

Data Visualization, Part 1: Handout

How to tell your story with AI

Choosing your data

What data am I actually going to visualize? What story do I want to tell?

YOUR AI TECHNOLOGY - This means data about your AI tool. Accuracy rates, a comparison of your model's performance to a baseline, or statistics about what your AI can do. If your team has been testing your prototype, use that.

REVENUE AND BUSINESS - A pricing model comparison, projected income, or a cost breakdown showing how your solution is more affordable than what currently exists. This is powerful for business-track teams.

YOUR CUSTOMERS - Who are you building for? Demographics, survey results you collected, market size data. If you surveyed people in your school or community, that data is gold - it is original research.

YOUR CITY OR COMMUNITY - Local statistics that prove a problem exists where you live. Data about your specific community is always more powerful than a national average because it proves this is not someone else's problem. It is yours.

SCIENTIFIC RESEARCH - Studies or peer-reviewed findings that validate your solution. If there is published research showing that your approach works, visualize that evidence.

CONTEST AND MARKET - Industry trends, competitor landscape, growth rates. How big is the market you are entering? Is the problem growing? This is especially useful for entrepreneurial or tech-track projects.

Which category fits your project?

Do you already have the data, or do you need to find it?

Ethical data practices

Ethical data practices matter for the communities you are representing, and for the credibility of your work.

BEST PRACTICES:

Credit all original data sources. Below every chart you make, there should be a citation. Not a long bibliography - just a small note that says where the data came from. This builds trust instantly and shows judges you did real research.

If you collected survey data - meaning you asked real people questions - anonymize their responses. You do not share individual names or identifying details. You share patterns and totals.

If you surveyed people, they need to have known what you were collecting and why before they answered. This is called informed consent, and it is a basic standard for any research.

Use a variety of sources. If all your evidence comes from one place, your argument is fragile. Multiple sources from different organizations makes your case much stronger.

Label everything. Axes, legend, chart title - if someone has to guess what they are looking at, you have already lost them.

WATCH OUT FOR:

Misleading scales. If your Y-axis does not start at zero on a bar chart, it can make a small difference look enormous. Always check your axis.

Single-source bias. One source might have an agenda. Use multiple.

Cherry-picking. Showing only the data that supports your view, while ignoring data that complicates it, is misleading. Good data storytelling is honest.

Misrepresenting percentages in pie charts. A common mistake is having slices that do not add up to 100%. Be careful.

Using outdated or noncredible data. Always check when a study was published. Data from 2008 might not reflect today's reality. Wikipedia is not a source. CDC, census, peer-reviewed journals - those are sources.

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