

Table 1: Comparison of OPNMF and NMF on Tori with Thickness and Second Bump Noise

Metric	OPNMF	NMF
Mode	opnmf	nmf
Max Iterations	20000	20000
Tolerance	1e-08	1e-08
Batch ID	0cc438d97432acd0	0cc438d97432acd0
Accuracy	0.9394	0.9697
F1 Score (macro)	0.9398	0.9698
AUC (OVO)	0.2638	0.9911
Reconstruction Error	0.3765	0.3585
Mean Squared Error	0.0970	0.0879
Confusion Matrix	33 0 0 2 30 1 3 0 30	32 0 1 0 32 1 1 0 32
Component-to-Mask Correlations	0.64, 0.64, 0.63	0.68, 0.68, 0.68
Dice Scores	0.45, 0.43, 0.44	0.66, 0.71, 0.67