

Lesson 20 Summary: Data Storytelling

Data Science with Python – Key Concepts

Data Science Program

Data Storytelling



Techniques:

Annotations | Color emphasis | Before/After | Hierarchy

Every chart should answer a specific question

Data storytelling connects insights to audience understanding

Three-act narrative:

- 1 **Context:** Set the scene, define the question
- 2 **Insight:** Present key findings with evidence
- 3 **Action:** Recommend next steps

Every chart should:

- Answer a specific question
- Lead to a clear takeaway

Structure your presentation like a story

Match chart to message:

- **Comparison:** Bar charts, grouped bars
- **Trend:** Line charts, area charts
- **Distribution:** Histograms, box plots
- **Composition:** Pie charts, stacked bars
- **Relationship:** Scatter plots

Wrong chart type obscures the message

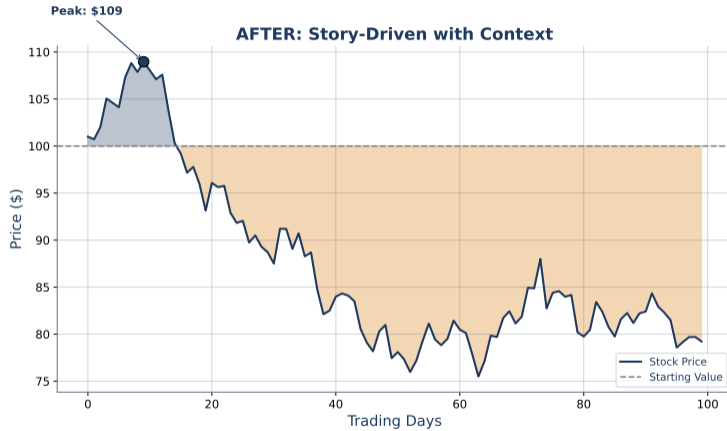
Use color intentionally:

- **Emphasis:** Highlight key data point
- **Grouping:** Same color = same category
- **Sequential:** Low-to-high values
- **Diverging:** Above/below midpoint

Rule: Gray for context, color for focus

Less color is often more effective

Before and After



Reduce clutter and emphasize the key message

Guide the viewer's attention:

- **Labels:** Key data points
- **Arrows:** Direct focus
- **Regions:** Highlight important periods
- **Text boxes:** Explain insights

Example:

```
ax.annotate('Crisis', xy=(date, value),  
            xytext=(date, value+10),  
            arrowprops=dict(arrowstyle='->'))
```

Annotations transform charts into narratives

Control what viewers see first:

- **Size:** Larger = more important
- **Color:** Bright colors draw attention
- **Position:** Top-left seen first
- **Contrast:** Stands out from background

Rule: One main message per chart

Design guides the eye to key insights

Simplify ruthlessly:

- Remove unnecessary gridlines
- Minimize axis ticks
- Delete redundant legends
- Use direct labels instead

Question: Does this element help tell the story?

If not, remove it.

Clutter dilutes your message

Data Storytelling Checklist:

Principle	Action
Clear question	Define before creating chart
Right chart	Match to comparison/trend/etc.
Focus	One main message
Emphasis	Color key data, gray rest
Annotate	Label important points
Simplify	Remove non-essential elements
Takeaway	State conclusion explicitly
Action	Recommend next steps

Great visualizations communicate, not just display