

# The Tufte Beamer Theme

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A Minimalist Design for Clear Communication

Your Name

Your Institution

November 6, 2025

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2. Typography & Color
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**1. Introduction**

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The Tufte theme embodies Edward Tufte's design principles:

- Clarity through simplicity
- Generous use of whitespace
- Elegant typography
- Minimal but effective navigation
- Focus on content, not decoration

This theme is inspired by the **tufte-css** project and uses a clean, readable color palette.

1. **Dark Theme Colors:** Dark background with light, readable text
2. **Navigation Squares:** Shows current section slides only
3. **Progress Bar:** Visual indicator with page numbers
4. **Minimal Headline:** Section and title without visual clutter
5. **ET Book Font:** Beautiful serif typography (Palatino fallback)

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Good typography is essential for effective presentations.

**This theme uses serif fonts** in the tradition of Tufte's books:

- Primary: ET Book (if available)
- Fallback: Palatino
- Both provide excellent readability

*Emphasis through italics* rather than bold helps maintain visual calm.

The theme supports both **light** and **dark** color schemes:

### **Dark Theme (Current)**

**Background:** Dark (#1A1A1A)

**Text:** Light (#EEEEEE)

**Accent:** Lighter red (#FF6B6B)

### **Light Theme**

**Background:** Warm cream (#FFFFF8)

**Text:** Near black (#111111)

**Accent:** Dark red (#A00000)

Both palettes provide excellent contrast and reduce eye strain.



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**Itemized lists** use simple squares:

- First level items
  - Second level items
    - Third level items

**Enumerated lists** use simple numbering:

1. First item
2. Second item
3. Third item

## **Standard Block**

Blocks have minimal styling to avoid visual clutter.

## **Example Block**

Examples use slightly muted text for subtle differentiation.

## **Alert Block**

Alerts use the accent color to draw attention when needed.

Use blocks sparingly—content should speak for itself.

The theme provides a custom `tufteframe` environment with minimal styling:

### **Key Concept**

This is a custom box with only bottom and right borders, following Tufte's minimal aesthetic. The title overlaps the top-left corner with a clean border. Perfect for highlighting important concepts without visual clutter.

### **Mathematical Insight**

The box adapts to both light and dark themes automatically, maintaining readability and the clean Tufte style across all color schemes.

Tables follow the minimal Tufte aesthetic:

<b>Method</b>	<b>Accuracy</b>	<b>Time (ms)</b>
Algorithm A	94.2%	12.3
Algorithm B	96.7%	18.5
Algorithm C	95.1%	15.2

Keep tables simple and uncluttered. Use horizontal lines sparingly.

More complex data organization:

<b>Category</b>	<b>Item</b>	<b>Q1</b>	<b>Q2</b>
Revenue	Product A	\$125K	\$142K
	Product B	\$89K	\$95K
Costs	Marketing	\$42K	\$38K
	Operations	\$67K	\$71K
<b>Net</b>		<b>\$105K</b>	<b>\$128K</b>

Align numbers to the right, text to the left.

The theme supports standard Beamer columns:

### **Left Column**

- Clean layout
- Easy to read
- Balanced design

### **Right Column**

Use columns to:

1. Compare concepts
2. Show before/after
3. Present alternatives

*“The commonality between science and art is in trying to see profoundly—to develop strategies of seeing and showing.”*

— Edward Tufte

*“Above all else show the data.”*

— Edward Tufte



The Tufte theme handles mathematical content elegantly:

**Inline math:** The quadratic formula is  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ .

**Display equations:**

$$\int_{-\infty}^{\infty} e^{-x^2} dx = \sqrt{\pi} \quad (1)$$

**Aligned equations:**

$$\nabla \times \mathbf{E} = -\frac{\partial \mathbf{B}}{\partial t} \quad (2)$$

$$\nabla \times \mathbf{B} = \mu_0 \mathbf{J} + \mu_0 \epsilon_0 \frac{\partial \mathbf{E}}{\partial t} \quad (3)$$

## Clean, readable code with syntax highlighting:

```
1  # Fibonacci sequence generator
2  def fibonacci(n):
3      """Generate first n Fibonacci numbers."""
4      a, b = 0, 1
5      for _ in range(n):
6          yield a
7          a, b = b, a + b
8
9  # Usage example
10 for num in fibonacci(10):
11     print(num, end=' ')
```

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When including figures or data visualizations:

- Keep charts simple and uncluttered
- Remove unnecessary gridlines and decorations
- Use the theme's color palette for consistency
- Ensure high contrast for readability
- Add concise, informative captions

**Remember:** The goal is to illuminate, not decorate.

Good presentations guide the eye naturally:

1. **Most important:** Use size and weight
2. *Moderate importance:* Use italics or color
3. Least important: Use smaller text or gray

The Tufte theme's generous whitespace helps create natural visual hierarchy without competing elements.

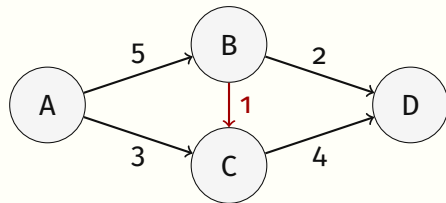
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**Algorithm 1** Binary Search

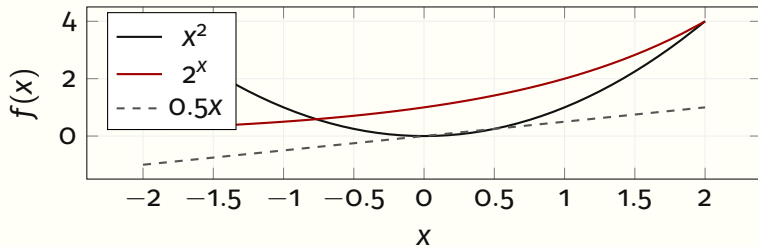
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```
1: procedure BINARYSEARCH( $A, n, T$ )
2:    $L \leftarrow 0$ 
3:    $R \leftarrow n - 1$ 
4:   while  $L \leq R$  do
5:      $m \leftarrow \lfloor (L + R)/2 \rfloor$ 
6:     if  $A[m] < T$  then
7:        $L \leftarrow m + 1$ 
8:     else if  $A[m] > T$  then
9:        $R \leftarrow m - 1$ 
10:    else
11:      return  $m$ 
12:    end if
13:  end while
14:  return unsuccessful
15: end procedure
```

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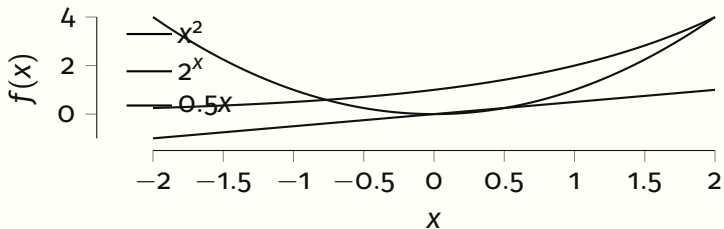


Weighted directed graph showing minimal Tufte-inspired styling

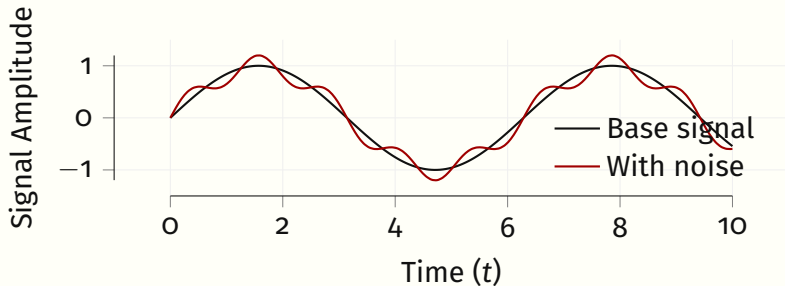




Simple activation with `tufte style` keyword:



Tufte-style plot with dynamically sized data:



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Apply these principles when using this theme:

- **Show the data:** Let content take center stage
- **Reduce noise:** Every element should serve a purpose
- **Integrate text and graphics:** Create a unified whole
- **Respect your audience:** Clear, honest presentation

The theme provides the framework; you provide the clarity.

- Use `aspectratio=169` for widescreen (16:9)
- Use `aspectratio=43` for traditional (4:3)
- Uncomment `\sectionframe` in theme for automatic section slides
- Keep slides focused—one main idea per slide
- Use generous spacing with `\vspace`

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The Tufte Beamer theme offers:

- **Elegant design** inspired by Tufte's work
- **Minimal interface** that stays out of your way
- **Clear navigation** through sections and slides
- **Readable typography** with ET Book/Palatino
- **Calm color palette** from tufte-css

Use it to create presentations that respect both content and audience.

## Questions?

This theme is available at:  
`github.com/yourname/tufte-beamer`



## 7. Appendix

Complete list of theme options:

### **Color Themes**

dark – Dark background (default)

light – Light cream background

### **Font Themes**

serif – ET Book/Palatino (default)

sans – Fira Sans

**Usage:** `\usetheme[light,sans]{Tufte}`

Theme colors available for use:

<b>Color Name</b>	<b>Usage</b>
tuftebg	Background color
tufтетext	Main text color
tufteaccent	Accent/highlight color
tuftegray	UI elements (light)
tuftedarkgray	Secondary text
tuftecodebg	Code/box background

Use with: `\color{tufteaccent}` or `\textcolor{tufteaccent}{text}`

Special environments provided by the theme:

### **tufteframe**

Minimal box with background color for highlighting concepts.

#### **Usage:**

```
\begin{tufteframe}{Title}  
Content...  
\end{tufteframe}
```

All standard Beamer environments work as expected: blocks, columns, overlays, etc.

- **Edward Tufte's Books**

- *The Visual Display of Quantitative Information*
- *Envisioning Information*
- *Beautiful Evidence*

- **Related Projects**

- `tufte-latex`: Document classes for LaTeX
- `tufte-css`: Web design framework

- **Beamer Documentation**

- Official Beamer user guide
- Theme development guide

## Font Issues

If ET Book font is not available, Palatino is used as fallback. For Fira Sans, ensure the package is installed: `texlive-fonts-extra`

## Color Problems

Ensure you're using XeLaTeX or pdfLaTeX with appropriate color packages. Theme loads colors automatically.

## Progress Bar

Progress bar is automatically hidden on title page and plain frames. Use `noframenumbering` option to exclude specific frames.