Visualizations Pitch Book

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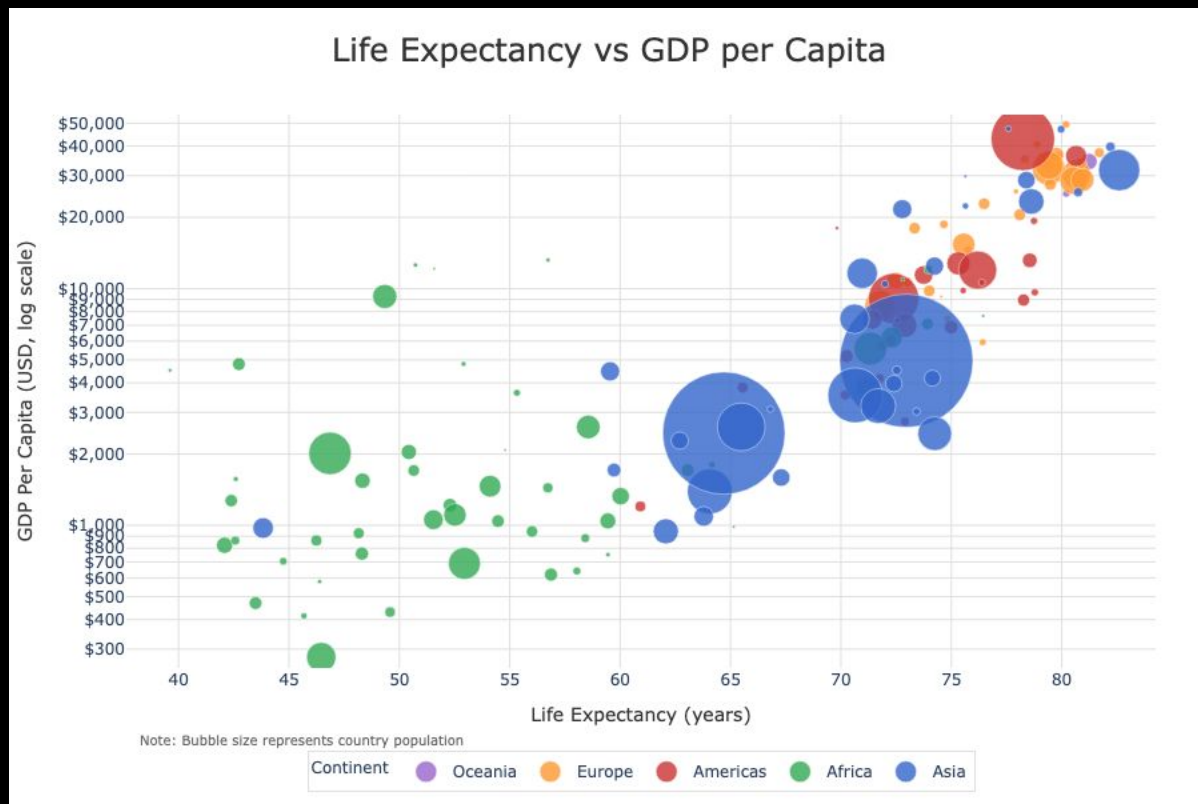# Index

Bar Chart + Multi-series time-series line chart

Economic Indicators for German-Speaking Countries

Life Expectancy in 2007 — Austria 79.8, Germany 79.4, Switzerland 81.7

GDP Per Capita Evolution (1952-2007) — Germany, Austria, Switzerland; annotations: 1973 Oil Crisis, Early 1980s, Overtakes, Early 1990s, Dot-com Bubble

Data Source: Gapminder Dataset | Analysis: Advanced Economic Comparison | Created: 2025
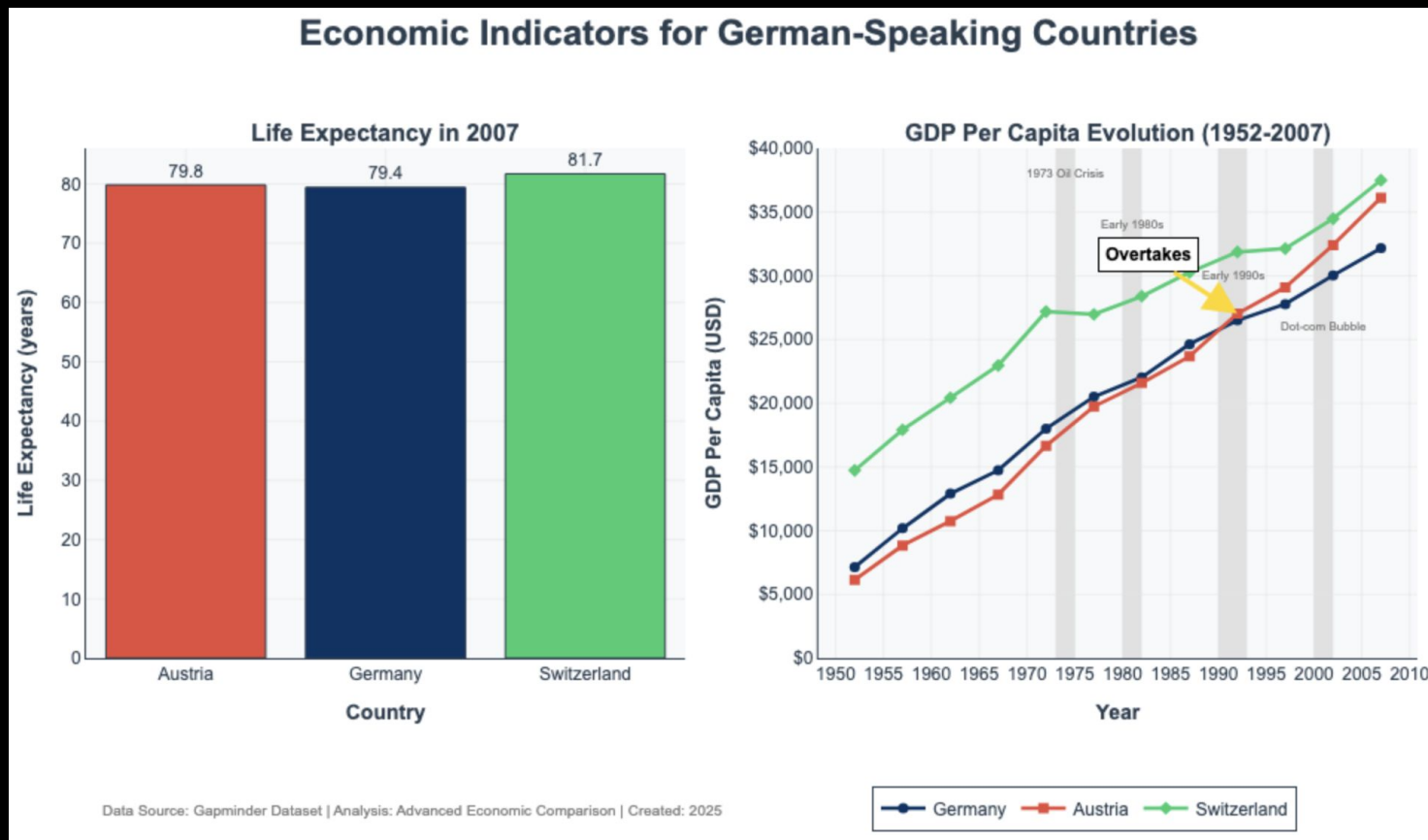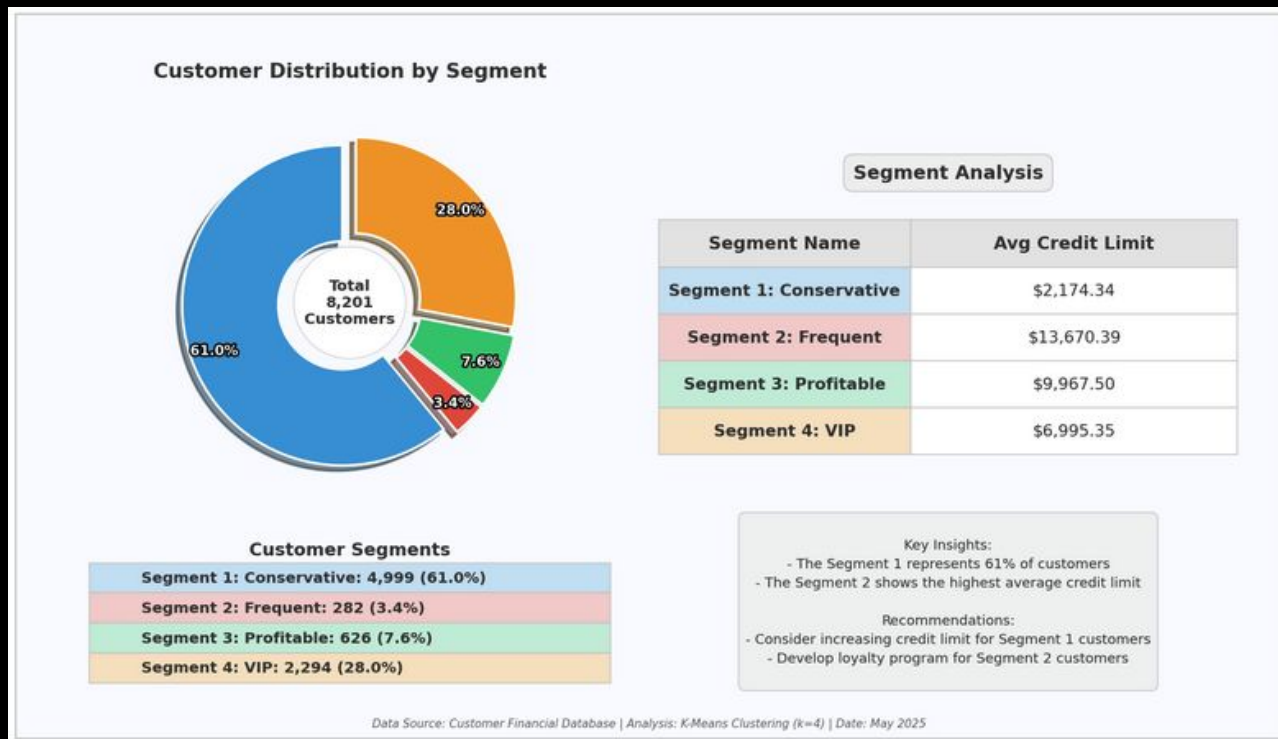
Tools:Python, Plotly, Pandas & NumPy.

Log-scaled Bubble Chart

Tools:Python, Plotly, NumPy.
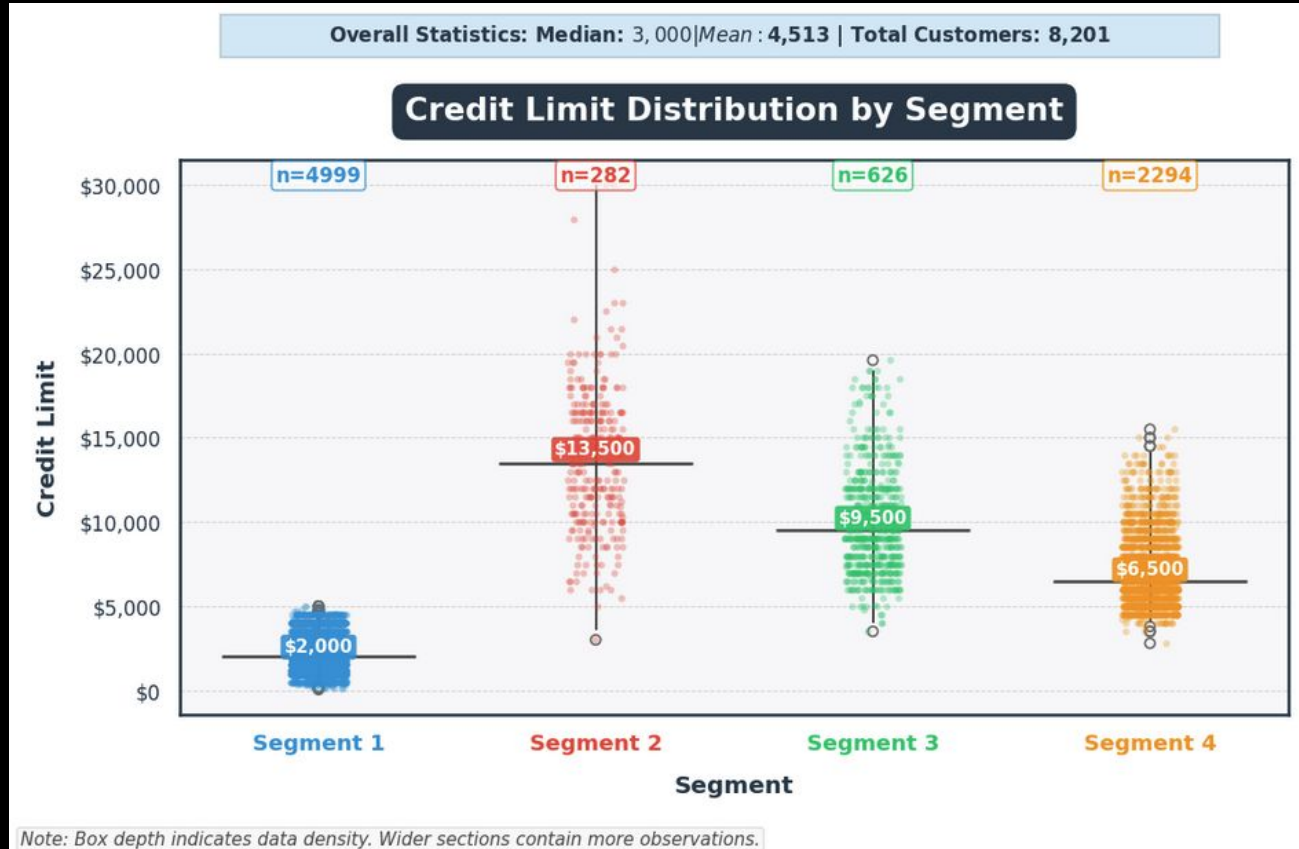
Donut Chart + Data Tables + Text Annotation

Tools:Python, Matplotlib, Seaborn, Pandas & NumPy.

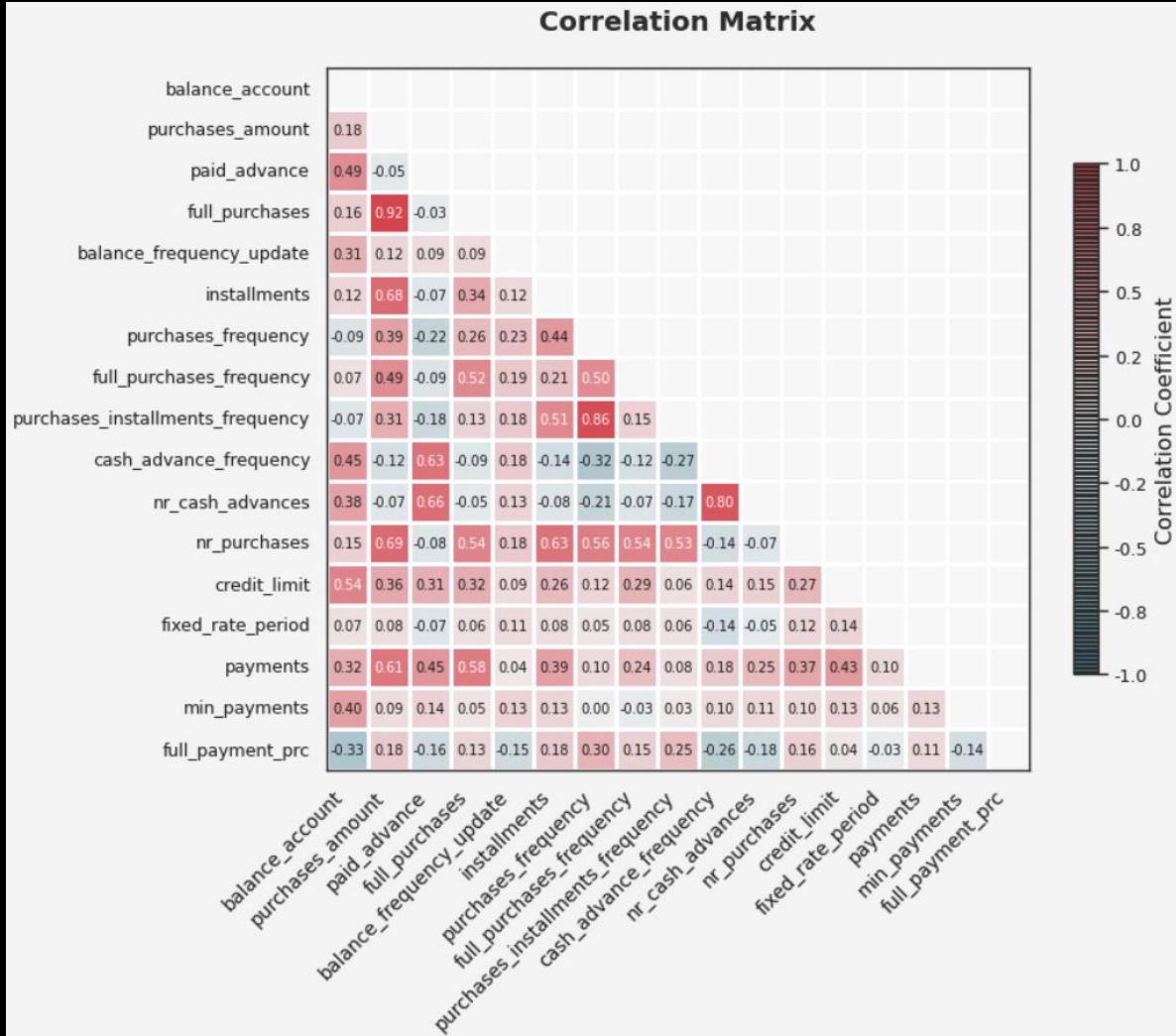# Scatterplot: Trend Analysis & Outliers Identification

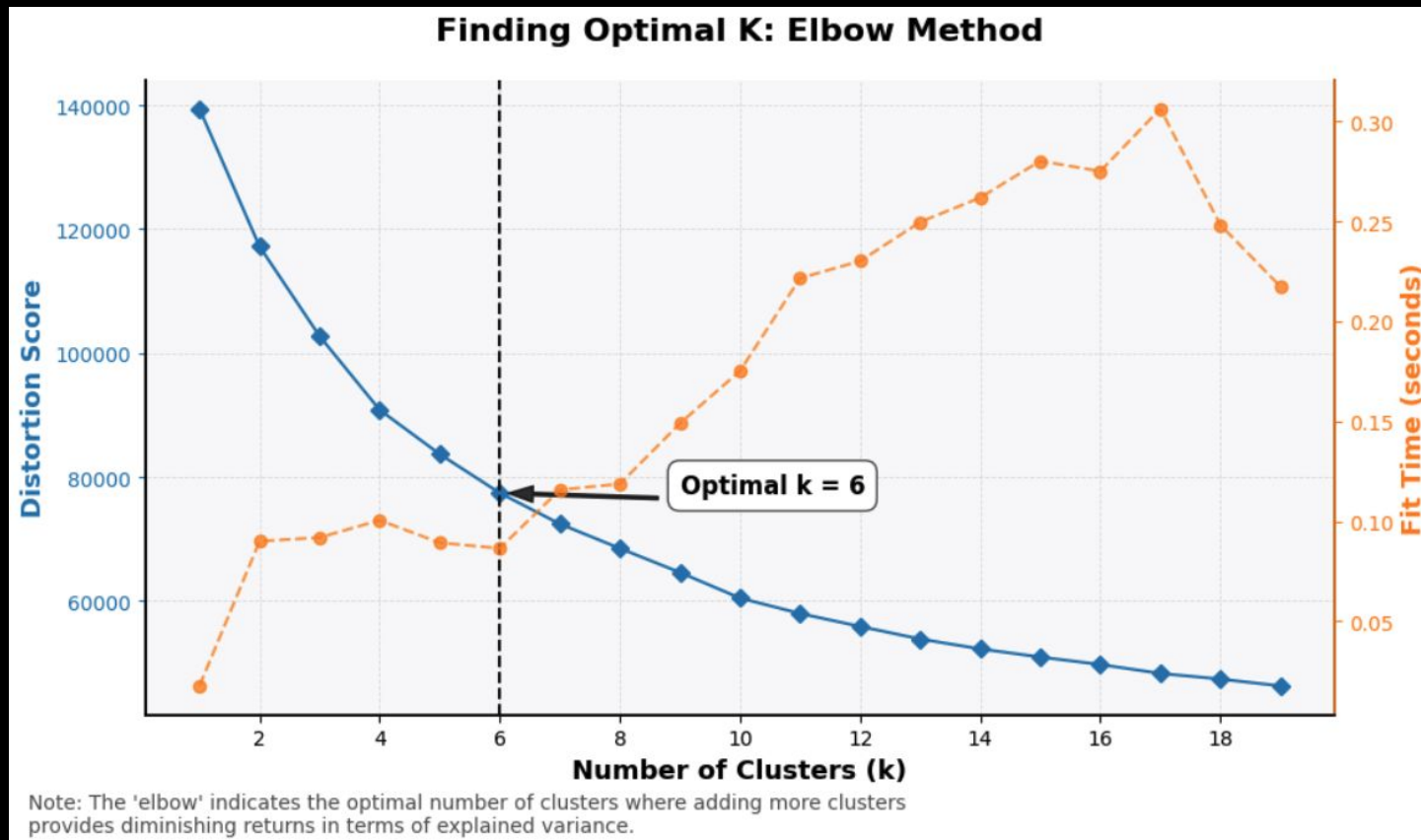Tools:Python, Matplotlib, Seaborn, NumPy, Datetime.

Boxplot

Overall Statistics: Median: 3,000 | *Mean:* **4,513** | **Total Customers: 8,201**

Credit Limit Distribution by Segment

n=4999   n=282   n=626   n=2294

Credit Limit

$30,000
$25,000
$20,000
$15,000
$10,000
$5,000
$0

$13,500
$9,500
$6,500
$2,000

Segment 1   Segment 2   Segment 3   Segment 4

Segment

Note: Box depth indicates data density. Wider sections contain more observations.

Tools:Python, Matplotlib, Seaborn, Pandas & NumPy.

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Correlation Matrix Heatmap

Tools:Python, Matplotlib,
Seaborn, NumPy.

Correlation Matrix

Dual-axis line chart: Elbow method visualization

Finding Optimal K: Elbow Method

Optimal k = 6

Note: The 'elbow' indicates the optimal number of clusters where adding more clusters provides diminishing returns in terms of explained variance.
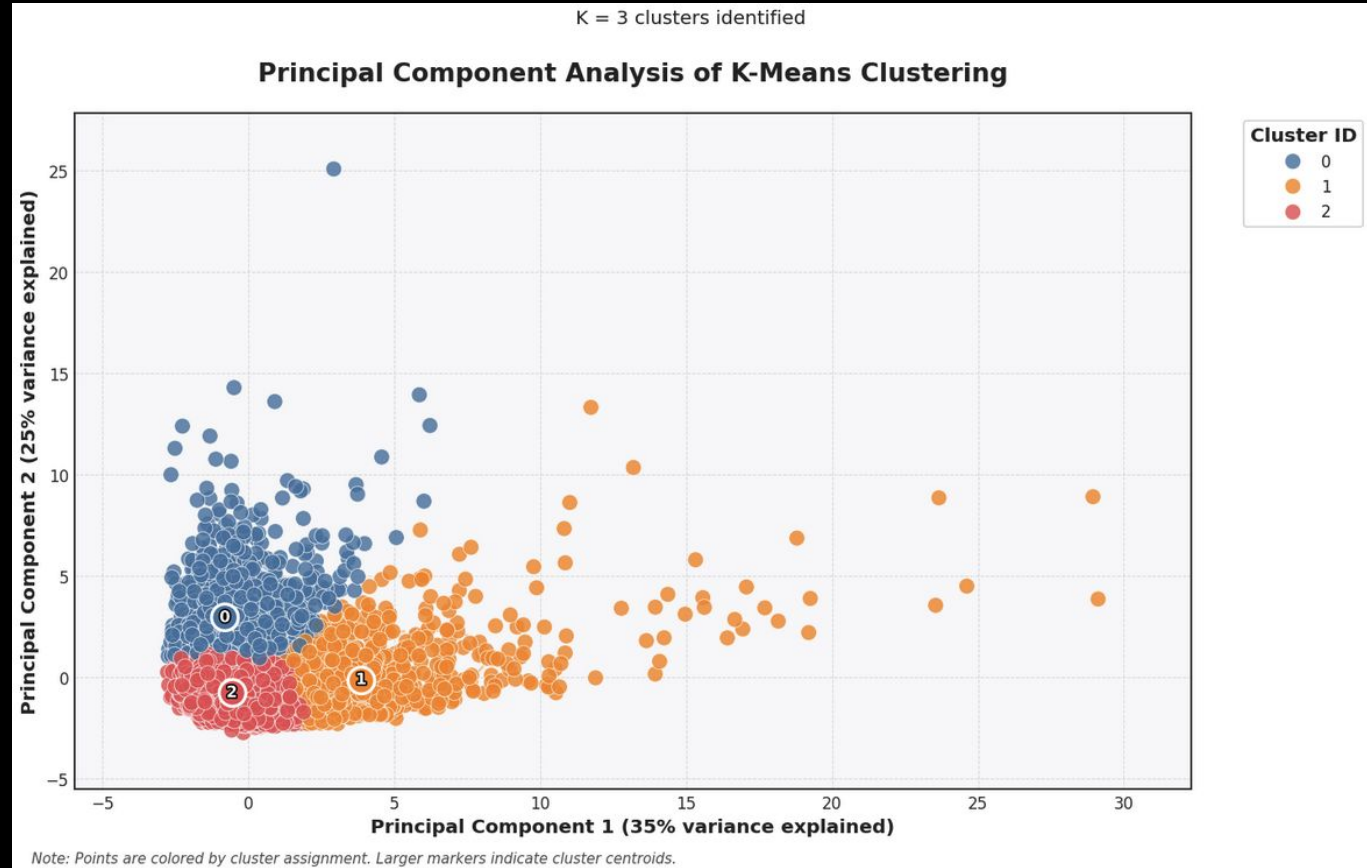
Tools:Python, Matplotlib, Seaborn, NumPy, Yellowbrick & Scikit-learn.

Silhouette & Scatter plot
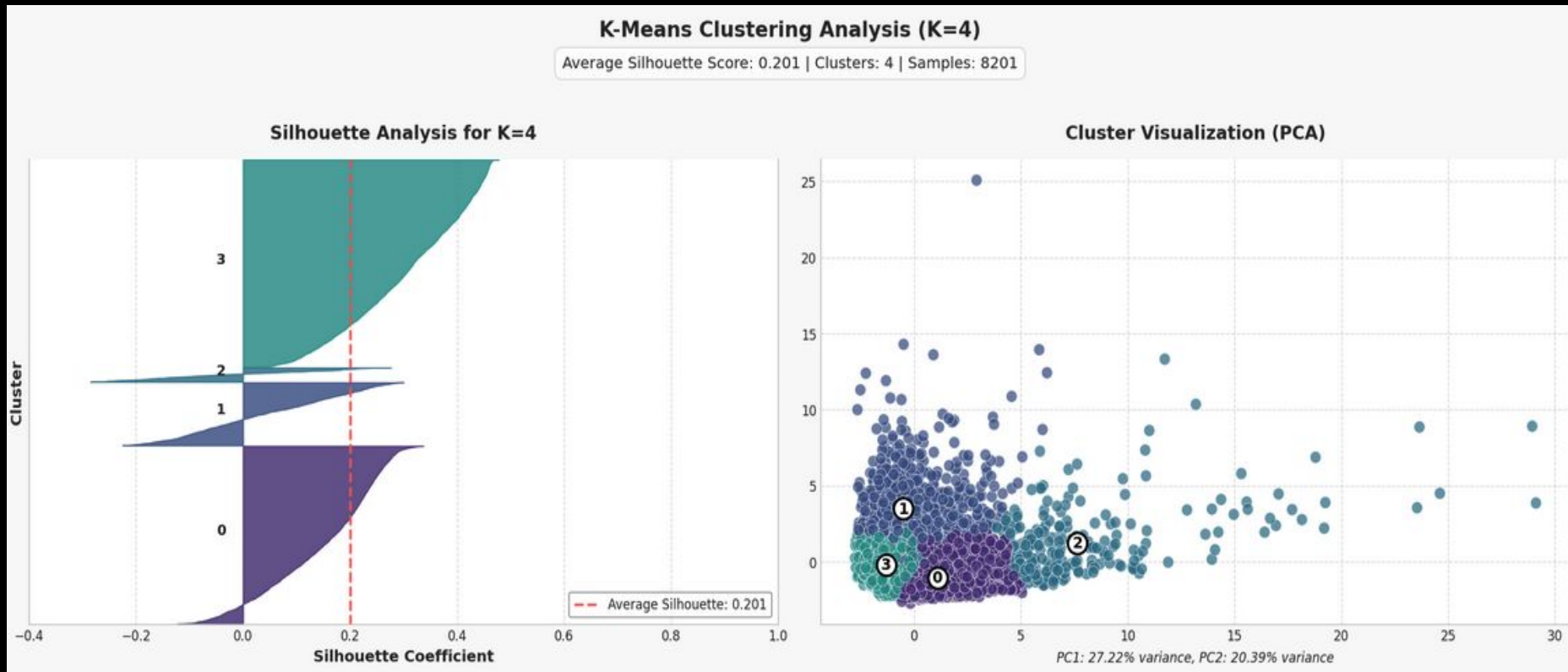
Tools:Python, Matplotlib, Seaborn, NumPy & Scikit-learn.

Scatter plot: PCA cluster scatter plot

Tools:Python, Matplotlib, Seaborn & NumPy.

Scatterplot Matrix

Feature Relationships by Cluster

Tools:Python, Matplotlib, Seaborn, NumPy & Scikit-learn