

# Senior Thesis Projects on Network Science

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**Bryn Mawr College**

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- ▶ Network Science (NetSci)
- ▶ Social Network Analysis (SNA)
- ▶ Computational Sociology, Computational Studies of Communication, Computational Journalism etc.
- ▶ Computational Social Science (CompSocSci)
- ▶ Computational Humanities, Digital Humanities (DH)

# EMPIRICAL DATA

- ▶ Wikipedia
- ▶ Social Media
  - ▶ Reddit
  - ▶ Twitter
- ▶ Text
  - ▶ Literary or narrative text
  - ▶ Fiction or nonfiction books
  - ▶ Diaries, biographies, memoirs, archives
  - ▶ Glossaries, dictionaries, lexicons, (short) encyclopedias
- ▶ Culture
  - ▶ IMDb films (actors, directors etc.)
  - ▶ Musical albums (songs, performers etc.)
  - ▶ Transcripts of films or tv shows
- ▶ Scientometrics
  - ▶ Scopus, Web Of Science, S2ORC etc.

## ► Text/Data Analysis

- NLP-based recognition of named entities, character identification, extraction of POS tags
- Topic Modeling
- tf-idf Statistics
- Word Embeddings
- Correlation–Regression Analysis, Machine Learning Classification

## ► Network/Structural Analysis

- Extraction of graphs from empirical data (undirected, directed, weighted, labeled, co-occurent, multilayer, temporal, bipartite, hypergraphs)
- Visualization (static and interactive)
- Assortativity (Homophily) Analysis
- Ego-centricity and Graph Domination
- Centrality Indices
- Community Partitions