

Grad-CAM

Reduced effectiveness in
deeper architectures Santos et
al., 2025

UMAP

Difficult to interpret
distances Diaz-Papkovich
et al., 2021

t-SNE

Limited robustness and
scalability Jeon et al.,
2025

PCA

Fails to capture non-linear
relationships Mirkes et al.,
2022

Grad-CAM++

Struggles with non-linear
activation functions
Langbein et al., 2025

LRP

Lacks domain adaptation
interpretability Ahmad et
al., 2025

SHAP

Limited explanatory
power in domain
adaptation Xu et al., 2025

