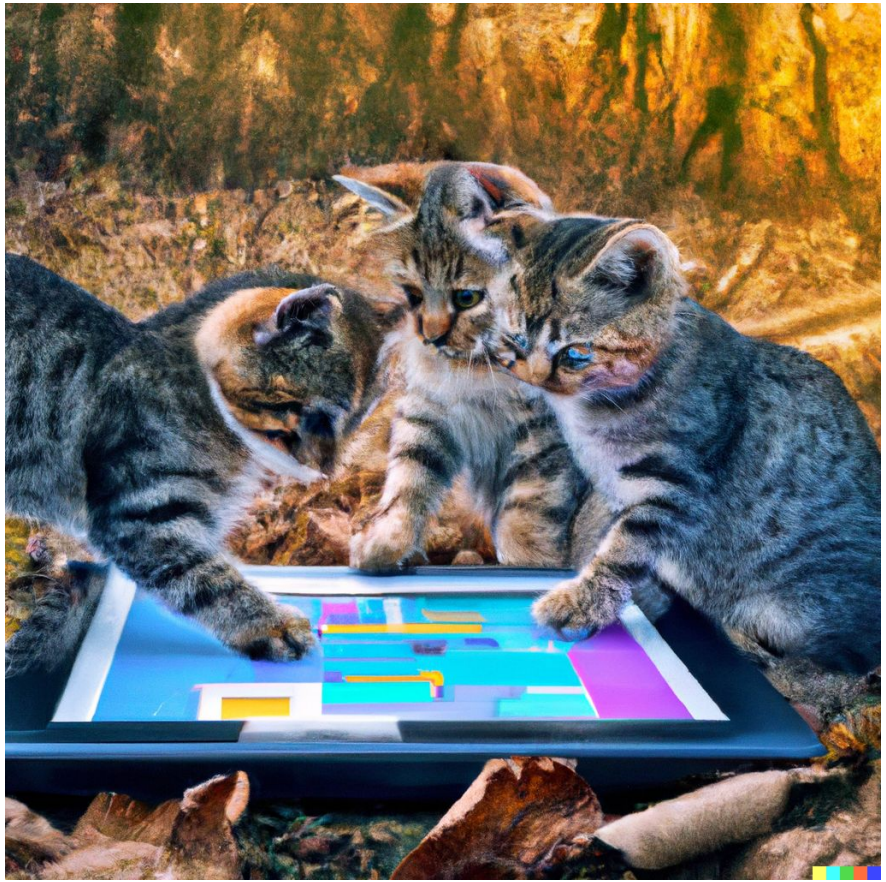
FALL 2023
DSE 12700
VISUAL ANALYTICS

Professor
Madeline Blount
she/her

Week 10
NETWORKS



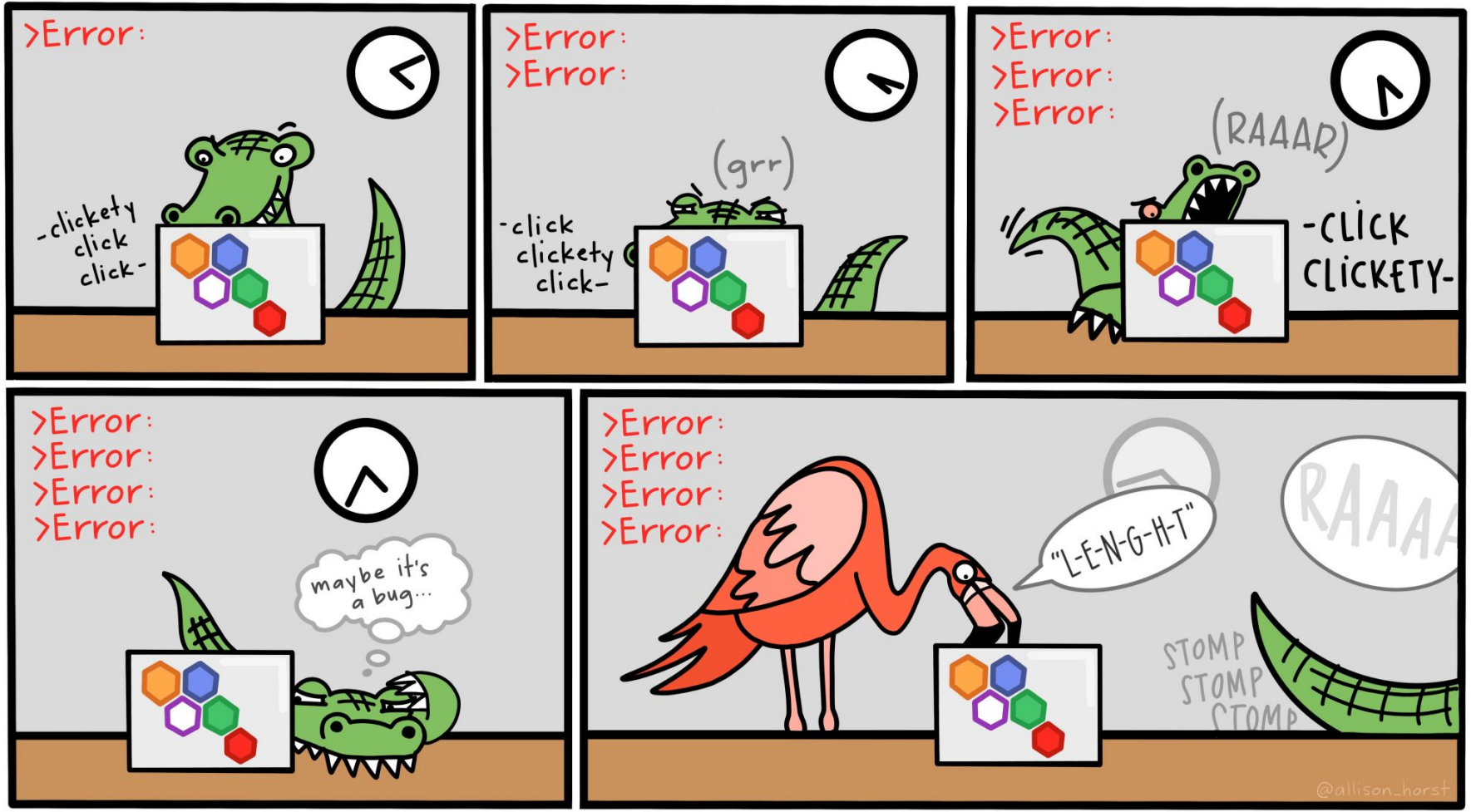
Dall-E2, tabby kittens creating colorful digital charts in a forest, photorealistic style

🧹 housekeeping:

- midterm feedback: **Friday Nov. 10th**
- Midterm project grade, labs/attendance grade, current standing in class
- Feedback on work!

📊🗺️ FINAL PROJECT! Coming up fast …

- By before next class, **Nov. 15th:**
  - choose your team, suggest your dataset(s) with links, turn in short paragraph describing your
- Check out the assignment now on Github! Ask any questions in Discord or next class
- 1 BIG THING: Plotly, Python -> JS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maybe it's a bug...
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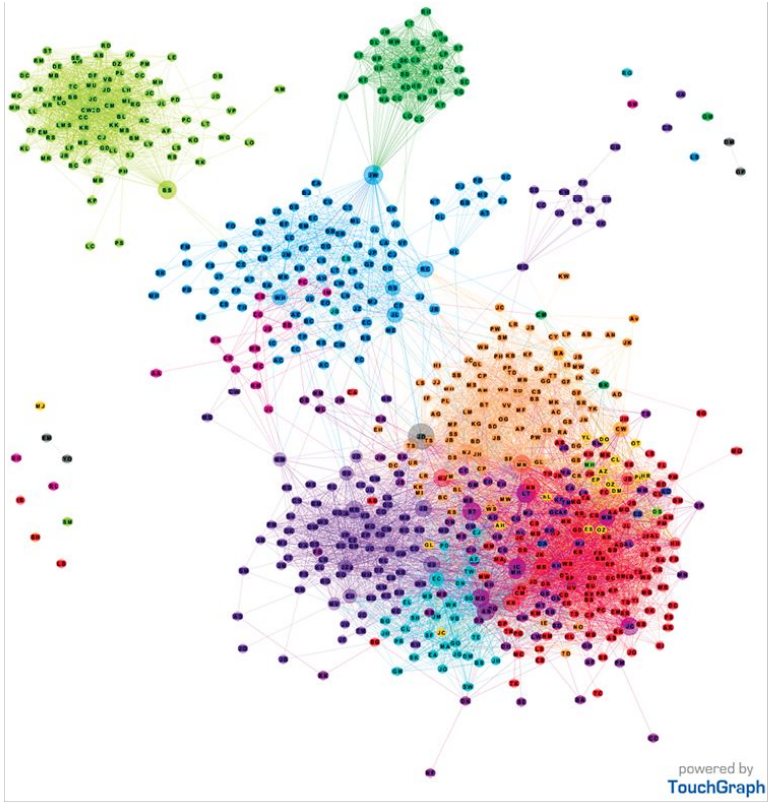
"L-E-N-G-H-T"
RAAAA
STOMP STOMP STOMP
@allison_horst

NETWORKS!!

Stuff, and their **relationships.**

Figure 2 Networks consist of nodes and edges. On the left, a simple network of six nodes and seven edges. On the right, a more complex network (with several disjointed components) that depicts social relationships in a Protestant underground community during the reign of Queen Mary I of England (see Ahnert & Ahnert, 2015). Diagram by the authors.

Across domains, across scales, networks can have similarities in structure/behavior



A user's social network, & full Facebook network (2010)

https://covid-19.mitpress.mit.edu/pub/ngsi0mxz/release/1

Across domains, across scales, networks can have similarities in structure/behavior

Some other examples:

MoMa, inventing abstraction

UNESCO, cultural heritage

Love, Actually, movie
(Les Mis, Shakespeare, etc.)

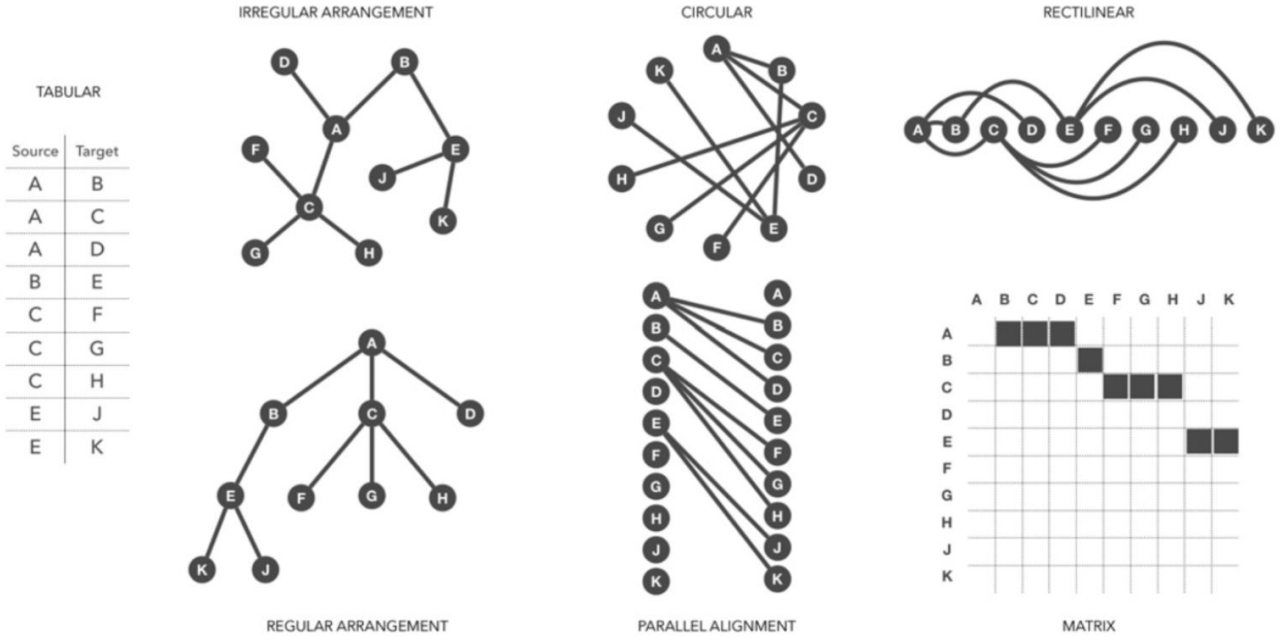


Figure 12 This figure shows a number of different ways to present the same network data. On the left is source–target pairs in a two-column table. The regular and irregular arrangement, circular, and rectilinear are all network layouts in Bertin's system. He distinguishes those node-link network graphs from the diagrams: parallel alignment and matrix. Diagram by the authors.

🛠️ **LAW OF THE INSTRUMENT:**

When you're given your first hammer, everything looks like a nail.

Networks *can* be used on any project.
Networks *should* be used on far fewer.
(like maps!)

Mark Lombardi
Artist (1951-2000)

NARRATIVE STRUCTURES
“Part-data visualization, part-investigative reporting” (artnet)

“there’s nothing in them that wasn’t already in the New York Times or Washington Post. I let those big newspapers vet the material first in their articles.” - Lombardi

MoMa, Whitney collections

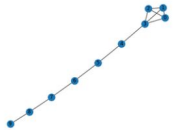
plotly

PYTHON + JS!! 🔗

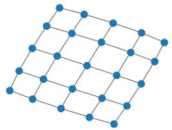
Gallery

General-purpose and introductory examples for NetworkX. The tutorial introduces conventions and basic graph manipulations.

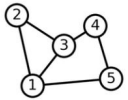
Basic



Properties

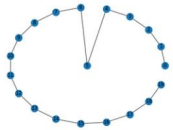


Read and write graphs.



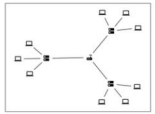
Simple graph

Drawing

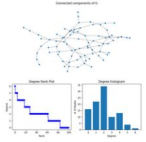


Custom Node

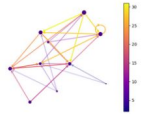
Chess Masters



Custom node icons



Degree Analysis



Directed Graph