

Data Analysis

 by AI Cloud Solutions

Problem Statement

In a world of overwhelming data, businesses struggle to extract actionable insights from raw datasets. Challenges include:

- Inconsistent or incomplete data formats
- Lack of storytelling in data-driven communication
- Static reporting with no interactivity

Goal: Demonstrate how well-structured data analysis workflows can solve real problems across domains like sales, operations, and strategy.

Tools & Technologies Used

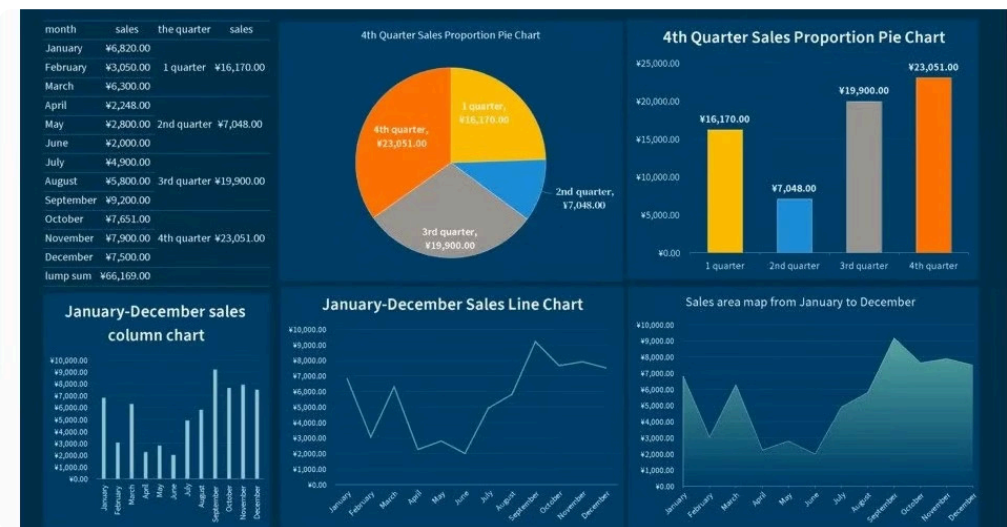
- **Python (Pandas, NumPy, Matplotlib, Seaborn):** Core data wrangling and visualization
- **Power BI:** Interactive reporting and dashboard creation
- **Excel:** Raw data processing and formatting
- **Jupyter Notebooks:** Code-first analysis with markdown explanations
- **Git/GitHub:** Version control and collaboration



Business Impact

- Enabled decision-makers to shift from static Excel to live dashboards
- Identified hidden patterns in churn and sales loss
- Reduced report prep time by 60% via automation
- Bridged the gap between technical analysis and non-technical stakeholders

Visualisation



Visualization Showcase

- Side-by-side of raw vs cleaned data
- Heatmaps to show correlation between business drivers
- Forecasting line charts with confidence intervals
- Dynamic slicers (category, geography, time)
- Segmented KPIs with color-coded performance thresholds

Project Highlights

- **Sales Performance Dashboard:** Revenue by region, product mix, customer segments
- **Customer Churn Analysis:** Predictive features based on behavior and billing history
- **Time Series Forecasting:** Trend modeling for product demand and seasonality
- **Health KPIs:** Hospital readmission rates and patient satisfaction metrics

Resources

[Github URL](#)

ChatGPT Problem Solving Prompts