Visualisation of graphs

Introduction

Examples

Jonathan Klawitter · Summer semester 2020
Tree of virtues and tree of vices
ca. 1200
Social networks - family trees

J. Klawitter, T. Mchedlidze, Link: go.uniwue.de/myth-poster

Ahnentafel Herzog Ludwig von Württemberg, 1585
Social network – citation graph

Da Ye, Link: https://go.uniwue.de/citation-graph
Social network - organisational chart
Social network - world finance corporation

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Transportation network – European high speed railroads

Source: Wiki Commons: Networks of Major High Speed Rail Operators in Europe - CC BY-SA 3.0
Transportation network - London Underground

Source: Wiki Commons: London Underground full map - CC BY-SA 3.0
Transportation network - London Underground

Source: Wiki Commons: London Underground Overground DLR Crossrail map - CC BY-SA 4.0
Transportation network - London Underground
Bioinformatics – disease interaction

Source: Wiki Commons: Human disease network - CC BY-SA 4.0
Bioinformatics - phylogenetic trees & networks

Source: Wiki Commons: Phylogenetic network of HVS-I variation - CC BY 4.0
Technical network - very large-scale integration (VLSI)

Source: Wiki Commons: Diopsis - CC BY-SA 3.0
Technical network – transistor diagram, wiring
Technical networks – offshore wind farms

Source: Wiki Commons: Alpha Ventus Windmills - CC BY-SA 3.0
Technical network – UML diagram
Temporal graph layout – storylines

These charts show movie character interactions. The horizontal axis is time. The vertical grouping of the lines indicates which characters are together at a given time.

LORD OF THE RINGS

Source and more: xkcd Comic 657 – xkcd.com/657/
Large graphs – object mesh
General graphs – micro-macro layout

Source: Angori et al., ChordLink: A New Hybrid Visualization Model, GD’19 (2019)
Alternative representations – treemap
Alternative representations – contact graphs

For more examples see visualcomplexity.com