

CS 360/560: Data Visualization

Mondays and Wednesdays 1pm-2:45pm LS 307

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Fundamentals of visualization including data sources, representations, and graphical integrity. Visualization of scalars, vectors, and high-dimensional data. Visual perception and color theory. Applications from medical imaging, social media, sports, security and surveillance domains. PREREQ: CS 245.

Assignment 7 - Graph Visualization in D3 - (100 points)

Due date: 3/28/2022 at 11:59pm

For this assignment you will create network visualizations using the force-directed layout for node-link diagrams and the adjacency matrix.

Here are the specifications for the assignment.

To get a C (75) do the following:

- Download a dataset from <http://networkrepository.com/soc.php>. Convert it to a CSV file. *Note:* Process the data in whatever format using any tools you like. Feel free to split up the file if necessary.
- Use D3 to display a node-link diagram with force-directed layout for the dataset.

To get a B (85) do the following:

- Complete the requirements to get a C and
- Implement basic hovering for the node-link diagram.
- Generate an adjacency matrix representation of the same data. Implement basic interaction such as hover for the adjacency matrix.

To get an A (95) do the following:

- Complete the requirements to get a B and
- Implement edge-bundling for the node-link diagram. Here are some examples of edge bundling:
 - <https://vega.github.io/vega/examples/edge-bundling/>
 - <https://mbostock.github.io/d3/talk/20111116/bundle.html>
- Highlight corresponding elements in the x- and y- direction in the adjacency matrix (to help read the chart better).

To get an A+ (100) do the following:

- Complete the requirements to get an A and
- Allow the user to modulate the amount/tension of edge bundling with a slider.
- Create a node-link diagram (force-directed) and an adjacency matrix for another dataset from the [Stanford Large Network dataset collection](#)

Submitting the assignment

- For every visualization, post a link to your Vizhub sketch (mark it private, invite the TA and me as collaborators) and test it out before posting a link to it on your own website.
- Submit a link to your **website** on Canvas.

