



INTRODUCTION & OBJECTIVE

➤ Introduction:

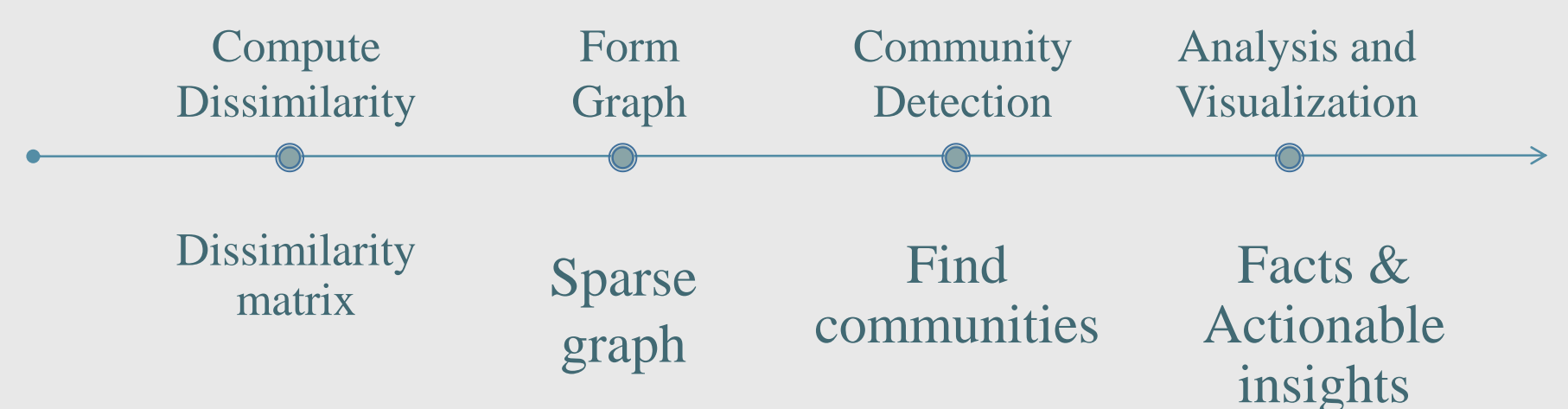
- **classify movies** according to the audience's preferences on **books**.

➤ Objective:

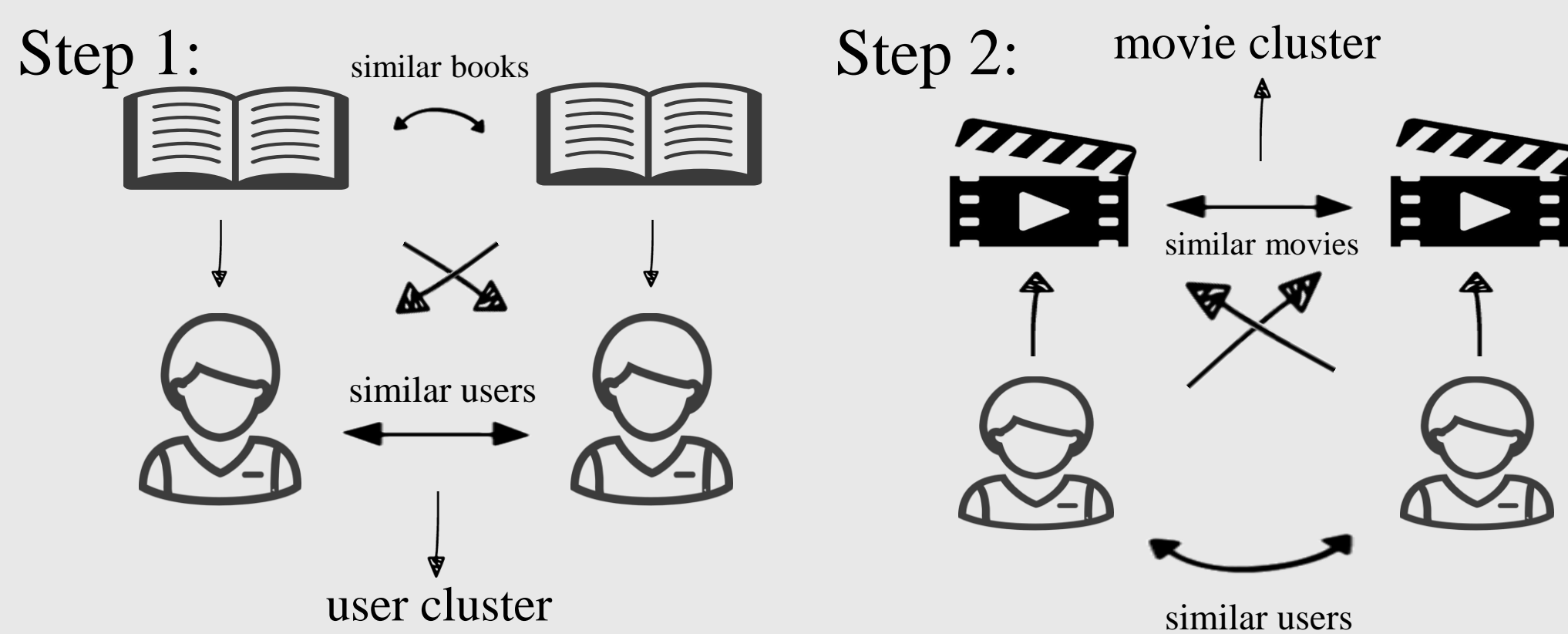
- Choose the **users of Douban** as our sample of movie audience and select the books they read as the representation of audiences' preferences;
- Run **Community Detection** on the **User Graph** with the books as reference, so as to classify the audience.
- Build the **Movie Graph** based on the preferences of each community.
- Observe and analyze the hidden relationship between different movies.

OVERVIEW & OVERALL WORKFLOW

- **Input data:** 105 users' information, including their comments on the books and movies that they have read or watched
- **Labels:** general tags of books and movies
- **Workflow:**



DETAILS OF ALGORITHM & METHODS USED



Step 3:

- Cosine similarity

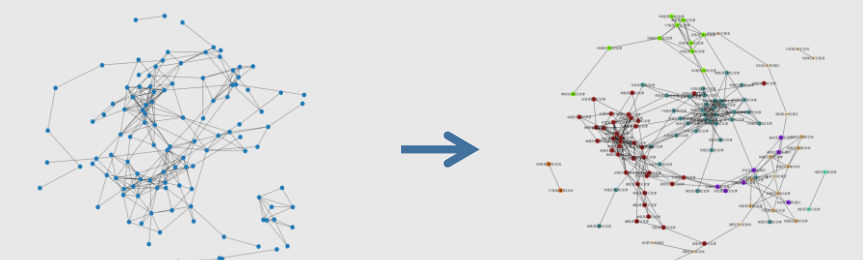
$$\text{similarity}(u, v) = \frac{|\min(N(u), N(v))|}{\sqrt{|N(u)| |N(v)|}}$$

- Normalization

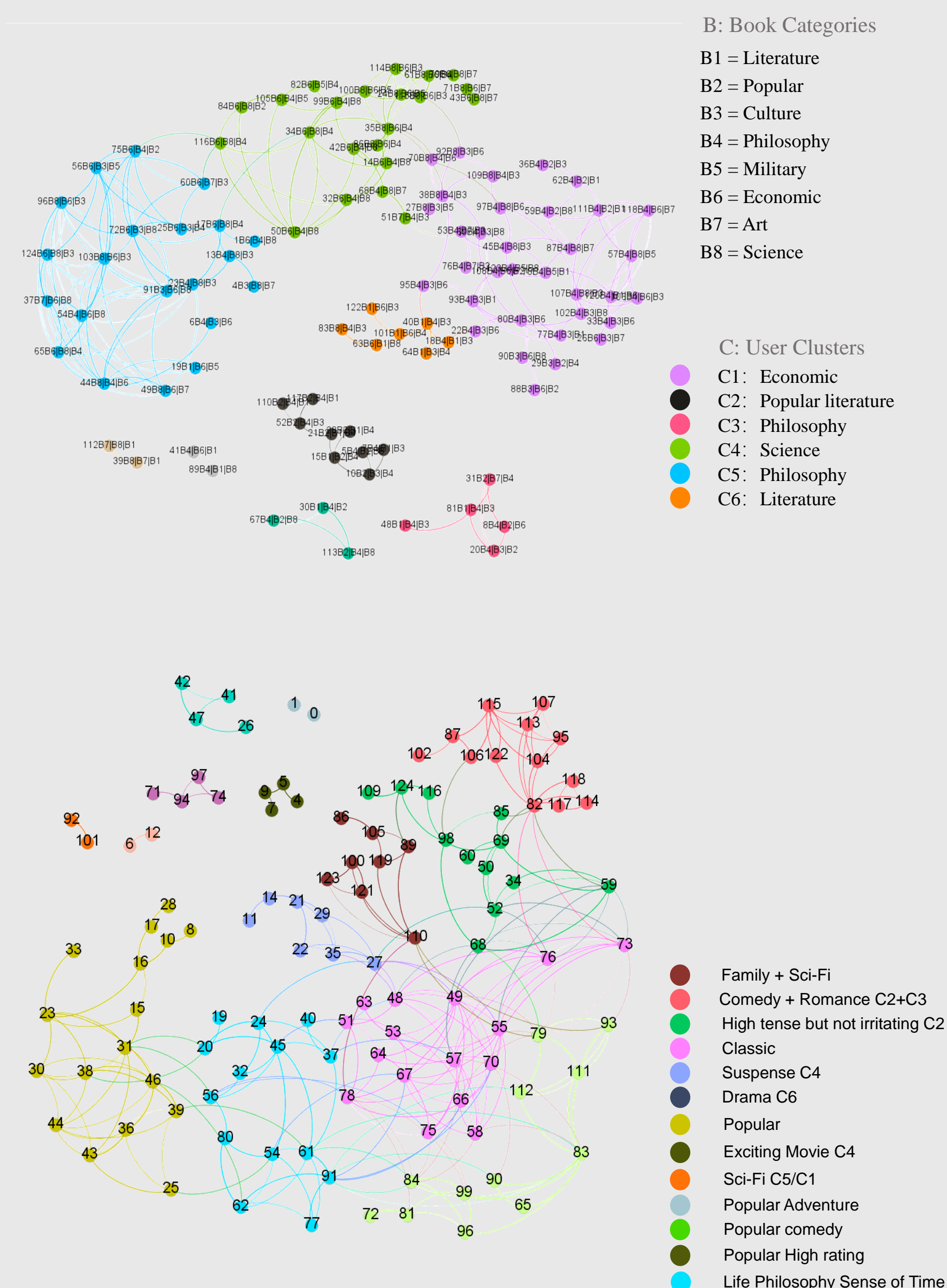
$$x' = \frac{x - \min(X)}{\max(X) - \min(X)}, x' \in [0, 1]$$

Step 4:

- Community detection:
 - Girvan-Newman
 - Louvain



RESULT OBTAINED & ANALYSIS



CONCLUSIONS&RECOMMENDATION

😊 Conclusions

- Everyone loves happy ending movies - this is the common phenomenon of the Chinese audience. We all like a big reunion at the ending.
- The community that likes science books especially likes suspense.
- Those who reads philosophy and the economy like science fiction movies very much.
- People who prefer popular don't like stimulating movies, but they like movies with a tight narrative, such as **Black Swan**, **Léon**, **You Are the Apple of My Eye**.



😊 Recommendation

- Like **economics books**: recommend sci-fi movies, such as The Butterfly Effect, "2012", Inception, we can also recommend movies of the compact plot or suspense type.
- Like **science books**: Recommendations should be careful, these people are strict, mainly recommend suspense, science fiction, stimulating plots, if it does not work, we can also recommend comedy for insurance.
- Like **philosophy**: the same strict category, but they really like movies with philosophical insights and dramatic twists and turns, as well as science fiction movies.
- Like **literature**: Basically saying, they can watch everything. But slightly less like science fiction movies.