6 Appendix

Table 3. Clinical characteristics of patients in the dataset.

Characteristics	Dataset (n = 488)
RFS	
Uncensored	96 (19.7)
Censored	392 (80.3)
Age (year)	
Weight (kg)	
Gender	
Male	402 (82.4)
Female	86 (17.6)
Alcohol consumption	
Yes	95 (19.5)
No	59 (12.1)
Unknown	334 (68.4)
Tobacco consumption	
Yes	85 (17.4)
No	105 (21.5)
Unknown	298 (61.1)
HPV status	
Positive	274 (56.1)
Negative	43 (8.8)
Unknown	171 (35.1)
Performance status	
0	86 (17.7)
1	114 (23.3)
2	11 (2.3)
3	3 (0.6)
4	1 (0.2)
Unknown	273 (55.9)
Surgery	
Yes	50 (10.3)
No	248 (50.8)
Unknown	190 (38.9)
Chemotherapy	
Yes	422 (86.5)
No	66 (13.5)

Table 4. Preprocessing and augmentation details.

Augmentations	Axis	Probability	Size
Orientation	PLS	-	-
CT/PET Concatenation	1	-	-
Normalization	-	-	-
Random crop	-	0.5	96 x 96 x 96
Random flip	x, y, z	0.1	-
Rotate by 90 (up to 3x)	x, y	0.1	-

Table 5. Ablation to study the effect of the parameter λ values.

Models	λ 0.3	0.5	0.7	1.0
DeepMTLR [8] $\mathcal{L}_{MTLR} + \mathcal{L}_{SurvRNC}$	0.6870	0.7009	0.6690	0.6742
DeepHit [14] $\mathcal{L}_{Hit} + \mathcal{L}_{SurvRNC}$	0.6802	0.7233	0.6950	0.6808

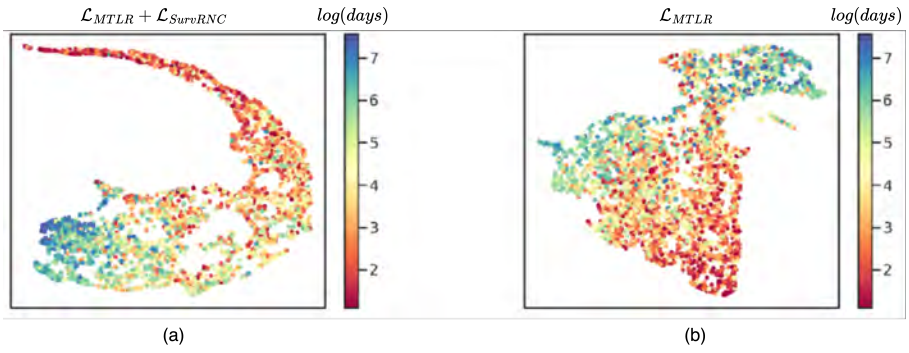

Fig. 3. UMAP Visualization: $\mathcal{L}_{SurvRNC}$ with the native loss function of a DeepMTLR survival model on the SUPPORT dataset [13] shows a better continuous latent feature representation (a) as compared to using only the native loss function (b).