



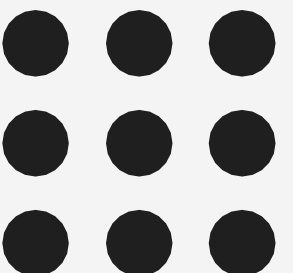
SNS COLLEGE OF ENGINEERING

Kurumbapalayam(Po), Coimbatore – 641 107

Accredited by NAAC-UGC with 'A' Grade

Approved by AICTE, Recognized by UGC & Affiliated to Anna University, Chennai

Department of Artificial Intelligence and Data Science





Depicting Trends Case Studies: Color considerations with a dark background





Depicting Trends: Color Considerations with a Dark Background



1. Introduction to Depicting Trends

- **Objective:** Identify and visualize patterns over time.
- **Trend Indicators:** Commonly represented with line graphs, bar charts, or area plots, trends should highlight upward, downward, or stable patterns effectively.
- **Color Use:** Appropriate color choices are critical to ensure clarity and accessibility, especially with a dark background.



Depicting Trends: Color Considerations with a Dark Background



2. Color Considerations for Dark Backgrounds

- **High Contrast:** Use bright, saturated colors like cyan, yellow, or orange to stand out against dark backgrounds.
- **Avoid Over-Saturation:** Too many highly saturated colors can be overwhelming; limit the palette to 3-4 distinct colors.
- **Pre attentive Attributes:** Bold and distinct colors help the eye quickly identify and track trends.
- **Accessibility:** Choose colors that are friendly for color-blind viewers, like differentiating between blue and orange.



Depicting Trends: Color Considerations with a Dark Background



3. Case Study: Tracking Monthly Sales Trends with a Dark Background

- **Scenario:** A company wants to visualize monthly sales trends over several years using a dark background to reduce screen glare.
- **Chart Type:** A line chart is chosen to clearly depict the trend over time, with each year represented by a separate line.
- **Color Selection:**
 - **Primary Trend Line (e.g., Recent Year):** Bright cyan for immediate focus.
 - **Secondary Trend Lines (e.g., Previous Years):** Muted shades of orange, yellow, or gray for context.
 - **Annotations:** Use a contrasting color like white or light yellow for labels, ensuring they're legible on the dark background.
- **Outcome:** The bright colors stand out effectively, allowing viewers to compare trends quickly without straining their eyes.



Depicting Trends: Color Considerations with a Dark Background



4.Tips for Students

- **Color Consistency:** Use similar colors for related data points across charts to avoid confusion.
- **Text and Gridlines:** Ensure text and lines are in lighter, less saturated colors (e.g., light gray) to avoid overpowering the trend data.
- **Testing:** Check the visual in different lighting conditions and with different audiences to ensure readability.



Case Study: Sales Performance Over Time with Dark Backgrounds



Objective

- To display a clear and visually appealing trend line showing changes in monthly sales performance over the past five years, while maintaining optimal color contrast on a dark background.



Case Study: Sales Performance Over Time with Dark Backgrounds



Scenario

- A retail company is analyzing its monthly sales data to identify seasonal peaks and trends over time.
- The goal is to create a visualization that shows these trends effectively, using a dark background as the display will primarily be used in presentations and on digital dashboards in low-light environments.



Case Study: Sales Performance Over Time with Dark Backgrounds



Chart Type: Multi-line Chart

- **Rationale:** A multi-line chart is chosen to allow the audience to easily compare monthly sales trends over multiple years.
- **Dark Background:** Selected to minimize screen glare and provide a modern aesthetic suited to low-light settings.



Case Study: Sales Performance Over Time with Dark Backgrounds

Color Selection and Strategy



Primary Trend Line (Most Recent Year):

- **Color:** Bright cyan, as it provides high contrast against a dark background and catches the viewer's attention immediately.
- **Purpose:** Highlights the most recent sales trend, the focus of the analysis.

Secondary Trend Lines (Previous Years):

- **Colors:** Muted shades of green, orange, and gray.
- **Purpose:** Different colors for each previous year create a comparison while being secondary in focus.
- **Opacity Adjustment:** Lower opacity for these lines to make the primary year stand out more without cluttering the chart.

Peak and Dip Annotations:

- **Color:** Light yellow or white for readability against the dark background.
- **Purpose:** Clearly marks the highest and lowest sales points in each year



Case Study: Sales Performance Over Time with Dark Backgrounds



Design Adjustments for Dark Background

- **Axis Labels and Titles:** Use light gray or white to maintain readability without drawing too much attention away from the data.
- **Gridlines:** Soft gray with low opacity, reducing visual clutter while aiding in trend comparison.
- **Tooltips and Data Labels:** Cyan and yellow to maintain consistency with the main colors.



Case Study: Sales Performance Over Time with Dark Backgrounds



Outcome of the Visualization

- The cyan trend line for the most recent year draws immediate attention, with secondary colors providing context without overwhelming the viewer.
- Annotations are easy to read, making the highest and lowest points obvious at a glance.
- Using high-contrast colors ensures the visual remains effective, even when displayed in low-light settings.



Case Study: Sales Performance Over Time with Dark Backgrounds



Conclusion and Takeaways

- This case study demonstrates how color choices for dark-background visuals help emphasize key trends and maintain legibility.
- By using bright, contrasting colors for primary data and subdued tones for secondary information, students can create effective, accessible visuals for dark-themed dashboards and presentations.

