Comprehensive Flat Clustering Analysis - Iris Dataset Silhouette vs Davies-Bouldin **Clusters vs Performance** Adjusted Rand Index (ARI) (Color = ARI)(Color = Noise Points) GMM 1.1 8.0 8.0 8.0 1.0 - 100 Davies-Bouldin Index (Lower is Better) 0.7 80 0.6 0.6 0.6 DBSCAN(eps=1.0) DBSCAN(eps=0.7) KsMeans ARI Score 6.0 Hierarchical ARI Score 7.0 ARI Score DBSCAN(eps=0.5) 0.4 40 0.3 DBSCAN(eps=1.0) 0.2 DBSCAN(eps=0.7 0.2 5s**20**.3) DBSCA DBSCA es⊕.025) 0.5 DBSCAN(e GSOM+DSM 0.0 0.1 0.0 DBSCAMLEDS 10.31 DBSCAMEPS 10.51 DBSCAMEDS_10.77 0.40 0.45 0.50 0.55 0.60 0.65 1.00 1.25 1.50 1.75 2.00 2.25 2.50 2.75 3.00 Number of Clusters Silhouette Score (Higher is Better) **Top 4 Methods: Multi-Metric Comparison DBSCAN Parameter Sensitivity Average ARI by Method Category** 8.0 GMM --- ARI Silhouette Spectral 0.7 0.6 K-Means 8.0 Hierarchical 0.6 0.5 Average ARI Score 8.0 8.0 5.0 0.6 0.4 0.3 0.2 0.2 0.2 0.1 0.1 0.0 0.0 ARI 0.4 0.5 0.7 0.8 0.9 1.0 Completeness V-measure 0.3 0.6 Homogeneity Metrics DBSCAN eps Parameter