showcasing its usage cases prior to the tutorial session. In this video, we demonstrate how to use the software to analyze a 1960s Mafia Criminal SSN [SNoMaN Software Demo.mp4](#).

■ Tutorial Agenda

1:00 – 1:15 Software Demo

1:15 – 2:00 Lab 1: Getting to know SNoMaN with the US flight network

- Importing Dataset
- Computing Network Statistics
- Identifying Important Nodes
- Selecting Subnetworks
- Configuring Network Appearance

2:00 – 2:45 Lab 2: Using SNoMaN for SSN visual analytics

- Node-level Correlation Analysis: Comparing node centrality with location
- Path-level Correlation Analysis: Comparing network and geographical distances
- Community-level Correlation Analysis

2:45 – 3:00: Coffee break

3:00 – 3:45: Exploring other example datasets or outside datasets. Generating screencaps of insights from other datasets. Lab help time; Semi-structured interview or discussion

3:45 – 4:30: Sharing insights/screencaps from different datasets

4:30 – 5:00 Optional: Fill out the survey and collect feedback

Note that all times are tentative and may shift a bit.

■ Survey

To help us improve the tool, we would love your feedback on it. After the tutorial session, you are encouraged to fill out a participant survey regarding your thoughts and experiences with the software.