

Number of clusters

 $10^1$  $10^0$ 

0.0

0.2

0.4

0.6

0.8

1.0

Accuracy

- NO DR - KMEANS
- NO DR - DBSCAN
- NO DR - HDBSCAN
- PCA - KMEANS
- PCA - DBSCAN
- PCA - HDBSCAN
- UMAP - KMEANS
- UMAP - DBSCAN
- UMAP - HDBSCAN

0: NO DR - KMEANS:  $n_{clusters} = 5$ ,  $n_{neighbors}^{kNN} = 2$

20: NO DR - HDBSCAN:  $min_{cluster\ size} = 55$ ,  $min_{samples} = 42$ ,  $\epsilon = 0.57$ ,  $n_{neighbors}^{kNN} = 11$

30: PCA - KMEANS:  $n_{comp} = 9$ ,  $n_{clusters} = 5$ ,  $n_{neighbors}^{kNN} = 2$

40: PCA - DBSCAN:  $n_{comp} = 3$ ,  $eps = 99.34$ ,  $min_{samples} = 10$ ,  $n_{neighbors}^{kNN} = 14$

50: PCA - HDBSCAN:  $n_{comp} = 12$ ,  $min_{cluster\ size} = 55$ ,  $min_{samples} = 42$ ,  $\epsilon = 0.35$ ,  $n_{neighbors}^{kNN} = 11$

60: UMAP - KMEANS:  $n_{neighbors}^{UMAP} = 10$ ,  $min_{dist} = 0.45$ ,  $n_{components} = 4$ ,  $n_{clusters} = 12$ ,  $n_{neighbors}^{kNN} = 11$

70: UMAP - DBSCAN:  $n_{neighbors}^{UMAP} = 4$ ,  $min_{dist} = 0.93$ ,  $n_{components} = 4$ ,  $eps = 5.00$ ,  $min_{samples} = 3$ ,  $n_{neighbors}^{kNN} = 7$

81: UMAP - HDBSCAN:  $n_{neighbors}^{UMAP} = 10$ ,  $min_{dist} = 0.69$ ,  $n_{components} = 4$ ,  $min_{cluster\ size} = 3$ ,  $min_{samples} = 19$ ,  $\epsilon = 0.44$ ,  $n_{neighbors}^{kNN} = 2$

81

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70

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0