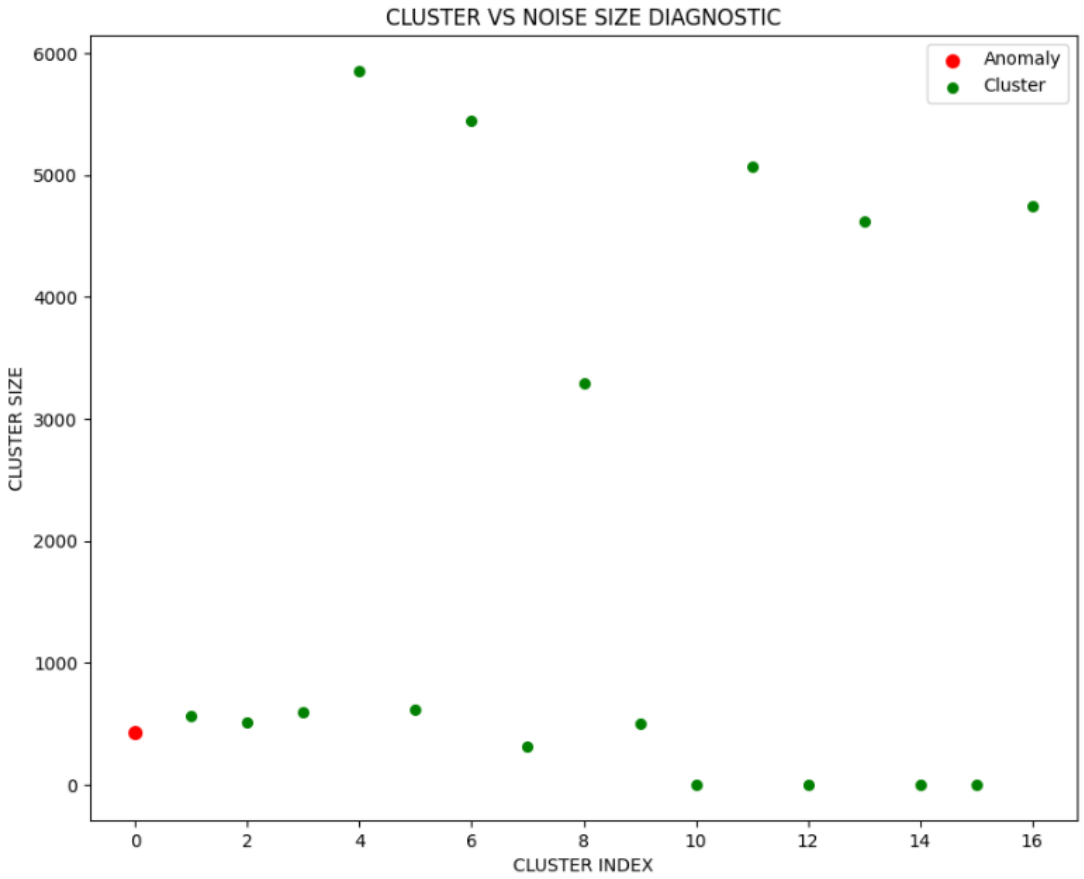
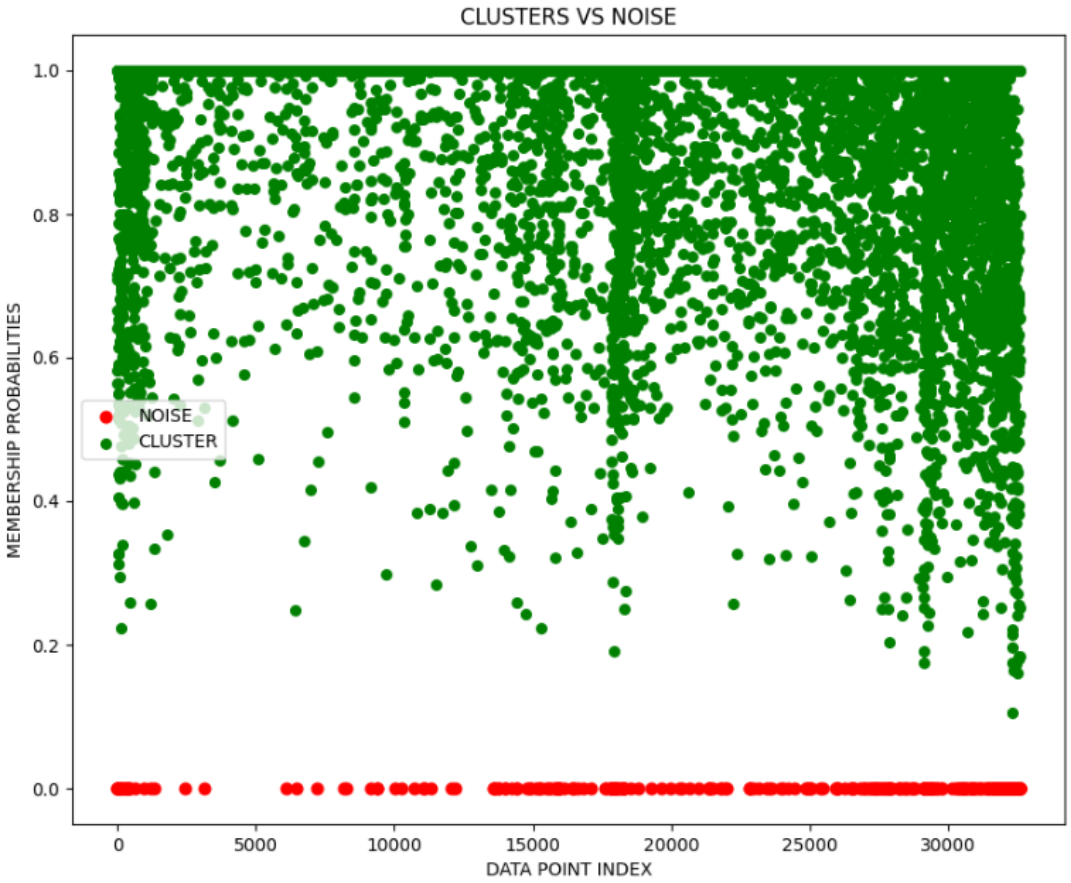
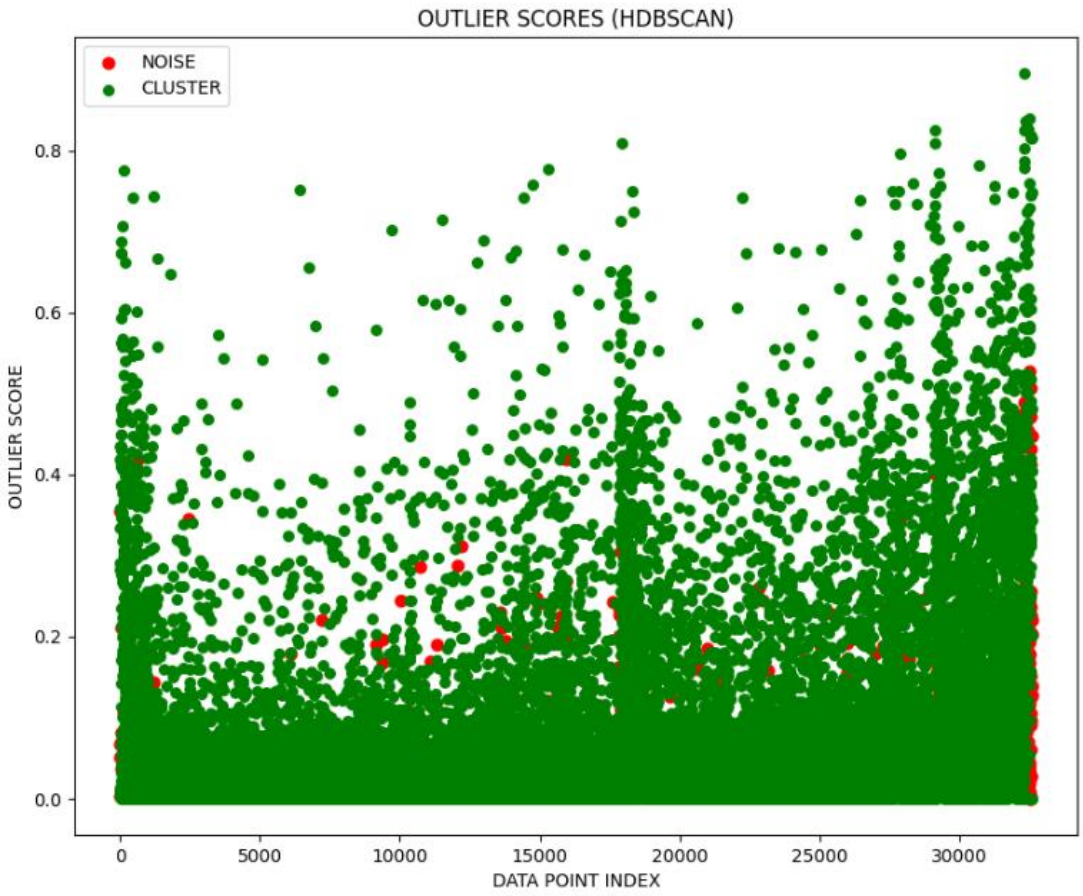


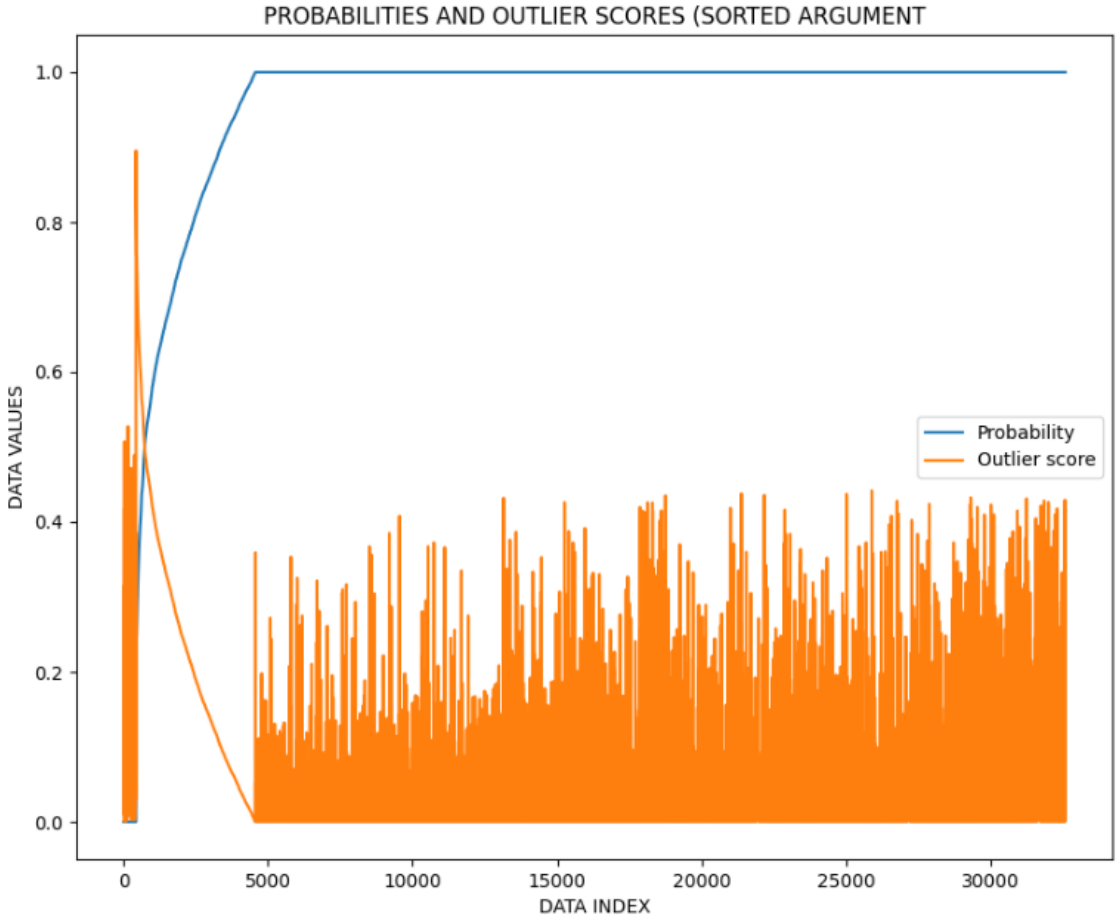

```
plt.figure(figsize=(10,8))
plt.scatter(l_c[label_c==-1], label_v[label_c==-1], c='red', label='Anomaly',s=50)
plt.scatter(l_c[label_c!=-1], label_v[label_c!=-1], c='green', label='Cluster',s=30)
plt.legend()
plt.xlabel('CLUSTER INDEX')
plt.ylabel('CLUSTER SIZE')
plt.title('CLUSTER VS NOISE SIZE DIAGNOSTIC')
plt.show()
```



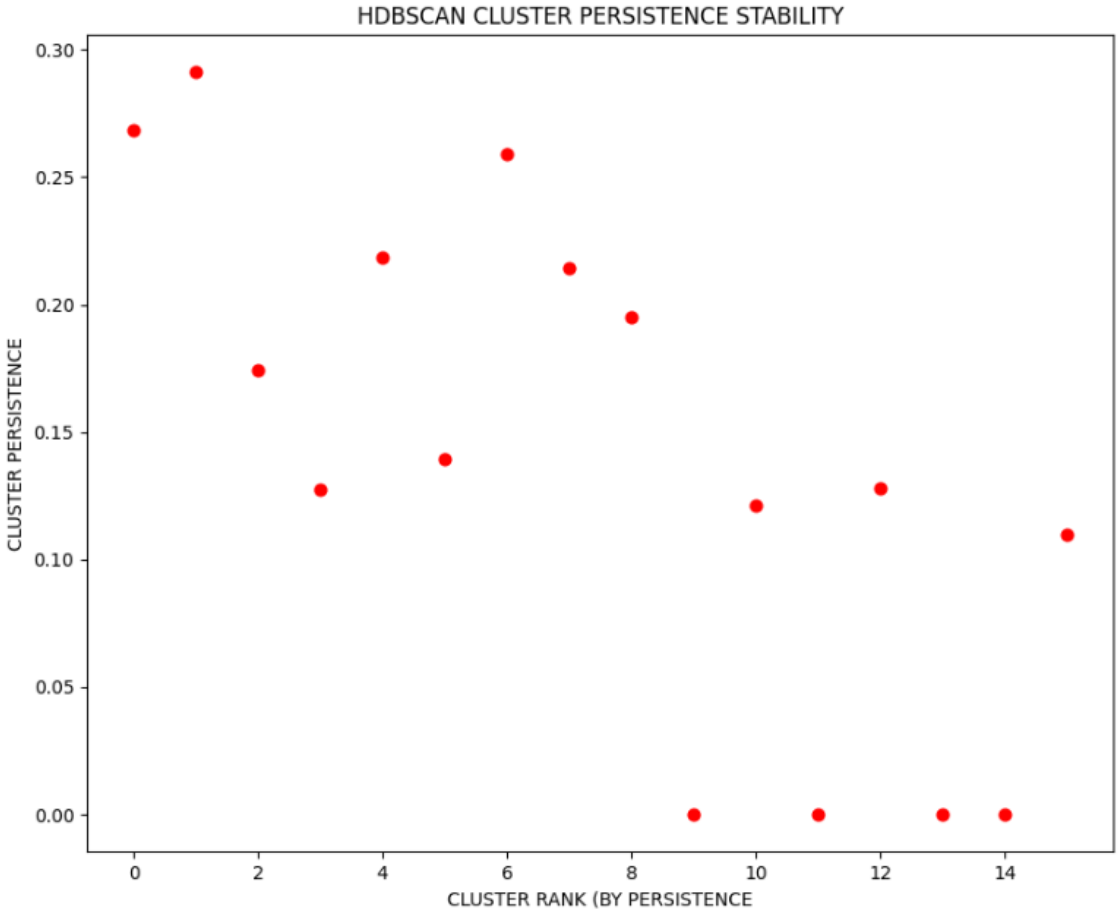

```
plt.figure(figsize=(10,8))
plt.scatter(prob_label[label==-1], prob[label==-1], c='red', s=40, label='NOISE')
plt.scatter(prob_label[label!=-1], prob[label!=-1], c='green',s=30, label='CLUSTER')
plt.legend()
plt.xlabel('DATA POINT INDEX')
plt.ylabel('MEMBERSHIP PROBABILITIES')
plt.title('CLUSTERS VS NOISE')
plt.show()
```




```
plt.figure(figsize=(10,8))
plt.scatter(o_lier[label==-1], out_lier[label==-1], c='red', s=40, label='NOISE')
plt.scatter(o_lier[label!=-1], out_lier[label!=-1], c='green', s=30, label='CLUSTER')
plt.legend()
plt.xlabel('DATA POINT INDEX')
plt.ylabel('OUTLIER SCORE')
plt.title('OUTLIER SCORES (HDBSCAN)')
plt.show()
```




```
plt.figure(figsize=(10,8))
plt.plot( *args: prob[order], label="Probability")
plt.plot( *args: out_lier[order],label="Outlier score")
plt.legend()
plt.xlabel('DATA INDEX')
plt.ylabel('DATA VALUES')
plt.title('PROBABILITIES AND OUTLIER SCORES (SORTED ARGUMENT)')
plt.show()
```




```
plt.figure(figsize=(10,8))
plt.scatter(cluster_len, cluster_per, c='red',s=40)
plt.title('HDBSCAN CLUSTER PERSISTENCE STABILITY')
plt.xlabel('CLUSTER RANK (BY PERSISTENCE')
plt.ylabel('CLUSTER PERSISTENCE')
plt.show()
```