Representation of complex graph theory within the real world

# Introduction/Background

Graph theory history with Königsberg bridge, famous problem,

General notation for graph theory

A Librarian's Guide to Graphs, Data and the Semantic Web – Basic history and what graphs are plus uses.

<https://www-sciencedirect-com.bham-ezproxy.idm.oclc.org/book/9781843347538/a-librarians-guide-to-graphs-data-and-the-semantic-web#book-info>

The Seven Bridges of Königsberg – Its use for modelling the brain.

<https://oce-ovid-com.bham-ezproxy.idm.oclc.org/article/00000542-201104000-00009/HTML>

# Graph properties

Full details and further material

Centrality betweenness/closeness

Local Clustering coefficient

Labelling?

Trophic levels, relation to biology

# Experiments

Suggest using simple graph so that all graph properties details can be applied then for future work, to use directed versions for all properties

# Further Applications

Clustering for directed graphs

<https://arxiv.org/pdf/physics/0612169.pdf> Fagio

<https://arxiv.org/pdf/1706.07322.pdf>

# Conclusion

# References