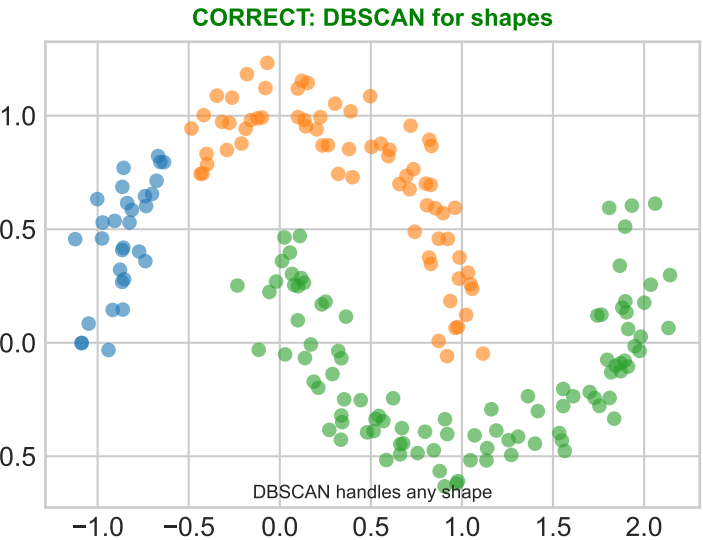
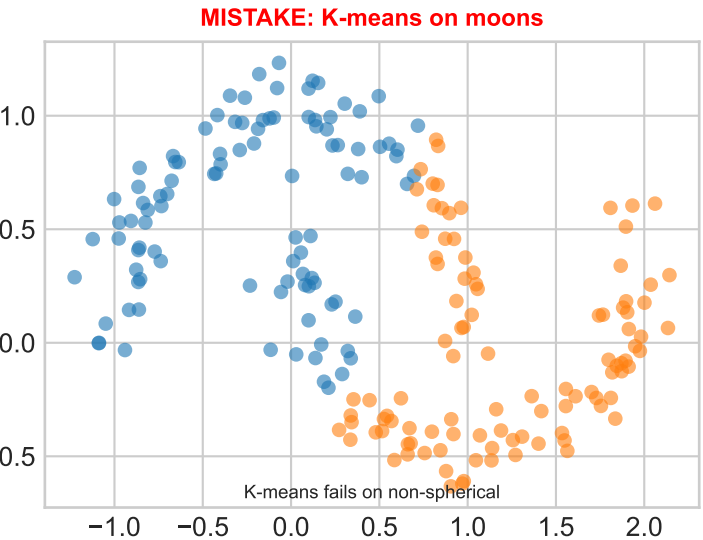
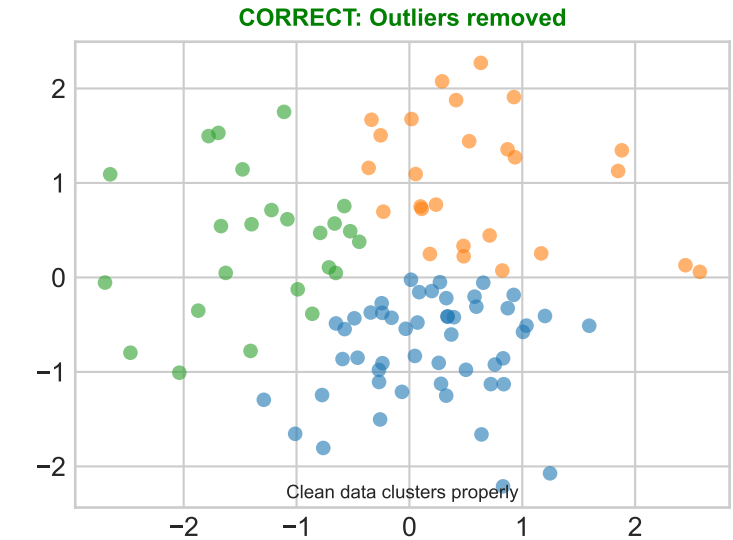
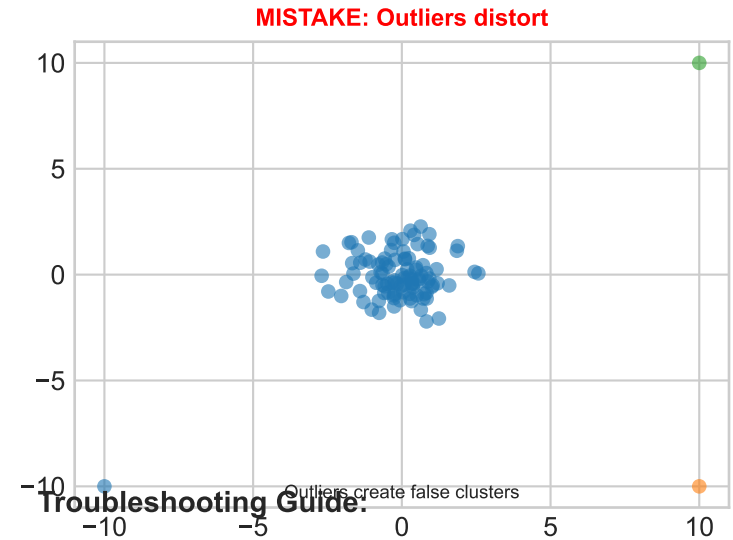
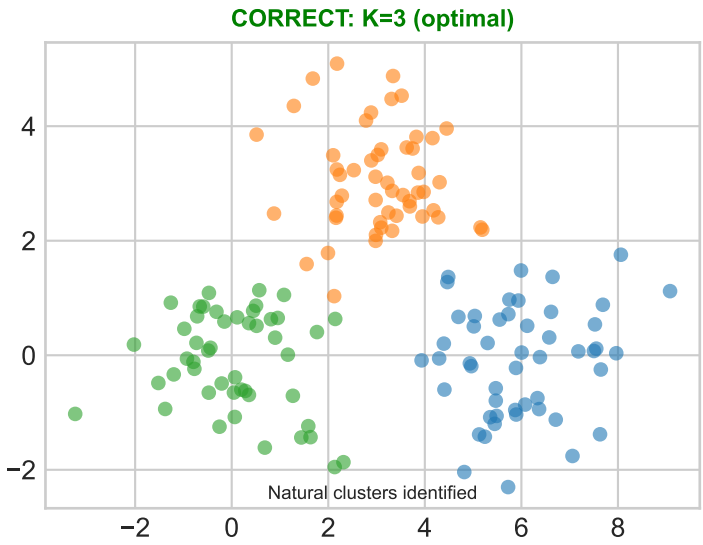
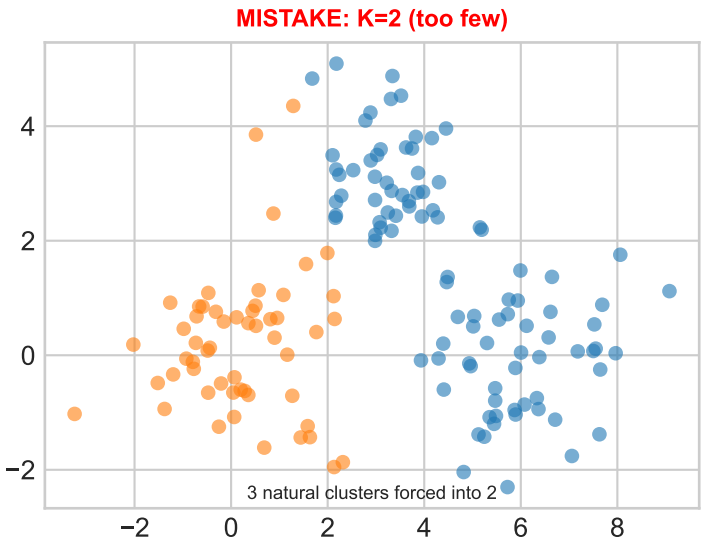
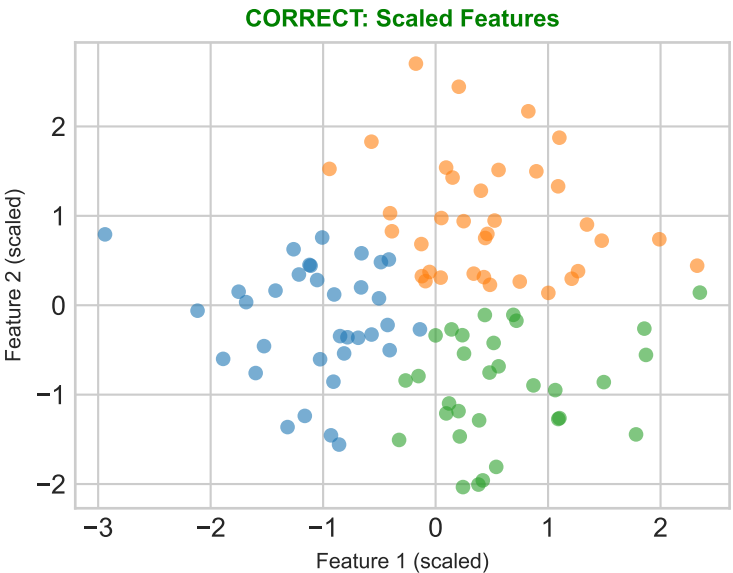
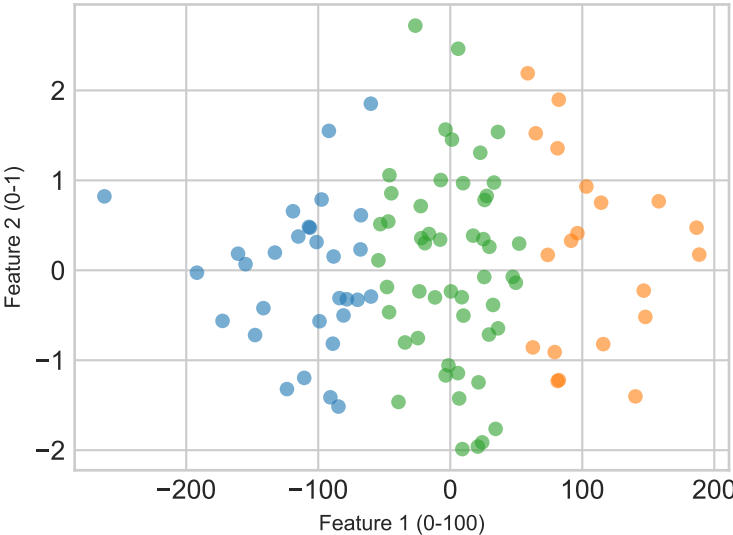


Common Clustering Mistakes & Troubleshooting Guide

Learn from These Mistakes to Master Clustering

Visual Examples of Common Mistakes:



Troubleshooting Guide:

Problem	Symptoms	Solution	Prevention
Poor separation <div>GOLDEN RULES: 1. Always scale your features 2. Visualize before clustering 3. Try multiple algorithms 4. Validate with domain knowledge 5. Check cluster stability</div>	<i>Low silhouette score</i> <i>Different runs = different clusters</i> <i>Takes too long to converge</i>	Try different K or algorithm Set random_state, increase n_init Reduce features, subsample data	Use elbow method Use deterministic init Use Batch K-means
Unbalanced clusters	<i>One huge, others tiny</i>	Check for outliers, try GMM	Inspect data distribution
No convergence	<i>Algorithm doesn't stop</i>	Increase max_iter, check data	Normalize features first

WARNING SIGNS:
* Silhouette < 0.3
* Clusters change each run
* Single point clusters
* All points in one cluster

SUCCESS INDICATORS:
* Silhouette > 0.5
* Stable across runs
* Balanced cluster sizes
* Makes business sense